Brussels, 21 November 2019

ETNO response to the public consultation on the draft BEREC Guidelines on geographical surveys of network deployments

A. INTRODUCTION

ETNO took well note of BEREC's consultation of the draft guidelines on geographical surveys of network deployments and welcomes the opportunity to comment these draft guidelines. The present document consolidates the views of ETNO regarding the guidelines and reflects in part comments that were made earlier by operators in the public workshops BEREC organised in Brussels in July and October 2019. In the second part below ETNO also answers the questions raised in the guidelines document.

B. COMMENTS (following the structure of the draft guidelines)

As a preliminary comment ETNO notes that the draft BEREC guidelines regarding geographical mapping refer to Article 82 of the EECC that considers Very High Capacity Networks (VHCN) and BEREC's duty to issue guidelines on the criteria that a network is to fulfil in order to be considered a Very High Capacity Network. These guidelines are however not known and will in line with the BEREC planning only become available well into 2020. As the definition of VHCN is a necessary element to fully appreciate the scope and effects of the draft BEREC guidelines on geographical mapping, the present ETNO comments are made with the necessary reserves in that respect.

1. Introduction

ETNO welcomes BEREC's position in paragraph 8 that the workload for operators for the geographical surveys should be kept proportional and reasonable, as also requested, in general, in Article 20(2) EECC. This principle, accompanied by a cost-benefit analysis, should apply a fortiori in case an NRA/OCA decides to require additional information beyond the draft guidelines

ETNO believes that QoS-2 and QoS-3 indicators should not be used for verifying QoS-1 data as the draft guidelines explain in paragraph 12. Annex 1 of the draft guidelines shows clearly that three kind of quality concepts, QoS-1 (availability of service), QoS-2 (provisioning of service) and QoS-3 (experience of service) are defined differently and should be treated as complementary. For example, QoS-2 and QoS-3 measurements refer generally to a limited number of samples obtained in well-defined geographical areas, whereas QoS-1 values are the results of theoretical calculations for the entire country. In addition, QoS-3 indicators are affected by factors which cannot be controlled by network operators: the number of

measurements and the measurements conditions (e.g. location, indoor vs outdoor, type of device) may vary strongly.

ETNO shares BEREC's point of view, stated in paragraph 13 of the draft guidelines, that data on physical infrastructures (such as ducts, conduits, masts, manholes and so on) and data on broadband demand or take-up do not fall within the scope of the draft guidelines. We believe this very clear pursuant the text of the EECC.

2. Definitions

The last paragraph of p. 10 (paragraph 22) explains that a premise may only be counted as passed if the house will be connected within normal connection fees without any additional or exceptional cost within 4 weeks from the date of the request.

- First, it is not clear what is meant with additional or exceptional costs. For example, is the cost that the customer incurs for laying the introduction cable on his private domain (e.g. in the front garden) considered as an additional cost?
- Second, the time for connecting a house can vary a lot and often the cause of the different timings does not lie with the operators. Hence, in ETNO's view any reference to a period should be excluded from the definition.
- Third, commercial conditions attached to this definition are out of purpose. Furthermore, there is no regulatory foundation for having NRA monitoring these retail prices.

Therefore, ETNO suggests changing the rule as follows:
"An operator may report a premise as passed only if it has deployed the broadband network up to the borderline of the private domain of the premise."

The definition of reach of fixed broadband networks on p. 11 (paragraph 22) refers to the "number of addresses passed", which is defined in paragraph 22 (p. 9) as "an address is passed when at least one premise at the given address is passed". From the definition (paragraph 22, p. 9) of address one understands that an address can contain several premises or even several buildings each containing several premises. In paragraph 22 (p. 10) the draft guidelines define also premises passed. Coverage percentages expressed in terms of addresses may differ strongly from coverage percentages expressed in terms of premises, in particular in urban areas.

ETNO believes that defining reach in function of premises passed gives a much more accurate picture of the effective reach of a fixed network, especially in the context of VHCN developments which are typically deployed earlier in urban settings characterised by the presence of a many multi-dwelling buildings (i.e. 1 address containing many premises).

At the very least BEREC should clarify the definition of reach of fixed broadband networks, and in particular the relationship between addresses and premises.

