

BEREC Report on the outcome of the public consultation on the Guidelines detailing Quality of Service Parameters

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Executive Summary

1. This report summarises the responses received to the public consultation on the draft BEREC Guidelines detailing Quality of Service Parameters, BEREC BoR (19) 189, (“Guidelines”). The public consultation was open from 10 October until 5 December 2019 to receive stakeholders’ comments and observations on the content of the Guidelines.
2. National regulatory authorities (NRAs) in coordination with other competent authorities, in accordance with Article 104 (1) of the European Electronic Communications Code may require providers of internet access services and of publicly available interpersonal communications services to publish comprehensive, comparable, reliable, user-friendly and up-to-date information for end-users on the quality of their services. Where this specification is made, NRAs in coordination with other competent authorities shall in accordance with Article 104 (2) take utmost account of the Guidelines when specifying quality of service parameters to be measured by the providers, the applicable measurement methods and the content, form and manner of the information to be published. By 21 June 2020, BEREC shall adopt the Guidelines.
3. 11 responses were received to the consultation on the Guidelines from the following stakeholders:
 1. Joint contribution by GSMA - ETNO
 2. Joint contribution by Anga, Bitkom, Buglas-Breko, eco, VATM
 3. Confidential submission by a stakeholder
 4. Liberty Global
 5. DIGITALEUROPE
 6. Vodafone Group
 7. Ministry of Economy -Secretary of State for Digital Advance- of Spain
 8. Andrea J Saks, International Telecommunications Specialist for the Deaf Chairman ITU JCA-AHF (Joint Coordinating Activity on Accessibility and Human Factors)
 9. ECTA
 10. European Federation of Hard of Hearing
 11. European Disability Forum
4. In general, stakeholders welcomed the opportunity to comment on the Guidelines. The following sections of this report summarises the comments, observations and recommendations expressed within the responses to the public consultation on the Guidelines.

1. General comments

1.1. Stakeholders contributions

5. Overall, the majority of stakeholders contributed with many general comments, mainly supporting the purpose of Guidelines, as foreseen under Article 104 of the EECC, and emphasizing the importance of a harmonized implementation of the EECC to ensure a stable and predictable regulatory environment. Only one (confidential submission) has not provided any general comment.
6. On the scope of the Guidelines, some respondents¹ agree with BEREC's distinction between QoS and QoE, but remark that QoS should only concern the network up to the network termination point, therefore excluding the terminal equipment. An operator's obligation under Article 104 of the EECC should therefore not be extended beyond the network termination point. Moreover, according to some respondents², as QoS of ICS depends on the platform, networks and servers of the ICS provider and also on the performance of all other networks involved, the customers' own personal equipment and other factors, the consequent limited control of service providers must be taken into account.
7. Some respondents³ agree with the methodology set out in section 4.1 of the Guidelines consultation document. However, where paragraph 38 of the consultation document states that providers of NIICS and NBICS have no control over terminal equipment, it should be noted that it is in the nature of terminal equipment that no provider has control over it, (unless they also provide the terminal equipment). Therefore, in this context it is correct to conclude for any provider, that only estimates could be obtained.
8. Some respondents⁴ consider that BEREC draws a useful distinction between ICS and IAS QoS parameters. A respondent⁵ is pleased to see that BEREC rightly recognises that the EECC stipulates that the QoS of IAS is already regulated by the Open Internet Regulation and that any measures taken to ensure QoS shall comply with that Regulation. On the contrary, another respondent⁶ believes that there is no legal basis in the EECC for excluding IAS considerations from the Guidelines, remarking the need for one set of integrated guidelines tailored to the requirements of Article 104 EECC, and asks BEREC to revise the Guidelines.
9. Some respondents⁷ consider that although Article 104 includes all ICS, BEREC's Guidelines seem to focus only on NBICS. However, the respondents state that since many providers of NIICS control extensive communication networks, considering these services would also better reflect market developments and

¹ ANGA-BITKOM-BUGLAS-BREKO-eco-VATM, ECTA, GSMA-ETNO, Vodafone.

² GSMA - ETNO, Liberty Global.

³ ANGA-BITKOM-BUGLAS-BREKO-eco-VATM.

⁴ GSMA-ETNO, Vodafone.

⁵ Liberty Global.

⁶ ECTA.

⁷ GSMA-ETNO.

consumer needs (e.g., messaging is primarily based on NIICS and SMS is rarely used any more).

10. Some respondents⁸ welcome the clarification, in the Guidelines, that NIICS and NBICS providers cannot know and influence the technical characteristics of interconnected networks and terminal equipment used at the end points of the communication and that they are subject to Article 104 of the EECC in so far as they control parts of the network or have a SLA with a network operator to that effect. Another respondent⁹ does not entirely agree with the assumption under the EECC and within BEREC that NIICS may be able to control network elements via a SLA. Moreover, the respondent remarks that the specification the SLA has in effect to “control at least some elements of the network” is missing in paragraph 38 of the consultation document. The respondent is of the view that BEREC should clarify if NRAs impose QoS parameters on ICS providers, such providers should be allowed to disclose that they are dependent on another network provider for the purposes of quality of service parameters.
11. With regard to entry into force of the Guidelines, some respondents¹⁰ note that the EECC requires BEREC to issue its final Guidelines by 21st of June 2020 and consider that it would be helpful if BEREC could specify that the final Guidelines will apply from 21st of December 2020 in line with the EECC’s transposition date.
12. Some respondents¹¹ invite BEREC when imposing an obligation to publish information on QoS, to specify that NRAs should carefully assess whether the information required is only not effectively available, but also relevant, and that any QoS requirements imposed by NRAs must conform to the principles of appropriateness and proportionality.
13. Some respondents¹² consider that, rather than requiring NRAs to take utmost account of other QoS-related BEREC workstreams (section 2.3, paragraph 26 of the consultation document), BEREC must ensure consistency across all BEREC working groups.
14. Concerning Table 1, some respondents¹³ think that complaints about bill correctness are not linked directly to QoS, therefore this information cannot be required according to Article 104 of the EECC.
15. Concerning competence attribution under Article 104 of the EECC, a respondent¹⁴ stresses that Article 104(1) grants the facultative possibility to require electronic communications providers capable of exercising effective control over service quality to publish additional information to NRAs in coordination with other competent authorities. The exercise of this coordination must occur in view of national

⁸ GSMA-ETNO, Vodafone.

⁹ DIGITALEUROPE.

¹⁰ GSMA-ETNO, Vodafone.

¹¹ ANGA-BITKOM-BUGLAS-BREKO-eco-VATM, ECTA, GSMA-ETNO, Liberty Global.

¹² ANGA-BITKOM-BUGLAS-BREKO-eco-VATM.

¹³ ANGA-BITKOM-BUGLAS-BREKO-eco-VATM.

