BEREC
Body of European Regulators for Electronic Communications

BoR (25) 181

# BEREC Report on the outcome of the public consultation on the draft BEREC Guidelines on very high capacity networks

04 December 2025

# Contents

# 1 Executive Summary

The Body of European Regulators for Electronic Communications (BEREC) published the draft BEREC Guidelines on very high capacity networks ('the draft Guidelines') on 20 March 2025. At the same time, a public consultation was opened, running until 30 April 2025. BEREC received responses to the public consultation from the following 4 stakeholders:

- FTTH Council Europe
- Liberty Global
- BREKO (The German Broadband Association) and
- Ecta (European Competitive Telecommunications Association).

This report provides an overview of the responses BEREC received during the public consultation and the BEREC response to each topic addressed by stakeholders in particular with regard to the need to adapt the draft Guidelines.

In addition, BEREC published all non-confidential stakeholder responses received and interested readers should consult these responses for the definitive views of stakeholders.[1]

# 2 Stakeholders comments and BEREC response

## 2.1 Supporting statements from Ecta, BREKO and Liberty Global

BEREC notes overall support from stakeholders for its proposal to confirm the current performance thresholds for fixed networks based on the new performance data gathered in 2024.

Ecta expressly agrees with the BEREC proposal and in particular the focus on real-life experience using the network.

Also BREKO welcomes the confirmation of the current performance thresholds and the methodology used (in particular the focus on peak time conditions), as this methodology ensured the high-level performance standards for very high capacity network (VHCN) that are necessary for a thriving digital infrastructure in the future.

Libery Global too recognises that the data collected in 2024 confirmed the data collected for the initial BEREC Guidelines on VHCN from 2020, even though arguing that by limiting the in-building access technology to specific types of access technology, BEREC would create a

[1] https://www.berec.europa.eu/en/public-consultations-calls-for-inputs/public-consultation-on-the-draft-berec-guidelines-on-very-high-capacity-networks-0

higher threshold for Gigabit network than was envisaged with the European Electronic Communications Code (EECC).

Only the FTTH Council Europe argues that by excluding all fibre solutions for in-house connections, the performance thresholds might be too low.

### 2.2 BEREC response

BEREC welcomes the support from stakeholders for the approach taken. Moreover, the mere fact that only 4 submissions have been received in response to the public consultation of the updated draft Guidelines, suggests that stakeholders by and large did not see the need to voice concerns over the draft Guidelines.

As regards the points made by FTTH Council Europe, BEREC disagrees, foremost on legal grounds which are set out in more detail below.

### 2.3 Update of criterion 3

The FTTH Council Europe in relation to the approach to defining equivalents to VHCN points out:

- The FTTH Council Europe continues to believe that the intention of the legislators was to push investments in fibre and to bring fibre as close to end-users as possible. These Guidelines should express this fact more clearly.
- The exclusion of the most performant network solutions in BEREC's analysis (see paragraph 80 which excludes all fibre solutions) of VHCN equivalence results in the technical parameters for equivalence being set too low.

According to Liberty Global, EECC requires BEREC to look at the network performance of a 'network that consists wholly of optical fibre elements at least up to the distribution point at the serving location'. Where this concerns a fiber to the building (FTTB) network, it does not further specify what types of cabling or in-building access technology should exist between the distribution point and the end-user. Currently, this may consist of a wide range of technologies with different capabilities (e.g. (V)DSL, G.fast, DOCSIS, Ethernet, fibre, Wi-Fi). Liberty Global notes that, by limiting the in-building access technology to specific types of access technology, BEREC is creating a higher threshold for VHCN than was envisaged with the EECC.

### 2.4 BEREC response

BEREC welcomes the views on the appropriateness of the criteria used in the questionnaires. As Recital 13 of the EECC states, "*The current response towards that demand is to bring*

*optical fibre closer and closer to the user, and future 'very high capacity networks' require performance parameters which are equivalent to those that a network based on optical fibre elements at least up to the distribution point at the serving location can deliver*".

As Liberty Global states, the in-building access technology is not specified. However, because a VHCN must be capable of providing end-user services with a particularly high quality of service (paragrahph 15 of the Guidelines), it cannot include technologies with limited capabilities in the questionnaires sent to operators. For this reason, as paragraph 36 indicates, the determination of the performance thresholds 1 and 2 therefore is based on the 'best' technology with regard to the achievable end-user quality of service (QoS) already deployed in networks.

On the other hand, and as paragraph 17 states, the focus is not on fibre to the home, as the FTTH Council suggests, because that would impose the higher end-user QoS achievable with fiber to the home (FTTH) to other networks.

It is worth noting that both stakeholder responses have opposite views, one considers that the technical parameters for equivalence are being set too low, while the other considers that the threshold for VHCN is higher than was envisaged with the EECC.

### 2.5 Pushing fibre investments closer to the user

The FTTH Council Europe reads the intention of the co-legislators in the EECC to push fibre as deep into the network as possible. It is of course not only fibre that is the potential network solution but fibre, and fibre performance, acts as the baseline performance against which all other network solutions must be measured. Furthermore, the legal text is quite specific that in cases where the network is not FTTH, that it is not the end user experience against which the network performance is to be measured and judged but rather that it ought to be the network performance up to the distribution point at the serving location (i.e. to the building). What happens after that network point ought to be excluded from the assessment. According to FTTH Council Europe, in practice two different parameters are being mixed and under the interpretation of BEREC particularly anomalous results arise. In terms of the physical attributes, the FTTH Council Europe is aligned with BEREC's interpretation (Criteria 1 and Criteria 2) though it is worth noting that Criteria 1 includes FTTH (wholly fibre) as the first and foremost solution. In defining what is an equivalent to the physical definition, this in turn is a function of the physical definition and it essentially says that a network that is as performant as a network which is 100% fibre (or at least up to the distribution point at the serving location). The measurement of similar network performance is defined across the range of parameters set out in the definition. However, this measurement is only concerned with network performance up to the serving location [the building] and not the end user. On this basis, the relevant question is whether other media (such as copper coax copper or wireless for instance) are able to deliver comparable performance at peak-time across the six parameters to the