3. Fixed broadband

The draft guidelines describe methods for collecting information on the reach of fixed broadband networks that look appropriate. However, ETNO advises BEREC to take care that these methods are supposed to be put in place for all concerned fixed operators across the EU and allow the national regulators to adapt the method in such way that it allows all operators to comply with the chosen method.

ETNO highlights that the second recommended method in paragraph 47, where the NRAs/OCAs combine the operators' address data, ensures an accurate matching of the NRAs/OCAs and the operators' address databases and allows for a uniform treatment of the address data of all the concerned operators.

Opposed to BEREC's opinion in paragraph 43 (page 16), ETNO believes that, if an address has access to more than one technology for one operator, it suffices that the operator provides information on the most recent (future-proof) technology. For example, for an address where FTTH has been deployed, but copper-based services are still available it suffices to provide only the information on FTTH.

In relation to paragraph 50, BEREC should be aware that most operators do not have information about public service buildings that are located at specific addresses (see Annex 4, Table 8).

Regarding the proposed parameters (speed data precisely) included in paragraph 42 and 50 to characterize fixed network performance, BEREC should bear in mind that there is a considerable chance that depending on the situation such parameters are not available for legacy networks. Moreover, considering the expected migration from traditional copper to fibre networks in the future, it would be worthless and disproportionate to demand that characterization for outdated DSL networks. In situations where not readily available, developments in IT systems to provide such speed measurements on a regular basis will exceed any consideration of proportionality. Therefore, we highly recommend removing traditional networks from those speed-reporting impositions if there is an ongoing deployment of a VHCN or an active copper switch-off process is in place.

Should BEREC nevertheless consider that speed parameters of legacy networks are relevant, they could consider alternative data in cases where own operator data are not available. Alternatives on the commercial side (such as Akamai, Ookla, …) could be considered as indicative for countries where otherwise speed data are missing. However, use of such data

for comparison is not advisable, as being subject to multiple methodological issues and considerations and having an insufficient degree of reliability.

In case BEREC would issue recommendations on the methods for calculating speed information of fixed networks in the future, as foreseen in paragraph 58, it should consider the specific technology types (see Table 1) and the different implementations at the different operators. For example, in case of vectored VDSL the speed available at a specific address is not only determined by the copper line attenuation but also by the vectoring implementation (e.g. vectoring frequency).

4. Mobile broadband

In relation to paragraph 67, ETNO believes that harmonisation should be reached at national level. At EU level, BEREC should build on existing practices of the Member States. The objective should be to find the right balance between harmonization and proportionality. Harmonisation of some parameters of the theoretical calculation models, mainly related to grid size and thresholds, could be envisaged at EU level. However, harmonisation of e.g. specific mathematical models, calibration methods or tools should be out of scope of the draft guidelines due to the fact that the guidelines can impossibly make an informed and justified choice in this matter as several suitable methods and models could be used for this purpose. Moreover, one should also consider the proportionality of imposing such method as it can lead to addition undue burden and complexity.

ETNO endorses that the characterisation of the mobile network is reliant mainly on technology and that using multiple coverage levels provide relevant additional information to the end user. However, calculating additional performance information like speeds has no added value, because it is too complex for theoretical models. Drive tests are likely better suited for collecting that kind of information (QoS-2 information) but should not be made mandatory. It should be left to the national regulator / other competent authority to decide whether it is feasible and necessary to request such kind of parameters upon local circumstances and specificities.

Regarding paragraph 76, ETNO opposes the collection of performance information (e.g. QoS-1 speed information), because it is extremely difficult (impossible?) to calculate accurately with theoretical models.

- First, estimating speeds on basis of signal strengths that are the outcome of theoretical radio models is not an appropriate method, because speeds are determined by many more factors in addition to signal strength, e.g. data traffic demand, frequency bands and other features like 4x4 MIMO, 64 QUAM, etc.
- Second, it is difficult to integrate data traffic demand in theoretical calculation models, because it is very volatile: it varies strongly by time of the day or by day of the week, depending on the number of users, e.g. railway station (where there are a lot of

travellers in the mornings and late afternoons), residential streets (where people are out-of-home during the day, but at home in the evening), business districts (where people work during the day in the week, but not in the evening or in the weekends).