¹⁴ ECTA.

circumstances, reflecting the distribution of competences between NRAs and other competent authorities as published and notified by the Member State under Article 5(3) and (4) of the EECC. BEREC, in the Guidelines, argues that this responsibility of guiding the application of that provision may, 'where relevant', be assigned to other competent authorities, who, in such cases, shall act in coordination with NRAs. This interpretation is derived from Recital 271 of the EECC, which contains wording to this effect. The respondent is of the view that while recitals can have an important role in clarifying the provisions of EU legislative instruments, they cannot and must not interfere with critical issues of competence attribution and therefore invites BEREC to clarify its position that Article 104 of the EECC invests primary competence to act under that provision in NRAs and that where other competent authorities are being associated with such actions, the coordination between them and NRAs must be led by the latter.

16. A respondent¹⁵ considers that the number of standards should be kept to a minimum if possible when specifying QoS parameters in order to ensure accessibility and keep compliance manageable and therefore encourages BEREC to include in the Guidelines, and maintain, a list of references to the standards on whose basis the guidance is set forth. Where possible, according to some respondents¹⁶ these references should link directly to the online versions of the relevant standards. In this regard, a respondent¹⁷ welcomes BEREC's proposal to conduct a review of the Guidelines on a regular basis.
17. A respondent¹⁸ highlights the possible need to adapt QoS parameters according to the group of end-users to which they relate and emphasizes that certain user groups, such as business users, may have special expertise in standards and different QoS needs, so that general QoS parameters may be of less relevance to them. The respondent encourages BEREC to introduce this consideration into the guidance.
18. A respondent¹⁹ emphasises that quality measurement parameters should set accessibility of services as one of the priority criteria and believes that, in order to make the Guidelines more accessible and effective for end users' organisations, acronyms and technical terms should be avoided, or, alternatively, clear definitions and explanations should be provided, and suggests considering the use of gender-neutral language.
19. In relation to the policy principle, concerning the perception of QoS by end-users in paragraph 8 of the consultation document, a respondent²⁰ recommends including a reference to accessibility as follows: "The quality of the service, as well as the quality of the accessibility service provided for end-users with disabilities, can determine whether an electronic communication service provides equal access to end-users with disabilities. For example, quality of audio is crucial for persons who are hard of hearing;

¹⁵ ECTA.

¹⁶ ECTA, European Disability Forum.

¹⁷ ECTA.

¹⁸ ECTA.

¹⁹ European Disability Forum.

²⁰ European Disability Forum.

interoperability of devices with assistive listening devices, and video quality to enable sign language communication, among others. Verifying this quality along the value chain, in every step for the end-user, is paramount, since lacking one aspect (e.g. lack of qualified interpreters on relay service) will be in detriment of the whole value chain.” Subsequently, in paragraphs 9 and 10 of the consultation document, the respondent would like to stress that in order to “empower(ing) and protect(ing) end-users,” it is imperative to draw up clear guidelines avoiding different interpretations, when it comes to equal access and choice for end-users with disabilities.

20. Regarding the legal basis, in paragraphs 14 and 15 of the consultation document, a respondent²¹ emphasises that in several EU Member States, there is a lack of available information regarding equal access to end-users with disabilities. Therefore, they call BEREC to require “publication of such information where it is demonstrated that such information is not effectively available to the public, including on equal access and choice for end-users with disabilities.”
21. In paragraph 20 of the consultation document, a respondent²² would like to stress that, when it comes to end-users with disabilities making use of a relay service, this must be included as a parameter of the QoS, and not only as QoE. Accordingly, they propose to incorporate the following: “Furthermore, QoS can be distinguished from Quality of Experience (QoE) as QoS concerns the network and terminal equipment up to the user interface. QoS also includes the assistive equipment and the specific services provided to end-users with disabilities.”
22. According to one respondent²³, with regard to paragraph 27 of the consultation document, guidance by BEREC should be provided in order to harmonize approaches to measuring parameters.

1.2. BEREC response

23. Regarding the comments concerning the perimeter of the QoS, BEREC acknowledges that providers are not able to control the network equipment chosen by the end user and therefore the consequent QoS. This consideration is reflected in the parameters identified by BEREC and listed in Tables 1-2 of the Guidelines that do not involve the functionality of the terminal equipment.
24. As for the consideration concerning the circumstance that no provider has control over the nature of the terminal equipment, BEREC agrees that a clarification in this sense is needed and has modified the text (see paragraph 30 of the Guidelines) accordingly.
25. As for the comments concerning the inclusion of NIICS in the Guidelines, BEREC clarifies that in the Guidelines there is an explicit reference to the NIICS (see paragraph 23 of the Guidelines): in the event where the provider has neither control over network elements, nor has a SLA to that effect the quality of the ICS depends on the quality of

²¹ European Disability Forum.

²² European Disability Forum.

²³ European Disability Forum.

the IAS and terminal equipment used, as arises for NIICS. According to Article 104(1) of the EECC, an NRA in coordination with other competent authorities may require the provider of the NIICS to inform consumers if the QoS they provide depends on any external factors, such as control of signal transmission, network connectivity and terminal equipment. In that regard, if the NRA requires so, a NIICS provider is obliged to inform consumers that the voice quality depends e.g. on the quality of the underlying IAS and the terminal equipment and the NIICS provider cannot himself make a statement on the QoS as this is outside the area of his control.

26. Having considered the point raised concerning the specification about SLAs, BEREC agrees that a clarification in this sense is needed and has modified the text (see paragraph 30 of the Guidelines) accordingly. In this regard, BEREC notes that, according to the EECC, providers are only subject to Article 104 in so far as they control parts of the network or have a SLA with a network operator to that effect. In any case, the Guidelines already specify (see paragraph 23 of the Guidelines) that NRAs in coordination with other competent authorities may also require providers to inform end users if the quality of the services they provide depends on any external factors, such as control of signal transmission or network connectivity.
27. With regard to the applicability timeframe of the Guidelines, BEREC has revised the Guidelines to better clarify this point.
28. With regard to the comments received stating that IAS QoS parameters should have been included in the Guidelines and that merely including references in the Guidelines to the OIWG published documents are not sufficient, BEREC has reconsidered its position and has decided to have a standalone document containing Guidelines for ICS and IAS parameters. To that end Table 1A below lists IAS QoS parameters, as set out in Annex X of the EECC.

Table 1A - IAS QoS Parameters as set out in Annex X of the EECC

QoS Parameters Annex X	Definition	Measurement method
Latency (delay)	Ref. IETF RFC 2681 ²⁴ The time between the first bit of a packet of a source entering a	Ref. BoR (17) 178 Sec 3.2 It is recommended that delay is measured using: • UDP with ICMP or TCP as fall back option,

²⁴ Whilst in Annex X, the EECC refers to the standard ITU-T Y.2617 with regard to latency (delay) and delay variation, BEREC proposes to use round-trip IP packet delay (RFC 2681) and the IP packet delay variation (RFC 3393) in accordance with BEREC report “*Net Neutrality Regulatory Assessment Methodology*” (BoR(17)178, section 3.2, p. 9). In fact, one-way delay is not useful in practice from an end-user perspective, thus round-trip delay is of primary interest. For a matter of consistency between latency and delay variation (that are related to each other) and to be coherent with BoR (14) 117, the present Guidelines refer to IETF standards for both parameters.