point where they connect to the serving location. For instance, if FTTB is then completed using asymmetric digital subscriber line (ADSL) in the building or it is FTTB using very high-speed digital subscriber line (VDSL) in the building, the measurement parameters ought to be identical in the context of measuring VHCN since it only measures the performance of the medium to the serving location. The question will be whether CATV Hybrids can be said to have a similar performance across the parameters set out, if the medium that arrives to the serving location is not 100% fibre or whether wireless backhaul can be as performant as fibre to the base station. The FTTH Council Europe believes that by relying on the end-user experience, BEREC is misinterpreting the legal text and drawing an equivalence between solutions that are materially different.

### 2.6 BEREC response

BEREC does not agree with the FTTH Council that the network performance shall be measured only up to the distribution point at the serving location. As conveyed in the response of BEREC to a substantially equivalent comment of the FTTH Council during the public consultation of the first draft of these Guidelines in 2020 (BoR (20) 164), the „EECC defines a very high capacity network as a certain type of electronic communications network and *not only as a segment of a network*. Therefore, for the determination of the performance thresholds of criteria 3 and 4, it is necessary to consider the network up to the end-user (including the access network) where the public network ends…“. Since the FTTH Council raised a similar point in 2020, BEREC refers the readers to the more comprehensive response available in BoR (20) 164, whose topic is outside of the scope of the present update of the criterion 3 of the Guidelines.

### 2.7 Emphasis on the technology

While BREKO recognises the importance for the Guidelines to remain technologically neutral in principle, BREKO believes that it is however of the utmost importance that the deployment of fibre optic technologies is maximised within these thresholds and criteria, as their performance and energy efficiency as best in class cannot be contested and are thus essential for an innovative and resilient digital infrastructure across the EU. In this context, BREKO regrets that fibre networks are not further emphasised in the draft Guidelines, while other technologies such as data over cable service interface specification (DOCSIS) or G.fast are explicitly highlighted for their potential to meet the VHCN criteria. In the frame of upgrading the technology to reach the EU's connectivity goals, it is paramount to rely on the highest possible standards for the best connectivity for the future.

## 2.8 BEREC response

BEREC agrees that FTTH can bring higher QoS performances compared to other copper-based access technologies. However, it is not in the scope of these Guidelines to emphasise the feasible performance of FTTH, as BREKO seems to suggest. This work aims to update the minimum performance criteria for fixed very high-capacity networks. For this objective, using the better performing FTTB technologies as a benchmark, i.e. G.fast 212MHz and DOCSIS 3.1, instead of FTTH technologies, aligns with the VHCN definition outlined in the EECC, and is consistent with the already adopted approach, that remains valid under the current legal framework.

## 2.9 The role of HFC networks in Europe – today and tomorrow

Liberty Global is of the view that it is important for BEREC to keep in mind the objective of the EECC for ensuring widespread availability, and take-up, of Gigabit network services, and the role that hybrid fiber coax (HFC) networks (and the resulting infrastructure competition) have played and will continue to play in achieving the European Union's Digital Single Market agenda and its Digital Decade targets.

According to Liberty Global, HFC network operators have long been the leaders in investment in high-speed networks, and at scale, across Europe. Liberty Global operates far-reaching, scalable, gigabit-fast networks that rely on optical fibre at their core. Moreover, innovations in HFC technology — particularly due to DOCSIS standard upgrades — have resulted in more capacity, lower latency and greater security. With DOCSIS 3.1, and even DOCSIS 3.0 in some situations, the capability of HFC networks can meet or exceed FTTH / FTTB capability on the performance metrics mentioned throughout the questionnaire. In this regard, Liberty Global notes that the capabilities of HFC networks have already been acknowledged by the Commission in several cases, where it found that DOCSIS 3.1 networks constituted very high capacity infrastructure. Similarly, Ofcom categorised Virgin Media's DOCSIS network as 'Ultrafast' and gigabit-capable, alongside FTTH, for the purpose of market assessments6 and public data reporting.

According to Liberty Global, innovation in the telecommunications sector will not cease, and future networks will not be limited to the network infrastructure and technologies that we know today. This makes technology-agnostic regulation even more essential. Any regulatory policy should therefore be designed to reward permanent innovation investment. Liberty Global therefore requests that BEREC recognises the significance of HFC networks for fast, high-capacity broadband deployment in Europe; and the need for companies such as Liberty Global to be able to continue to invest in HFC network improvements and new build project.

### 2.10 BEREC response

BEREC concurs with Liberty Global that innovations in HFC networks can significantly contribute to the Gigabit connectivity targets of the Digital Decade Programme. Indeed, several DOCSIS network operators have reported performance levels that align with the EU 2030 objectives, as detailed in Annex 4 of these Guidelines.

# Annex 1 List of Abbreviations

| | |
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| ADSL | Asymmetric Digital Subscriber Line |
| BEREC | Body of European Regulators for Electronic Communications |
| DOCSIS | Data Over Cable Service Interface Specification |
| EECC | European Electronic Communications Code |
| FTTB | Fibre To The Building |
| FTTH | Fibre To The Home |
| HFC | Hybrid Fiber Coax |
| QoS | Quality of Service |
| VDSL | Very high-speed Digital Subscriber Line |
| VHCN | Very High Capacity Networks |