- Third, it should be born in mind that networks in different MS will perform differently due to assigned bandwidth, coverage obligations, permitted EIRP[1] maximum allowed field strength, building penetration losses (considering different architectural approaches, guidelines)... Therefore, in-detail comparisons between different MS based on more detailed performance qualifiers do not make sense as even customer expectations may be different

In case the optional collection of other parameters would be maintained, ETNO asks for a clarification on what is meant with "Other technical parameters regarding signal strength".

ETNO is in the opinion that if the optional theoretical calculations are finally requested, they should focus only outdoor spaces and a static environment, avoiding indoor or movement measurements.

ETNO is against the calculation of indoor mobile coverage and of mobile coverage of users in movement as envisaged in paragraph 71, because the suggested approach (applying a penalty factor to outdoor coverages) is too simplistic and leads to unreliable results.
Indoor mobile coverage depends on a lot of factors varying from house to house, e.g. construction materials (concrete, wood), quality of isolation of the house, specific location in the house (nearby window vs cellar). So indoor mobile coverage may differ strongly in two neighbouring, at first sight similar, houses of which one is very well isolated and the other is not isolated.
Considering all these factors in theoretical calculation models is too complex.
Similar arguments are valid for a user in movement, i.e. the specific transport type (e.g. foot, bike, car, train...) influences the coverage.
Consequently, it is not possible to estimate accurately these coverages by applying penalty factors to the outdoor coverage, while modelling the parameters that influence these coverages is too complex. This should thus be left out of scope.

- First, ETNO finds the recommendation on the methodology for calculating/estimating mobile coverage maps, as described in paragraph 75 of the draft guidelines, not clear. Does the recommendation require a) and b), or does is only require one of them i.e. a) or b)?

- Second, ETNO finds that data traffic demand is too volatile for integrating accurately in theoretical calculation models for mobile networks: it varies strongly by time of the day or by day of the week. Consequently, ETNO requests for removing point a).

5. Forecasts

ETNO does not understand why BEREC recommends a very long forecast period of "at least 3 years"[2], whereas it rightly recognises that operator's rollout plans may change over time. Since the reliability of the forecasts affects the objectiveness and the effectiveness of public interventions based on the predictions, ETNO asks for a reduction of the forecast period from 'at least' 3 years to 6 months or less in line with what is realistically feasible for most operators. This need for a short period of 6 months or less is particularly relevant also in the context of forecasts for mobile network deployment for reasons of reliability and protection of business secrets. The forecast period must be adjusted regarding a precise geographical area (national area or smaller area) so that the information can be provided in accordance with Article 22, i.e. "[information] that is available and can be provided with reasonable effort".

We believe that the analogy made with the EU state aid rules for the choice of the 3 year period is not relevant in this context, given that State aid mapping shall continue to be mainly regulated by the guidelines specifically drafted for that purpose[3]. In particular, chapter. 2.6.1 and 2.6.2 of the draft BEREC guidelines should only focus on the forecast for designating areas (where investment should be promoted) and not for state aid purposes (where a public plan is foreseen). Indeed, state aid is not even mentioned in art. 22 (1) when dealing with forecast.[4]
The geographical mapping required by the Code is a very different exercise and has different consequences attributed to the forecasts.
The level of detail and length of the forecasting process in the draft guidelines are in contrast with the high demand for accuracy and the threat for penalties in the EECC.
In ETNO's view, shortening the forecast period from at least 3 years to less than 6 months will be more effective for improving the reliability of forecasts and will lead to efficiencies in policy development especially for areas where service provision is challenging. A shorter timeframe makes a more accurate regulatory intervention possible.

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[2] *One should remark here the discrepancy between the draft guidelines and the text of the Directive, which states in recital (62) of the EECC that "the relevant forecasts should concern periods of up to three years". From this derives that "at least" three years, as suggested by BEREC, is going beyond the scope of the EECC.*

[3] State aid Broadband Guidelines (2013/C 25/01)

[4] See Art. 22(1) EECC, where state aid is only mentioned in the 2nd subparagraph related to mapping of the current geographic reach, whereas it is not mentioned and linked to the 3rd subparagraph.