QoS Parameters Annex X	Definition	Measurement method
	network, being received by the destination, which immediately sent a bit back to the source, and then the last bit of the packet arriving at the source across the network (round trip delay).	<ul style="list-style-type: none"> •at least 10 measurements, and • calculated as an average of recorded round-trip time values (typically expressed in milliseconds). <p>The measurement server should return any UDP packet payload immediately, allowing the client to calculate delay. The Unix echo service could be used for this function. The measurement setup should be insensitive to (user) clock changes during the measurement.</p>
Delay variation (jitter)	Ref. IETF RFC 3393 The difference between the delay of the selected packets.	Ref. BoR (17) 178 Sec 3.2 It is recommended that the delay variation (jitter) is calculated as mean deviation based on the samples collected for the delay measurement.
Packet Loss Ratio	Ref. ITU-T Y.2617 The total number of packets failing to deliver through the network divided by the total number of transmitted packets within a specific time window.	Ref. BoR (17) 178 Sec 3.3 If a packet is not received back within a certain timeout (e.g. 3 seconds), it is considered as lost for the purpose of packet loss measurements. Recommended to send a large number of IP packets (e.g. at least 1000). Delay and packet loss measurements are typically performed over a longer period of time in order to allow for the time varying nature of network performance in packet-switched networks.

29. Regarding the comments concerning additional obligations and the relevance of the information required, BEREC agrees that a balanced approach is preferable and notes that in this regard the considerations reported at paragraph 43 of the consultation document (among others), which whilst allowing NRAs flexibility in deciding which QoS parameters should be identified, specify that the appropriateness of QoS parameters to be assessed taking into account national circumstances and other factors, such as the meaningfulness and usefulness of the parameter, the underlying costs, time

needed to implement the measurement and possible monitoring systems, changes required to adapt and modify current methodologies and providing for the possibility of comparing new results with previous records must be considered. This analysis should be carried out also with the aim of not imposing an excessive burden on stakeholders, as well as not creating a considerable amount of information that could be difficult to be read by consumers. Moreover, as pointed out in the Guidelines, according to Recital 271 of the EEC, NRAs in coordination with other competent authorities should be empowered to monitor the QoS and to collect systematically information on the QoS offered by providers on the basis of criteria which allow comparability between service providers and between Member States. To achieve these objectives NRAs in coordination with other competent authorities could require service providers in accordance with Article 104(1) of the EEC to publish information having regard to different levels of aggregation (regional, national) or different groups of end-users (business clients, consumers), depending on the level of availability of information to the public, QoS parameter or service.

30. As for the considerations concerning the “bill correctness complaints” parameter, BEREC considers that all the parameters listed in Annex X can be taken into consideration by NRAs in coordination with other competent authorities when defining the QoS parameters most appropriate to their situation.
31. Having considered the points raised concerning the competence of the NRAs, the Guidelines have been modified to avoid misinterpretations in the definition of the role of the regulatory authorities.
32. As for the points concerning the use of a gender-neutral language and the acronyms and technical terms, BEREC has accordingly modified the Guidelines.
33. As for the comments concerning the assistive equipment for end users with disabilities, BEREC notes that the definitions of all the parameters included in Table 3 make reference to the “ICT”, defined in ETSI/CEN/CENELEC 301 549 “*Accessibility requirements for ICT products and services*” standard as “*Information and Communication Technology (ICT): technology, equipment, or interconnected system or subsystem of equipment for which the principal function is the creation, conversion, duplication, automatic acquisition, storage, analysis, evaluation, manipulation, management, movement, control, display, switching, interchange, transmission, reception, or broadcast of data or information.*” In this regard, the specific equipment for end users with disabilities is taken into account where appropriate. In order to clarify this concept, the above definition has been referenced in the Guidelines.
34. Regarding the guidance that BEREC should provide in order to harmonize approaches to measurement methods, BEREC notes that the list of techniques at paragraph 28 of the consultation document is merely an illustrative purpose. The harmonization of measurement methods is guaranteed by the specifications provided in Tables 1-3.
35. Finally, BEREC has added links to the online versions of the relevant standards, as suggested by some respondents.

2. Question 1

Q: According to Article 104 of the EECC information required from providers on the quality of their services should be comparable, reliable, user-friendly and up-to-date. Do you believe the parameters and measurement methods in Table 2 are suitable for this purpose? If not, please explain why and the possible changes that could be made to improve the information.

2.1. Stakeholders contributions

36. Six²⁵ of the eleven respondents provided answers to this question.
37. Respondents²⁶ broadly agree with the principles that QoS information should be comparable²⁷, reliable, user-friendly, as well as up-to-date. However, they question the need to extend the QoS parameters beyond Annex X of the EECC. Respondents do not consider that the introduction of additional indicators are necessary nor appropriate as additional information would only bring marginal benefit to the end users to justify the increase in the complexity of the monitoring system and its related costs for the operator.
38. While respondents²⁸ consider that measurement by NRAs of certain metrics regarding network access is reasonable, they question the value of publishing these data from the perspective of costs involved in reporting, audit, comparability assessment and subsequent challenges that could arise. One respondent²⁹ questions whether the first three items of Table 2 of the consultation document (see pages 13-14) are authorised by Article 104(1). Respondents³⁰ also question the evidence of user interest in such data sets, in particular, in relation to call set up, unsuccessful call ratios, call set up failure probability, call-signalling delays, and SMS delivery time³¹. Moreover, should end-users need to complain about the levels of quality being delivered, there are many ways to complain (e.g. customer care, out of court dispute settlement) based on their contractual rights.
39. With regard to the QoS parameter concerning frequency of customer complaints, respondents³² are concerned that the volume of complaints will rise depending on how 'complaint' is defined.
40. In relation to the QoS parameter concerning customer complaints resolution time, respondents³³ highlight new methods of customer engagement with customer care

²⁵ Confidential submission, DIGITALEUROPE, ECTA, GSMA-ETNO, Spanish Ministry, Vodafone.

²⁶ ECTA, GSMA-ETNO, Vodafone.

²⁷ One respondent highlights how the emergence of AI Tools use could impact comparability of information.

²⁸ GSMA-ETNO, Vodafone.

²⁹ Digital Europe.

³⁰ GSMA - ETNO, Vodafone.

³¹ Spanish Ministry.

³² Confidential submission, GSMA-ETNO.

³³ Confidential submission, GSMA-ETNO.

which are user-friendly and these new ways of communicating with service providers should be encouraged and supported.