BEREC rightly recognises in paragraph 87 that operators' rollout plans may change over time as a result of changes in the investment strategy or unforeseen events and BEREC correctly concludes from this that longer-term forecasts are more uncertain in nature than shorter term forecasts.
Consequently, ETNO does not understand why BEREC recommends in paragraph 94 a very long forecast period of at least 3 years. Most of ETNO members would face relevant challenges in order to perform reliable detailed forecasts of network deployments over such a long period. For most of ETNO Members this would be a mismatch with the normal operational models and ways of working in the context of network planning and deployment.

Indeed, the reliability of the forecasts determines the objectiveness and the effectiveness of regulatory measures taken based on the data provided. Hence, it is of utmost importance that the forecasts are reliable and that the modalities (e.g. forecast period, resolution) are determined in an appropriate way to make reliable predictions possible.
However, ETNO recognizes that for state aid mapping a longer forecast period is needed. In case of public investment plans the forecast is done on a case by case assessment and with the purpose of avoiding the crowd-out of private investment. As a result, the participation of the operators in the mapping process done for state aid purposes is voluntary and can span over three years or even further, as the relevant rules already prescribe. It should be mentioned further that no penalty clauses apply to forecasts in the context of state aid.[5]

Besides state aid plans, ETNO finds that BEREC rightly recommends collecting forecast data on annual basis (paragraph 93), because it is general practice among operators to review the forecasts yearly: forecasts of ongoing deployments are adjusted, and forecasts of new deployments are added. The recommended forecast period of at least 3 years (paragraph 94) is too long also in that context.

It is general practice among operators that future network deployments are prepared and planned in different steps. The initial high-level plans identify larger geographical areas e.g.

[5] See par. 63 of State aid Broadband Guidelines (2013/C 25/01): "*the aid granting authorities should also verify whether private investors have concrete plans to roll out their own infrastructure in the near future. The term 'near future' should be understood as referring to a period of 3 years. If the granting authority takes a longer time horizon for the deployment of the subsidised infrastructure, the same time horizon should also be used to assess the existence of commercial investment plans*".

A State Aid driven roll-out is distinct from the one foreseen in article 22 and should therefore be treated differently. In fact, State Aid programmes are not subject to the detailed level of resolution suggested by BEREC in the draft guidelines. These programmes are designed for a specific – usually large – region with agreed deployment milestones. These milestones (agreed contractually) are not based on specific addresses (nor on grid levels) but rather on specific coverage thresholds that have to be reached at different stages. Moreover, any information provided by network operators under market surveys carried out under a State Aid programme is made on a voluntary basis (with the objective of avoiding any sort of crowding out private investments through the use of public means) and is not subject to any penalties such as the ones foreseen in article 29 of the EECC.

regions, cities, industry zones which are then gradually refined in the subsequent steps resulting finally in a list of individual addresses where the network deployment will take place. During this refinement process the details of the deployment areas and the corresponding planning are subject to changes.

For example, the delimitation of deployment areas can be adjusted to increase the number of living units served, e.g. highly populated city districts, or to keep costs within budget, e.g. focusing on certain deployment techniques. The planning is also influenced by the necessity of public works and the time required to obtain the required permits or to consider complaints of residents and by the acceptance (or not) by authorities of façade deployment instead of underground deployment.
The further the network deployment plans are refined the smaller the chance that the delimitation of the deployment area and the planning will change. This means that operators do not know the individual addresses and the small polygon areas of network deployments planned for the far future, but that they do know them for network deployments in the near future and that the shorter the time before the deployment starts the more stable the planning. Consequently, operators are not able to perform reliable and stable forecasts of network deployments for periods like 2 or 3 years in the future. However, for shorter future periods forecasts are more reliable and the planning is less subject to changes.

In the following we discuss case studies that illustrate how and why operators are not able to perform stable long-term forecasts of network deployments and therefore should be allowed to update their plans at any moment (and at least regularly).

Case study: FTTH forecasting at Proximus (Belgium)

Proximus deploys FTTH in waves. Each wave consists of a group of city projects and is subject to specific management approval prior to the start. At the moment of this approval only approximative polygons of the city projects are defined. The detailed borders of the city projects are finetuned during the lifecycle of the project. Therefore, at the initial planning and approval stage, the addresses within the perimeter of the city projects are not determined and thus not sufficiently reliable for communication.

Typically, a city project covers up to 40k of households and is realised over a period of approximately
4 years (target). The realisation of such a city project is done by smaller areas (of about 3k of households), called ‘fiberhoods’, launched sequentially. The launch of the ‘fiberhoods’ depends on the priorities of the local authorities (e.g. already planned works, local events, etc) and Proximus. The effective planning will be the outcome of negotiations with the competent local authority.

A ‘fiberhood’ is typically deployed in a time laps of ~20 months, of which the first ~14 months are a preparation phase:

- Several surveys are performed, e.g. street surveys to improve the quality of addresses information; infrastructure surveys etc. The real-life information gathered in these surveys

is used for finetuning the boundaries of the 'fiberhood' and to come to a stable set of addresses for the 'fiberhood'. This information is available typically ~9 months after the launch of the 'fiberhood'.

- The last phase of the preparation consists of obtaining permits from local or regional authorities for all outside works. The time needed for obtaining the permits depends case by case and is subject to interaction with the local authorities. In Belgium there is an obligation to realise outside works in synergy[6] with other companies, which could delay the planning. Therefore, the final planning is known only once all permits are obtained and an agreement with the synergy participants is achieved. This happens ~12 months (at best) after the launch of the 'fiberhood'.

When the preparation phase is finished, the FTTH construction of a 'fiberhood' can start. The start of the construction does not fit in seamlessly with the end of the preparation phase because the start is for example also determined by the availability of construction resources. Those practical planning challenges make also that once the targeted addresses are in theory known, it is not yet known when exactly these addresses will be constructed.

Because of these uncertainties in the timing 'fiberhoods' are not always deployed within the above mentioned 20-month target period.

To illustrate this with an example: of a city project in the Antwerp city area to be finalised in mid-2020, about 1,200 homes passed will be delayed till 2021 due to synergy obligations.

Other issues, such as sudden changes in availability of construction resources, etc. may also cause delays in the realisation.

In order to manage uncertainties a buffer is foreseen in the planning: initially ~20-25% more homes passed than budgeted are launched in order to ensure that the annual internal objectives on budget and homes passed are effectively achieved. As a consequence, this means that only ~80% of the initially planned homes are realised (effectively passed) at the end 20-month period mentioned above. Detailed forecasting in the initial stage thus inherently implies a fault margin of ~20-25%.

<u>In summary and conclusion:</u> Proximus organises the deployment of its FTTH network in terms of 'fiberhoods'. The FTTH deployment of a 'fiberhood' takes typically 20 months from high-level definition to having fiber to (nearly) all homes. The involved addresses and the planning are only stable after ~12 months after the launch at best. Consequently, the FTTH deployment at the level of addresses is only known for a period up to 8 months in the best case, but often this period will be shorter due to coordination (synergies) and permit issues or other issues as explained above. Moreover the forecast is always tentative because even though the addresses are known, their exact timing of the effective deployment is not. **This leads to the conclusion that a forecast period of 6 months is already a very ambitious goal in the Belgian context. Such forecast at address level**

[6] In Belgium a company that plans works on public domain (e.g. trenching) is obliged to announce publicly the works in advance so that other companies can join the project and make use of it for their own needs (i.e. adding own infrastructure).

is very difficult and highly uncertain. A forecast at an aggregated level of a zone is recommended. This is further confirmed by the need to plan with a buffer as explained above.

Example: Fiber planning at MEO (Portugal)

As for the forecast period, MEO's experience is as follows: the volume of HHs to be covered by fiber in each year is defined in the plan of the previous year. At that time it is not possible to supply the volume of houses to be covered for a period of 3 years.

The detailed plan regarding the zones to be covered is defined 4 months in advance, so it would only be possible to provide detailed information for a 4 month time period.

State Aid Process for VHCN extension in Spain: no 3 years forecast

Spanish State Aid for fixed BB programs aimed and currently aims:

- Extension of UHBB services in order to improve Digital inclusion.
- Addressed within the EU framework to achieve a real DSM.
- Favour Digital revolution in Spain.
- Reduce Digital divide across regions and table geographic challenge.