41. With regard to the QoS parameter concerning response time for operator services (Customer Care Services – Help Desk), respondents³⁴ state that all market players should be included. In that regard BEREC should consider the variety of customer care channels offered to end-users to include via phone, online, by apps, in the shop, etc.
42. Furthermore, with regard to the QoS parameters concerning successful SMS Ratio and SMS delivery time, respondents³⁵ state that by keeping the focus only on SMS as messaging services, BEREC misses market developments in which the NI ICS of global players have become the primary used messaging services, not SMS. Therefore, it appears highly inappropriate to impose any further burdens in relation to these services.
43. In relation to the definition and measurement methods contained in the Tables of the Guidelines, some respondents³⁶ believe that 3GPP measurements are only referred to in a few places, and therefore urge BEREC to carefully assess each measure to ensure an equivalent 3GPP measurement is provided for where that measure is relevant to mobile. Moreover, where NRAs already set detailed QoS measures based on national standards respondents believe there should not be a presumption that these now need to be replaced with measures within the Guidelines.
44. A respondent observes that the draft guidance fails to provide clarification of the circumstances in which it will be appropriate to rely on Annex X standards, and while paragraph 42 of the consultation document refers to factors that may be considered when determining when a parameter may be appropriate, the respondent states that these factors are too broad and provide little concrete guidance. If, however, the appropriateness test of the second sentence of Article 104(2) (1) EECC is to effectively shape decision-making, including barring inappropriate uses, more detailed discussion appears necessary. The respondent also considers the discussion on the proportionality of quality of service information provisioning as well as to its cost-effectiveness to be a question of significant importance.
45. The respondents³⁷ expressed disappointment with regard to the level of detail reported in BEREC's benchmarking exercise (Annex 3).
46. The respondent considers that the Guidelines should be revised to provide guidance on Internet access services. Non-inclusion in the guidelines of the third Table relating to IAS in Annex X would appear to be in manifest disagreement with the contents of the scope of Article 104(2) EECC and with fostering consistent application thereof and of Annex X. Furthermore, by not providing guidance on this dimension, the draft

³⁴ GSMA-ETNO

³⁵ Confidential submission, GSMA-ETNO.

³⁶ GSMA-ETNO.

³⁷ ECTA, EDF.

guidelines also do not seize the opportunity to clarify the relation between transparency measures under Article 4(1) OIR and informational requirements pursuant to Article 104(1) EECC.

47. One respondent³⁸ questions the accuracy and level of detail of the information contained in Table 1 to reflect the underlying standards documents and also notes that Table 1 includes on four occasions references to multiple standards for the same parameter. (See 'Call set-up time', 'voice connection quality', 'dropped call ratio', 'unsuccessful call ratio').
48. One respondent³⁹ notes that BEREC, in Table 2, details a set of quality of service parameters not set out in Annex X of the EECC and when the accompanying paragraph suggests these parameters to be similar to those contained in Table 3 as they are not set out in Annex X, the respondent questions this argument stating that while Article 104(2) EECC explicitly includes 'parameters relevant for end users with disabilities' within BEREC's mandate for action under that provision, to which Table 3 reflects, the same cannot be said of the parameters in Table 2. More important is the consideration that BEREC does not provide any reasoning to suggest that any of these QoS parameters would be required in terms of a demonstrable need for information not effectively available to the public.
49. The respondent is unconvinced of the need for the proposed additional quality of service parameters in Table 2, and therefore urges BEREC to remove it in the course of finalisation.
50. As to the question of whether the quality of service parameters set out in Table 2 comply with the criteria of Article 104(1) EECC, the respondent has the following observations:
 - it is unclear why question one did not include Table 1 within its remit from a comprehensive perspective;
 - considers it problematic for BEREC to present this question without having elaborated upon its understanding of the information quality criteria in Article 104(1) EECC, which it sets out only in the context of Question 3;
 - considers ETSI standards by definition comparable and reliable, providing that their implementation is consistent and limitations are clearly acknowledged;
 - points out that the criterion of 'up-to-date' refers to providing the most accurate reflection of underlying technological reality; this may not be achievable where the standard specification has evolved in a setting that did not yet include more recent technology to which the standard may subsequently be assimilated;
 - wishes to underline that the informational quality to a certain extent depends on end-users themselves.

³⁸ ECTA.

³⁹ ECTA.

2.2. BEREC response

51. BEREC has carefully analysed all the submissions received in relation to Question 1 of the Guidelines and sets out its response in the following paragraphs.

52. Paragraph 12 of the Guidelines in the consultation document states:

More specifically, Article 104(1) of the EECC provides that NRAs in coordination with other competent authorities may require providers of IAS and of publicly available ICS to publish comprehensive, comparable, reliable, user-friendly and up-to-date information for end-users on the quality of their services and on measures taken to ensure equivalence in access for end-users with disabilities.

53. Paragraph 19 of the Guidelines in the consultation document states:

In accordance with Article 104(2) of the EECC, NRAs in coordination with other competent authorities shall specify, taking utmost account of the Guidelines, the QoS parameters to be measured, the applicable measurement methods, and the content, form and manner of the information to be published, including possible quality certification mechanisms, using where appropriate, the parameters, definitions and measurement methods set out in Annex X of the EECC.

54. Therefore, in response to the point raised as to why Table 1 was not part of Question 1, BEREC can clarify that Annex X QoS parameters have legal status within the EECC and therefore were not subject to public consultation while QoS parameters detailed in Tables 2 and 3 were considered for consultation and decision.

55. With regard to the QoS parameters defined in the Guidelines, BEREC has noted the comments received from a number of respondents, in particular, those questioning the level of end-user interest in data from reports of measurement, necessity, benefit to be achieved and appropriateness of all the QoS parameters listed in Table 2. Having considered the comments received BEREC has decided to remove a number of the QoS parameters from Table 2. BEREC has decided to retain two QoS parameters, namely response time for operator services and customer complaints resolution time.

56. In relation to the two QoS parameters to be retained in Table 2, namely response time for operator services and customer complaints resolution time, these are deemed important to measure the QoS of the customer care service. BEREC notes that contacting customer services via a traditional phone remains a channel used by a close majority of end-users in many Member States and for that reason BEREC considers that, in relation to 'Response time for operator services (Customer Care Services – Help Desk)' parameter, it is important to measure the length of time it takes to answer calls. With regard to the 'Customer complaints resolution time' parameter, BEREC is also cognisant that service providers need to have a uniform definition of complaint and, therefore, BEREC has provided a definition of complaint in Table 2 of the Guidelines, referenced as a footnote. This definition of complaint will assist comparability in publication of reports of measurement.