Originally launched in order to extend fiber capabilities further from main urban areas, across the time has experienced two different phases:

- **2013-17: Telecommunications Plan for Ultra High Speed Networks**, where its main targets were:
  - Acceleration of the infrastructure offer in low profitability regions through the extension of the new generation broadband (PEBA-NGA).
  - Coverage plan of at least 30 Mbps.

  Its budget amounted for slightly more than 200 M€ while targeted fiber coverage over 3.5 million HH.

- **2018-21: Plan 300x100**, with a total budget of 525 M€, aiming:
  - Provision of 300 Mbps Optical Fiber to all population centers in Spain.
  - At least, 95% of population in each region will be guaranteed fiber coverage.

  The budget allocated for the second phase of the program has been considerately higher than the first one, as the cost to cover with fiber white areas has increased progressively. Every awarded project implies the obligation to provide a wholesale access for 3rd parties equal in terms and technical capabilities to those fiber regulated figures already in place.

Budget allocation and project awards in State Aid yearly process:

The Ministry of Economy in Spain requests fiber and cable coverage once a year (mid-year data) in which different infrastructure operators provide the number of premises already passed for each technology.

With coverage data provided by year-end (which corresponds to data coverage as of June that year), the Ministry elaborates a proposal of potential aggregated coverage considering all types of NGA networks and in that preparation process, forecast information is requested as operators can just validate coverage information for the ongoing installations.

But usually there is no answer regarding coverage forecasts for two main reasons. On the one hand, CapEx is usually allocated on a yearly basis in infrastructure operators, with little reliability or no certainty regarding network rollout beyond those 12 months. The assignment between the budget and the areas/neighborhoods to be covered is flexible and could vary or change along the year depending on different factors or even on the evolution of the competitive landscape. On the other, network forecast is very sensitive data from a strategic point of view, and knowing in advance the potential competitors' coverage targets for the coming years might provide a useful information to optimize operators' own targets and minimize investment risks.

With coverage data provided by year-end (which corresponds to data coverage as of June that year), the Ministry elaborates a proposal of potential aggregated coverage considering all types of NGA networks.

During January next year, this proposal is open to consultation among all network operators in order to refine aggregated coverage information which is finally used by the Ministry in order to elaborate a proposal for "*potential white areas*" by February. By March that year, the Ministry finally issues a "*definitive white areas proposal*", which previously has been updated with Operator's feedback.

By May that year, the Ministry delivers the final resolution of the tender with detailed information by region of the targets to be covered and budget associated to each coverage project.

From that date onwards, each network operator bets for those projects, which match their own profitability criteria and by fall (Sept-Oct), the Ministry publishes the final awarded contestants.

There are no penalties in case an awarded operator finally refuses to carry out any individual project. It is common that as fiber coverage progressively surpasses 75% of the HH, individual projects in small rural villages began to gain traction in the context of a wider award in the area. Therefore, cherry picking of that kind of individual projects undermines the wider scope and the homogeneous coverage extension in the region, leading to what is called "*coverage islands*". In such situations, it might be possible that the center of a village enjoys fiber coverage but not the outskirts.

The deployment of VHCN-Networks in Germany

The deployment of VHCN-Networks in Germany remains difficult due to several different barriers, which may differ from region to region or even from local authority to local authority (some allowing micro-trenching, others not, some with very lengthy permit procedures, other where these procedures are much quicker). This means that the existence of favourable deployment conditions such as transparency over cadastral data, fast approval procedures and possibility to use alternative types of deployment needs to be assessed by network operators, case-by-case *in situ,* which is very

burdensome and bureaucratic. These differences cause an additional uncertainty in the deployment projects which is not compatible with a forecast-exercise that goes beyond 6 months.

Finally, the deployment of VHC networks (in particular the resource-intensive FTTH/B deployment with a high-risk profile) is generally only carried out if a pre-marketing threshold has been successfully achieved. This also brings uncertainty for the deployment, being it due to the threshold not being achieved at all (re-orienting the operator's priorities), or only achieved close to the deadline which may delay the deployment due to other priorities decided in the meantime. Finally, this strategy of having a pre-marketing phase before deciding the deployment is applied by several different operators in Germany (public or private investors, local, regional or nationwide) and it is key to have a sustainable deployment of VHC-Networks.