Table 2 QoS Parameters not set out in Annex X of the EECC

Additional QoS Parameters (not in Annex X)	Definition	Measurement method
Response time for operator services ⁴⁰ (Customer Care Services – Help Desk)	ETSI ES 202 057-1 (clause 5.6.1) Time elapsed between the end of dialling to the instant the human operator answers the calling user to provide the service requested. Applicable to both fixed and mobile services.	ETSI EG 202 057-1 (clause 5.6.3) It is measured by: a) mean time to answers; b) percentage of calls answered within 20 seconds.
Customer complaints resolution time	ETSI ES 202 057-1 (clause 5.10.1) The duration from the instant a customer complaint is notified to the published point of contact of a service provider and is not found to be invalid to the instant the cause for the complaint has been resolved. Applicable to both fixed and mobile services.	ETSI ES 202 057-1 (clause 5.10.3) It is measured by: a) the time by which the fastest 80% and 95% of complaints have been resolved (expressed in clock hours); b) the percentage of complaints resolved any time stated as an objective by the service provider.

57. BEREC notes the comment regarding the definition and measurement methods contained in Table 1 of the Guidelines, and in particular, with respect to equivalent 3GPP measurement standards. In that regard, BEREC has reviewed all definitions and measurement methods and has provided up to date standards applicable to both fixed and mobile networks within the Tables. In addition and as requested by respondents, BEREC has inserted direct online links within the Tables to the latest version of the applicable standards. It should be noted also that BEREC plans to review the Guidelines after 2 years from adoption.

58. BEREC notes the comment stating that the Guidelines should be revised to provide guidance on Internet access services. BEREC has set out its position on this matter in its response to the General comments section of the document.

59. In relation to the benchmarking exercise contained in Annex 3 to the Guidelines, BEREC wishes to clarify that Annex 3 presented an aggregated set of data collected from NRAs based on the QoS parameters and associated measurement and reporting

⁴⁰ BEREC is aware that there are a range of communication channels offered by providers to contact their customer care other than the traditional voice service. However the ETSI measures currently in place provides only for response time where a customer calls (voice) a help desk. As set out in section 8 of this document BEREC intends to review the Guidelines and will continue to monitor QoS parameter measurements for response times for operator services to all communication channels.

that was available in Member States in early 2019. BEREC is of the view that the data reported serves to highlight the diversity in QoS parameters, measurement mechanisms and publication practices, and therefore supports the need to adopt Guidelines for comparability within Member States. In the final Guidelines BEREC has increased the transparency within Annex 3 with the addition of footnotes and charts.

60. BEREC notes the point raised about 'up-to-date' reference in the Guidelines and has provided additional wording in the Guidelines to ensure clarity.
61. Finally with respect to the comment seeking clarity regarding the need for information which is not effectively available to the public, and also the comments related to the proportionality of the obligations in Article 104, regarding the comparable quality of service information to be measured and published by the providers, BEREC notes the explanation provided in Recital 271 of EECG which purpose is to explain that prior to imposing obligations regarding publication of information, NRAs in coordination with other competent authorities, should consider in advance of imposing obligations regarding publication of information, whether there is a gap in the information available and whether such a gap is causing an established or perceived negative impact on end-users. Where such a gap is established, NRAs in coordination with other competent authorities must react and impose obligations to ensure end-users have access to the necessary information.

3. Question 2

Q2. According to Article 104 of the EECG information required from providers on the quality of their services and on the measures taken to ensure equivalence in access for end-users with disabilities should be comparable, reliable, user-friendly and up-to-date. Do you believe the parameters and measurement methods in Table 3 are suitable for this purpose? If not, please explain why and the possible changes that could be made to improve the information.

3.1. Stakeholders contributions

62. Eight⁴¹ of the eleven respondents provided answers to this question.
63. Respondents⁴² broadly support and are committed to the delivery of measures to ensure that disabled end users equally benefit from the services available to all end users. With regard to the number of QoS measures set out in Table 3 a number of respondents⁴³ consider that the list is too long and as such BEREC should evaluate whether all the measures are necessary, proportionate or indeed currently provided across Member States. Moreover, a respondent⁴⁴ considers

⁴¹Andrea J Saks (ITU Specialist for the Deaf), ANGA-BITKOM-BUGLAS-BREKO-eco-VATM, ECTA, European Disability Forum, European Federation of Hard of Hearing, GSMA - ETNO, Spanish Ministry, Vodafone.

⁴²ECTA, GSMA-ETNO.

⁴³GSMA-ETNO, Vodafone.

⁴⁴GSMA-ETNO.

that BEREC must state clearly that the measures listed in Table 3 apply to services specifically designed for end-users with disabilities and should be clearly distinguished from the general QoS parameters and specifications in the context of IAS and ICS. A respondent⁴⁵ states that consideration must be taken of necessary network upgrades, technological developments and costs involved prior to imposing these obligations on service providers. Respondents⁴⁶ note that additional terminal equipment to ensure delivery of services may be necessary to deliver the service and consideration must be taken of whether the equipment is within or outside the control of the service provider and the associated impact on the results of measurements when this arises.

64. A respondent⁴⁷ highlighted that standardisation work in this area has been going on for a long time and cognisance should be had of the numerous standards that are already available to avoid unnecessary duplication and conflicts in understanding.
65. Another respondent⁴⁸ raised the matter of privacy laws to identify people with disabilities and in turn impact their ability to provide the required services.
66. A respondent⁴⁹ considers it is critical for the Guidelines to give prominent exposure to the fact that Member States, pursuant to Article 85(4) EEC, are under an obligation to ensure:
 - (a) appropriate support to consumers with disabilities, and
 - (b) related terminal equipment and specific equipment and services enhancing equivalent access being available and affordable.
67. Furthermore, the respondent specifically calls on BEREC to ensure rectification of the reference in paragraph 45 of the consultation document to the extent that the provision of equivalent access is required only of universal service providers, any special informational requirements should be explicitly limited to those providers, to minimise compliance costs for others.
68. A respondent⁵⁰ asked BEREC to review Table 3 of the Guidelines, and recommends BEREC to note the technical comments about the EN 301 549 version 1 as most of these technical comments were addressed during the Mandate 554 revision which led to version 3.1.1, for which the EN 301 549 version 3.1.1 is already available online and not to refer to EN v2.1.2 which was referenced in Table 3 of the Guidelines.
69. A respondent⁵¹ asked BEREC not to consider the parameters listed in the Table 3 as additional ones.

⁴⁵ GSMA-ETNO.

⁴⁶ ECTA, GSMA-ETNO.

⁴⁷ Andrea J Saks (ITU Specialist for the Deaf).

⁴⁸ Vodafone.

⁴⁹ ECTA.

⁵⁰ European Disability Forum.

⁵¹ European Disability Forum.

70. A respondent⁵² emphasized that another important aspect to bear in mind is that the Accessibility Act requirements will ensure interoperability of electronic communications, for which harmonised European standards or technical specifications will be drawn up. It is therefore important that BEREC would follow closely the developments foreseen by the European Commission when it comes to the harmonised European standards or technical specifications and update Table 3 accordingly.
71. Stemming from the above, they call on BEREC to include as parameters all of the requirements of:
- clause 6 ICT with two-way communication of EN 301 549 version 3.1.1;
 - clause 13 ICT providing relay or emergency service access of EN 301 549 version 3.1.1.
72. Respondents⁵³ stated there was a need to include additional parameters in Table 3 of the Guidelines to deal with Relay Services.
73. Furthermore, a respondent⁵⁴ warns that caution is also needed where automated speech to text is considered, especially in the case of emergency services. Therefore, the guidance provided by experts to the International Federation of Hard of Hearing and the World Federation of Deaf should be taken into account, and it is also very important that community concerns would be given full attention and further consultations are needed with their input.

3.2. BEREC response

74. BEREC has carefully analysed all the submissions received in relation to Question 2 of the Guidelines and sets out its response in the following paragraphs.
75. As the Guidelines should be future-proof, BEREC is supportive of including a complete set of parameters.
76. BEREC considers that the additional QoS information, as suggested and submitted by the respondents, should be included in the Guidelines and as such BEREC has amended the Guidelines (see Table 3).
77. Table 3 below has been revised to reflect the comments received. BEREC has inserted the revised Table 3 in the Guidelines.

⁵² European Disability Forum.

⁵³ Andrea J Saks (ITU Specialist for the Deaf), European Disability Forum.

⁵⁴ Andrea J Saks (ITU Specialist for the Deaf).

Table 3⁵⁵ – QoS Parameters relevant for end-users with disabilities for ICS and IAS Providers

Service	QoS Parameters	Definition	Measurement method
Voice communication	Audio bandwidth for speech	ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause 6.1) Where ICT provides two-way voice communication, in order to provide good audio quality, that ICT shall be able to encode and decode two-way voice communication with a frequency range with an upper limit of at least 7 000 Hz. ⁵⁶	ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause C.6.1)
Real-Time Text (RTT)	Distinguishable display	ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause 6.2.2.1) Where ICT has RTT send and receive capabilities, displayed sent text shall be visually differentiated from and separated from received text. ⁵⁷	ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause C.6.2.2.1)
	Programmatically determinable send and receive direction	ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause 6.2.2.2) Where ICT has RTT send and receive capabilities, the send/receive direction of transmitted/received text shall be programmatically determinable, unless the RTT is implemented as closed functionality ⁵⁸ .	ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause C.6.2.2.2)
	Interoperability	ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause 6.2.3) Where ICT with RTT functionality interoperates with other ICT with RTT functionality, they shall support the applicable RTT interoperability	ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause C.6.2.3)

⁵⁵ETSI/CEN/CENELEC EN 301 549 defines Information and Communication Technology (ICT): technology, equipment, or interconnected system or subsystem of equipment for which the principal function is the creation, conversion, duplication, automatic acquisition, storage, analysis, evaluation, manipulation, management, movement, control, display, switching, interchange, transmission, reception, or broadcast of data or information.

⁵⁶ NOTE 1: For the purposes of interoperability, support of Recommendation ITU-T G.722 [i.21] is widely used. NOTE 2: Where codec negotiation is implemented, other standardized codecs such as Recommendation ITU-T G.722.2 [i.22] are sometimes used so as to avoid transcoding.

⁵⁷ NOTE: The ability of the user to choose between having the send and receive text be displayed in-line or separately, and with options to select, allows users to display RTT in a form that works best for them. This would allow Braille users to use a single field and take turns and have text appear in the sequential way that they may need or prefer.

⁵⁸ NOTE: This enables screen readers to distinguish between incoming text and outgoing text when used with RTT functionality.

Service	QoS Parameters	Definition	Measurement method
		mechanisms described in clause 6.2.3. ⁵⁹ .	
	RTT Responsiveness	<p>ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause 6.2.4)</p> <p>Where ICT utilises RTT input, that RTT input shall be transmitted to the ICT network, or platform on which the ICT runs within 500 ms of the time that the smallest reliably composed unit of text entry is available to the ICT for transmission. Delays due to platform or network performance shall not be included in the 500 ms limit.⁶⁰</p>	<p>ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause C.6.2.4)</p>
Video communication	Resolution	<p>ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause 6.5.2)</p> <p>Where ICT, that provides two-way voice communication, includes real-time video functionality, the ICT:</p> <p>a) shall support at least QVGA⁶¹ resolution;</p> <p>b) should preferably support at least VGA⁶² resolution.</p>	<p>ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause C.6.5.2)</p>
	Frame Rate	<p>ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause 6.5.3)</p> <p>Where ICT, that provides two-way voice communication, includes real-time video</p>	<p>ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause C.6.5.3)</p>

⁵⁹ NOTE 1: In practice, new standards are introduced as an alternative codec/protocol that is supported alongside the existing common standard and used when all end-to-end components support it while technology development, combined with other reasons including societal development and cost efficiency, may make others become obsolete. NOTE 2: Where multiple technologies are used to provide voice communication, multiple interoperability mechanisms may be needed to ensure that all users are able to use RTT. EXAMPLE: A conferencing system that supports voice communication through an internet connection might provide RTT over an internet connection using a proprietary RTT method (option c). However, regardless of whether the RTT method is proprietary or non-proprietary, if the conferencing system also offers telephony communication it will also need to support options a or b to ensure that RTT is supported over the telephony connection.

⁶⁰ NOTE 1: For character by character input, the "smallest reliably composed unit of text entry" would be a character. For word prediction it would be a word. For some voice recognition systems - the text may not exit the recognition software until an entire word (or phrase) has been spoken. In this case, the smallest reliably composed unit of text entry available to the ICT would be the word (or phrase). NOTE 2: The 500 ms limit allows buffering of characters for this period before transmission so character by character transmission is not required unless the characters are generated more slowly than 1 per 500 ms. NOTE 3: A delay of 300 ms, or less, produces a better impression of flow to the user.

⁶¹ Quarter Common Intermediate Format.

⁶² Common Intermediate Format.

Service	QoS Parameters	Definition	Measurement method
		functionality, the ICT: a) shall support a frame rate of at least 20 frames per second (FPS); b) should preferably support a frame rate of at least 30 frames per second (FPS) with or without sign language in the video stream.	
	Synchroniza- tion between audio and video	ETSI/CEN/CENELEC EN 301 549 v3.1.1 (clause 6.5.4) Where ICT that provides two-way voice communication, includes real-time video functionality, the ICT shall ensure a maximum time difference of 100 ms between the speech and video presented to the user. ⁶³	ETSI/CEN/CENEL EC EN 301 549 v3.1.1 (clause C.6.5.4)

4. Question 3

Q3: Do you agree with the Guidelines outlined above covering Publication of Information? Please provide comments if any.

4.1. Stakeholders contributions

78. Nine⁶⁴ of the eleven respondents provided answers to this question.

79. BEREC notes that stakeholders raised a wide variety of issues in this area.

80. Some respondents⁶⁵ state that NRAs should refrain from being too prescriptive on how this information is formatted and BEREC's proposals go beyond what is required to ensure that information is made accessible to the broadest group of end-users. Other respondents support the harmonisation of the publication requirements while at the same time ask BEREC to consider limiting the amount of information to be published. A respondent⁶⁶ suggested that the most comprehensive set of measures shall be published only via NRAs and proposed an amendment to paragraph 61 of the consultation document to that effect.