Another aspect is the set of data requested. ETNO welcomes that BEREC identifies the set of data and, in particular, the performance indicator relevant for the forecast, which is the maximum download speed. NRAs/OCAs should refrain from requesting additional data on performances beyond the maximum download speed.

6. Confidentiality

ETNO asks for aligning the definition of business secrets (paragraph 113) in the draft guidelines with the definition of business secrets of the European Commission. ETNO moreover disagrees with the fact that the assessment of whether a piece of information constitutes confidential information is made on a case-by-case basis by the relevant authority (cf. paragraph 114). ETNO finds that it belongs to the prerogatives of the operator to assess the confidentiality of the information that is provided to the NRA/OCA and that in case the NRA/OCA would disagree the latter has to demonstrate by law that the concerned piece of information is not confidential.

We note that the draft guidelines contain the word "competition" only twice, while this is in the context of operator information an important notion to consider. The information envisaged by the draft guidelines to be gathered by the NRAs/OCAs definitely contains strategic information in the sense of the guidelines on Horizontal Cooperation[7],:

"The exchange between competitors of strategic data, that is to say, data that reduces strategic uncertainty in the market, is more likely to be caught by Article 101 than exchanges of other types of information. Sharing of strategic data can give rise to restrictive effects on competition because it reduces the parties' decision-making independence by decreasing their incentives to compete. Strategic information can be related to prices (for example, actual prices, discounts, increases, reductions or rebates), customer lists, production costs,

[7] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011XC0114(04)&from=EN, paragraph 86

*quantities, turnovers, sales, capacities, qualities, marketing plans, risks, **investments**, technologies and R&D programmes and their results."*

(see: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011XC0114(04)&from=EN). The most obvious example to mention here are forecasts. ETNO notes that from a competition law perspective the draft guidelines forego at this stage the necessary protection of competition by omitting to reconcile the transparency objective with the prohibition to exchange strategic information. As a consequence, there is a real risk that BEREC contributes to the alignment between providers of electronic communications networks/services, which is contrary to the European Internal Market. In our opinion, BEREC needs to observe a higher and more stringent standard to the confidentiality of the collected data.

In this context, it is also important that in relation to section 2.7.5 (p. 36) regarding access to information by public authorities the sharing entity (NRA/OCA) strictly ensures the confidentiality at all times and ensures this happens under a strict legal system. It is also important that any request by public authorities that are not entitled to collect data, is duly justified and respects the principle of proportionality.

Furthermore, the importance of mobile network infrastructure is understood both by regulators and governments, in providing vital connectivity services, which includes safety of life communications. Mobile networks are to be considered as critical national infrastructure and certain detailed information is restricted for reasons of public safety and national security.

C. QUESTIONS

Question 1

In BEREC's current Public Consultation on the implementation of the Open Internet Regulation (paragraph 140), BEREC is requiring that the speed values required by Article 4(1) (d) of the Regulation EU 2015/202011 should be specified on the transport layer protocol payload, and not based on a lower layer protocol. Is there any reason why this layer should not be used in proving information about speeds in the context of a Geographical Survey of Broadband reach?

ETNO answer to question 1:

It is our understanding that speeds should be specified based on the IP packet payload or transport layer protocol payload.
However, regarding the end user experience, there is different ways to measure speed values according to the services. The QoS' campaigns are appropriate to evaluate the

speed values in different types of services and environment. If BEREC seeks the end user perception, we should use upper layer such as application layer.

Question 2

BEREC has considered several methods to calculate speed information according to the relevant fixed network. The development of these methods often requires information on the position of network infrastructure (for example, collecting the distance to the street cabinet or the switching centre). Do you consider information on location of infrastructures strictly required for the purpose of art 22? If so, what is the minimum information level related to network infrastructure that the Geographic Survey should collect and why?

ETNO answer to question 2

ETNO finds that the information on the location of the network infrastructure should not be collected for the purpose of Art 22. Art 22 handles the reach of broadband networks and not infrastructure for broadband networks.