⁶³ NOTE: Recent research shows that, if audio leads the video, the intelligibility suffers much more than the reverse.

⁶⁴ Anga-Bitkom-Breko-Buglas-eco-IEN-VATM, Confidential submission, Digital Europe, ECTA, European Disability Forum, GSMA-ETNO, Liberty Global, Spanish Ministry, Vodafone.

⁶⁵ ECTA, GSMA-ETNO.

⁶⁶ Confidential submission.

81. In relation to paragraphs 60 and 61 of the consultation document, some respondents⁶⁷ suggested that the Guidelines should clarify that the obligation to publish through a third party should be published by NRAs only when providers do not otherwise provide sufficient information.
82. Some respondents asked BEREC to delete or modify some paragraphs to gain more coherence and consistency in the Guidelines. For example, some respondents⁶⁸ have expressed concerns regarding the criteria for information quality, stating that the Guidelines are insufficiently clear on some aspects such as in relation to 'reliable and up-to-date' information.
83. One respondent⁶⁹ questions all of the elements of the proposed definition of comprehensive information as being 'complete/statistically representative as well as understood by members of the intended audience'.
84. Other respondents⁷⁰ argue that there are inconsistencies, in particular, where the Guidelines focus on QoS and then in relation to publication, the Guidelines state that QoE indicators shall be included if possible. One respondent⁷¹ stated that QoE would be difficult, if not impossible, to measure.
85. Moreover, one respondent⁷² comments on criteria for information quality as set out below.

Comprehensive

86. The respondent has doubts about all of the elements of the proposed definition of comprehensive information as being 'complete/statistically representative as well as understood by members of the intended audience'.

User-friendly

87. The respondent believes that this concept should be aligned with the notion 'clear and comprehensible' under Article 4(1) OIR, as interpreted by the Net Neutrality Guidelines, excluding those defining elements of the latter, which are listed explicitly in Article 104(1) (1) EEC ('comparable' and 'up-to-date'), that is to say:
- Easily accessible and identifiable for what it is;
 - Accurate;
 - Meaningful to end-users, i.e. relevant, unambiguous and presented in a useful manner;
 - Not creating an incorrect perception of the service provided to the end-user.

⁶⁷ GSMA-ETNO.

⁶⁸ GSMA-ETNO.

⁶⁹ ECTA.

⁷⁰ ECTA, Vodafone.

⁷¹ Spanish Ministry.

⁷² ECTA.

88. Furthermore the respondent does not support, in any case, the use of the term 'definitive', which is likely to mislead end-users, notably where providers cannot fully control quality of service performance, and therefore only can provide estimates, as BEREC recognises.
89. The respondent also considers that the requirement that user-friendly information 'should not include too detailed information' is unclear and therefore does not promote consistent application. Accordingly, it should be deleted.

Comparable

90. The respondent considers that standards-based information generally fulfils the criterion of being comparable. Accordingly, the text in paragraph 57 of the consultation document should therefore apply only where standards-based information is not being used, subject to the above remarks on the use of standards under the criterion of user-friendliness.

Reliable

91. For the following reasons, the respondent does not agree with BEREC's proposed interpretation of what it means for information to be 'reliable'. It considers the element of correctness to be appropriately covered by the criterion of accuracy, discussed above in the context of the desirable alignment between the understandings of "clear and comprehensible" and "user-friendly". It also observes that information may well be reliable without therefore necessarily being correct.
92. Furthermore the respondent does not consider use of the word 'reliable' in Article 104(1) EECC to provide any basis for either a requirement or a preference for the use of certification mechanisms as BEREC expresses in paragraph 58 of the consultation document. Quite the contrary, Article 104(2) EECC clarifies that certification mechanisms are but an additional possibility. In that regard the respondent asks BEREC to remove any reference to preferential use of certification mechanisms, including the imprecise conditioning expression 'if such mechanisms were introduced in a given Member State', which is liable to require further interpretive effort. In the respondents view reliable information is information that is dependable because it is not subject to unforeseeable and unjustified alteration of underlying reporting conventions.

Up-to-date

93. The respondent contests the assertion that the requirement for information pursuant to Article 104(1) EECC to be 'up-to-date' provides any basis for obliging providers to 'publish information showing the most recent update of data at a minimum frequency on an annual basis'.
94. The respondent considers that the common language understanding of 'up-to-date' as 'current at the time of publication' is wholly adequate to ensure that end-users will receive quality of service information reflective of network performance at such time.

Publication modalities

95. With regard to the European Accessibility Act, BEREC is asked to clarify why it references the general accessibility requirements of Section III of Annex I of the European Accessibility Act rather than the service-specific requirements for electronic communications services in Section IV (a), also in view of its approach in Table 3, as discussed in the context of Question 2 above.
96. As regards the reference to the Web Accessibility Directive, the respondent notes that the directive generally is not binding on electronic communications providers.
97. The respondent urges BEREC to recognise both the appropriateness of a disproportionate burden test and to introduce a corresponding differentiation along the criteria of size, resources and nature in respect of providers that NRAs (and other competent authorities with whom they coordinate their activities) should take utmost account. Furthermore, the respondent asks BEREC to clarify that the requirements that NRAs might deem appropriate under Article 104 EEC can in no case oblige providers to create dedicated websites or mobile applications to comply with those obligations, contrary to what paragraph 62 of the consultation document might suggest.
98. The respondent calls on BEREC to underline that, by default, direct communication channels under the providers' control should be privileged. Where publication via channels controlled by third parties is required, NRAs should guarantee that this does not incur any additional cost or difficulty for providers. Where NRAs choose to (re)publish information themselves, or where third parties do so without the provider's request, providers must disinvest of all responsibility for the information published.
99. When BEREC further recognises that NRAs might invite providers to publish information with regard to different levels of aggregation or different end user groups, the respondent believes that greater clarity is required as to the basis for such requests. BEREC refers to such publication contributing to the achievement 'of objectives' without clarifying what these might be.
100. A respondent⁷³ suggests that with regard to paragraph 59 of the consultation document, there should be clear guidance from BEREC on what "*regularly*" means. Subsequently, regarding paragraph 63 of the consultation document, they insist on asking NRAs to oblige service providers to publish information about their services in an accessible manner. Accordingly, they would need to follow the accessibility requirements set in Section III of Annex I of the EAA. However, the reference to ETSI EG 302 952 is incorrect, as this standard was not agreed with users' organisations and it does not prove compliance with the EAA requirements. Therefore, as a provisional guidance, they could use the EN 301 549 version 3.1.1 instead.

⁷³ European Disability Forum.

101. One respondent⁷⁴ while welcoming the highlighting of accessibility in the Guidelines, emphasises that accessibility should not be subject to conditions, but it should be a clear requirement.
102. One respondent⁷⁵ refers to paragraph 63 of the consultation document whereby, providers can be obliged to have information on their websites “*no more than one click from the homepage,*” while paragraph 64 of the consultation document provides two options to mandate distribution of relevant information, one of which is for the NRA to oblige providers to publish through a third party. In that regard the respondent states that the Guidelines should clarify that such obligation to publish through a third party should be announced by NRAs only if providers do not provide sufficient information in other ways (see Recital 271).
103. Otherwise, one Member State could oblige an operator to use a certain third-party channel whereas another Member State could require use of a different third-party channel, hence paragraphs 63 and 64 of the consultation document make it likely that NRAs will mandate different concepts and therefore impose unnecessary burdens on service providers, contrary to the very idea of the Guidelines.
104. The respondent also considers that the current language in paragraph 63 of the consultation document should specifically recognise that mobile applications may provide QoS information through URL guidance to a webpage or other similar redirection, and need not provide detailed QoS information within the app itself.

4.2. BEREC response

105. BEREC recognizes, as pointed out by a stakeholder, the need to clarify some points on this section of the Guidelines to avoid any misinterpretation. Concerning paragraph 66 of the consultation document, BEREC indicates that the objective of adding QoE indicator if appropriate is not constraining for the operators and can increase the comprehensive and user-friendly aspect of the published information.
106. BEREC has updated the Guidelines to reflect the comments received regarding the updated ETSI/CEN/CENELEC standard on accessibility.

⁷⁴ European Disability Forum.

⁷⁵ Digital Europe.

5. Question 4

Q4: Do you agree with the Guidelines on Quality Certification mechanisms? Please provide comments if any.

5.1. Stakeholders contributions

107. Seven⁷⁶ out of eleven stakeholders, answer to this question. Respondents⁷⁷ mainly argued and questioned the legal basis that, contrary to the Open Internet Regulation, certification mechanisms that are operated by NRAs should not automatically be considered as certified quality certification mechanisms. One respondent⁷⁸ specifically argued that this per-country approach would hinder European-wide standardization and calls for BEREC to work with the EC to leverage the possibility of standardization in the area of QoS, basing the request on the requirements suggested by BEREC in paragraph 73 of the consultation document. It was also argued by respondents that the requirement that these certification mechanisms should be operated free of conflicts of interest is superficial, and that transparency, as suggested in the Guidelines by following an open-source-approach should not be considered necessary⁷⁹. Other respondents argued for the contrary and welcomed BEREC's approach to an open methodology, especially the use of Open source.

108. One respondent⁸⁰ strongly disagreed with section 7 of the Guidelines, on Quality Certification mechanisms, particularly the factors which national regulators or competent authorities have to take into account when choosing a quality certification mechanism.

In that regard, in paragraph 68 of the consultation document, BEREC states that this provision 'stipulates that if the NRA provides a monitoring mechanism for IAS implemented for this purpose, it should be considered as a certified monitoring mechanism [for IAS]'.

109. In addition, the respondent is of the opinion that the approach taken by BEREC in section 7 conflicts with the general EU approach towards standardization. As BEREC rightly concludes in paragraph 70 of the consultation document, the Code does not prescribe who may be a provider of a quality certification mechanism. However, in the subsequent paragraph, BEREC unilaterally imposes a significant restriction in this regard, by prescribing a 'requirement of independence of the provider of the quality certification mechanism from IAS and publicly available ICS providers'. Furthermore, the respondent states it is of the opinion that this requirement conflicts with the Code, which, as BEREC concluded correctly, does not impose restrictions in this regard.

⁷⁶ Anga-Bitkom-Breko-Buglas-eco-IEN-VATM, Digital Europe, ECTA, GSMA-ETNO, Liberty Global, Spanish Ministry, Vodafone.

⁷⁷ Anga-Bitkom-Breko-Buglas-eco-IEN-VATM, ECTA, GSMA-ETNO, Liberty Global.

⁷⁸ Liberty Global.

⁷⁹ Vodafone.

⁸⁰ Liberty Global.

Moreover, the respondent notes that this requirement also violates the key principles of the Code as regards appropriateness and proportionality.

110. Another concern raised by the respondent is that, according to paragraphs 71-72 of the consultation document, the approach taken by national regulators to choose or award the certification of the quality monitoring mechanism may take many various forms. Provisions of the EECC do not impose requirements on the certification procedure. The level of formalization of the procedure as well as additional requirements, such as the requirement for a specific form of the certification act (e.g. an administrative decision, ordinance) may be determined in national law. Additionally, as BEREC points out, the Code 'does not set out requirements about the certification period, the conditions for the certification withdrawal, or extending the certification'. In that regard the respondent is concerned that – if this is not addressed by BEREC – this will lead to significant material and procedural regulatory divergence. Again, the respondent recommends BEREC to look into the merits of standardisation as a way of ensuring a harmonized approach.
111. Another respondent⁸¹ notes that this section (paragraphs 65 to 74 of the consultation document) not only relies extensively on considerations relating to internet access services, which BEREC had initially declared outside the scope of the guidance (BoR (19) 189, paragraph 4, at 2), but that its undifferentiated treatment of monitoring mechanisms in the sense of Article 4(4) OIR and certification mechanisms in the sense of Article 104(2) EECC renders the relation between the two instruments less rather than more clear.
112. One respondent⁸² considers the different concepts of QoS and QoE introduced in paragraph 21 of the consultation document does not bring clarity in the debate; conversely, they create even more confusion around the already existing differences between NIICS providers and network providers, and therefore, these additional reflections should be removed from the document. Moreover, the fact that QoS is being defined up to the user interface may also raise questions.
113. Another respondent⁸³ notes that, as BEREC points out in paragraph 67 of the consultation document, the EECC does not require Member States, or NRAs, to establish or certify a monitoring mechanism. Moreover, it is crucial that where quality certification mechanisms are in place, these would be subject to audit by an independent third party specialised in quality standards. Furthermore, the respondent does not support BEREC's proposal, in paragraph 74(3) of the consultation document, that the source code of the quality monitoring mechanism should be revealed to the public.

⁸¹ ECTA.

⁸² Digital Europe.

⁸³ Vodafone.

5.2. BEREC response

114. BEREC has considered and noted the points raised by the respondents. BEREC remains of the view that the requirements on transparency and operation free of conflict of interest seem to strike a balance between the views of respondents and the necessary preconditions when operating a certification mechanism.
115. BEREC has updated the Guidelines to state that the publication of its source code can contribute to the openness of the quality monitoring mechanism; however a provider of a quality monitoring mechanism cannot be obliged to publish the source code.
116. Furthermore in relation to the points raised regarding certification of the quality monitoring mechanism, BEREC further clarifies in the Guidelines that Article 4(4) of Regulation (EU) 2015/2120 makes reference to a monitoring mechanism certified by the NRA. Furthermore, the BEREC Guidelines in this regard stipulates that if NRAs provide a monitoring mechanism for IAS, implemented for this purpose, it should be considered as a certified monitoring mechanism.