The reach of broadband networks is indeed determined by the location of the network infrastructure, but the latter is not enough. For example, the VDSL2 coverage area at a given speed is determined by the specific equipment (vectoring, vectoring frequencies, Dynamic Line Management) that is active in the network element; by the type of xDSL lines (all VDSL2 or mix of VDSL2 and ADSL) with which the customers are connected; and by the copper distance from the network element to the address. As an additional note for VDSL2 with vectoring, it is not the copper line distance that determines the achievable speed but the copper line attenuation, not only depending in the length of copper cable but also on the width, the number of splices, etc.

Consequently, ETNO does not see the added value of collecting network infrastructure elements within the purpose of Art. 22. If information about the network infrastructure elements and their position were to be collected, this information should be treated as confidential.

Operators shall have the possibility to calculate themselves the speed, without the need to provide the position of their network infrastructures. In order to ensure the homogeneity of data, it is important that any operator within the EU follows in principle

the same rules, be it adapted to the own network reality, for the estimation of maximum and normal speeds.[8]

Question 3:
As explained above, BEREC considers that the characterization of the mobile network is reliant mainly on technology (subsection 2.4.2.1), and that NRAs/OCAs may collect performance information, such as QoS-1 speed information (subsection 2.4.2.2.) as they see fit for their own needs.30 That is, each MS may decide on the performance information suitable for its own national circumstances.

However, BEREC would like to hear views on the following issues:

A) Does such optionality compromise the purposes of Article 22, or should BEREC consider making some performance information non-optional? If so, why, and which information should be mandatory?

B) Which kind of performance information may be better to inform end users? (Note that in all circumstances NRAs/OCAs should consider that BoR (18) 237 has already recommended that "In order to improve the information on mobile coverage given to the public, NRAs may want to consider specifying at least four levels of mobile coverage. Generally, the levels of mobile coverage could be chosen to reflect the different probabilities of successful service reception which equates to service availability". As an example, a service could be characterized by the following graded approach: capability to the end user to: 1.) browse traditional web pages and consult emails, 2) to view enriched web content and to stream standard quality video, 3.) to stream high definition videos.

<u>ETNO answer to question 3</u>

A)
ETNO supports BEREC's point of view that the characterisation of the mobile network is reliant mainly on technology.

ETNO is against the collection of performance information, e.g. QoS-1 speed information (subsection 2.4.2.2), because it is difficult to calculate accurately with theoretical models.
First, estimating speeds on basis of the signal strengths that are the outcome of theoretical radio models is not an appropriate method because speeds are determined

[8] It is worth to mention, that generally speaking, signal and data processing within a transport/core network element has generally been found as more relevant for data speeds than physical propagation on the transmission lines.

by many more factors than the signal strength, e.g. data traffic demand, frequency bands and other features like 4x4 MIMO, 64 QUAM, …
Second, it is difficult to integrate data traffic demand in theoretical calculation models because it is very volatile: demand for data traffic varies strongly by time of the day or by day of the week, depending on the number of users, e.g. railway station (where there are a lot of travellers in the mornings and the late afternoons), residential streets (where people are out-of-home during the day, but at home in the evening), business districts (where people work during the day in the week, but not in the evening or in the weekends).

ETNO finds that performance information for mobile is best collected by drive tests (QoS-2 information).

B)
ETNO finds that differentiating mobile coverage in multiple coverage levels, as BoR (18) 237 recommends, is an appropriate way to inform better the end users. It is key to explain clearly where the different coverage levels stand for, i.e. what kind of service they may expect and what not.

However, the definition of multiple coverage levels needs to be specified and discussed at national level with the NRA and the MNOs.

Question 4

Should BEREC seek to harmonize the assumptions made by operators and NRAs throughout Europe? Should BEREC encourage NRAs/OCAs to seek this harmonization at a national level? Which assumptions should be considered to be harmonized and how? (For example, should BEREC consider data service speed coverage calculations without cell load, considering that the network is available for at least one user at a specific location at a specific time? Or should BEREC consider network load and, if so, based on which parameters?)

ETNO answer to question 4

ETNO finds that there should be harmonized on national level.

At EU level, ETNO finds that BEREC should build on existing practices. The objective should be to find the right balance between harmonization and proportionality. Harmonization of some parameters of the theoretical calculation models at EU level could be envisaged, e.g. grid size, thresholds, but harmonization of e.g. specific mathematical models, calibration methods or tools should be out of scope.