

Consultation on the review of the Recommendation on relevant markets

Fields marked with * are mandatory.

1 Background

The EU's regulatory framework for electronic communications is a set of rules which apply throughout the EU with the aim of encouraging competition and efficient investment, improving the functioning of the internal market and guaranteeing basic user rights. The existing framework is made up of a package of [4 Directives and 2 Regulations](#). In 2016, within the scope of the so called “connectivity package” the Commission proposed to simplify the current structure of the framework, to update it for the digital age and to reinforce its coherence and accessibility, consistently with the Digital Single Market (DSM) strategy for Europe. The new [European Electronic Communications Code](#) (“the Code”) has recently been adopted [1] and Member States are required to apply their national measures transposing it from 21 December 2020, on which date the directives making up the existing framework will be repealed.

According to the EU’s regulatory framework for electronic communications, National Regulatory Authorities (NRAs) shall ensure that in carrying out the regulatory tasks they take all reasonable measures which are aimed at achieving the regulatory objectives contained therein, inter alia, promoting efficient investment in and access to new and enhanced infrastructures. *Ex ante* regulatory obligations should be imposed on a given relevant wholesale market only where there are one or more undertakings with significant market power. Under the Framework, the definition of relevant markets and the assessment of significant market power should be based on the same methodologies as under EU competition law.

Under Article 64(1) of the Code the Commission shall adopt a [Recommendation on relevant product and service markets](#). [2] It shall identify those electronic communications product and service markets the characteristics of which justify the imposition of ex ante regulation, without prejudice to markets that may be defined in specific cases under competition law. Moreover under Article 67(1) of the Code, a market may be considered to justify the imposition of regulatory obligations if all of the following three criteria [3] are met (the so called “three criteria test” for identification of markets susceptible to ex ante regulation): (a) high and non-transitory structural, legal or regulatory barriers to entry are present; (b) there is a market structure which does not tend towards effective competition within the relevant time horizon, having regard to the state of infrastructure-based competition and other sources of competition behind the barriers to entry; (c) competition law alone is insufficient to adequately address the identified market failure (s).

The last Recommendation on relevant markets was adopted in 2014 and covered five relevant markets: 1) wholesale call termination on individual public telephone networks provided at a fixed location; 2)

wholesale voice call termination on individual mobile networks; 3a) wholesale local access provided at a fixed location; 3b) wholesale central access provided at a fixed location for mass-market products and 4) wholesale high-quality access provided at a fixed location. Previous Recommendations were adopted in 2002 and 2007. In a sector that is undergoing constant technological developments such as the electronic communications sector it is necessary to assess periodically if the currently recommended markets continue to display such market characteristics as justify continued imposition of *ex ante* regulatory obligations or if there are other markets that should be included in the list. For this reason, the Code further stipulates that the Commission shall review the Recommendation regularly, and that the forthcoming review of the Recommendation shall take place within two years of the Code's entry into force (i.e. by 21 December 2020).

Moreover, in 2018 the Commission published revised guidelines for market analysis and the assessment of significant market power (SMP) in the electronic communications sector. The finding of SMP remains the principle threshold for *ex ante* regulatory intervention. The guidelines specifically address issues regarding the market definition as well as finding of single and collective SMP[4].

NRAs are required to ensure that in carrying out their regulatory tasks they take utmost account of the SMP guidelines and the Recommendation on relevant markets.

[1] Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code OJ L 321, 17.12.2018, p. 36.

[2] The same obligation exists in Article 15(1) of Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive), OJ L 108, 24.4.2002, p. 33, as amended by Directive 2009/140/EC, OJ L 337, 18.12.2009, p. 37.

[3] These three criteria were already included in the Recommendation on relevant product and service markets adopted in 2014.

[4] The revised Guidelines were adopted with the Communication from the Commission C/2018/2374, OJ C 159, 7.05.2018, p.1-15.

2 Objectives of the targeted consultation

This targeted consultation is carried out to inform the Commission's work in order to ensure that a revised Recommendation is adopted on the basis of the best available knowledge of the markets across the EU.

The aim of the targeted consultation is to collect evidence and to solicit the position of BEREC, national regulatory authorities, electronic communications operators and services providers, industry associations, consumer associations, and experts in order to enable the Commission to assess whether and, if so, to which extent, the current list of relevant markets should be subject to a revision and, if necessary, to update the recommended list of markets susceptible to *ex ante* regulation in the electronic communications sector. The list of markets in the revised Recommendation will reflect overall market trends observed in Member States and will be used by NRAs to identify and define relevant markets under their specific national circumstances in accordance with competition law principles and with the Code more specifically.

3 Replying to the targeted consultation

All questions are optional. You can also pause at any time and continue later. Once you have submitted your answers, you can download a copy of your contribution. You can reply in any EU language even though the online questionnaire is only available in English.

Please note that there is a **limit of 5000 characters for each reply**, however you can attach a file before submitting your answers. In case you need assistance please contact DG Connect, Unit B.3 at CNECT-PROJECT-RRM@ec.europa.eu.

The following acronyms are used in the questionnaire:

- Code: European Electronic Communications Code
- NRA: National Regulatory Authority
- SMP: Significant Market Power
- BCRD: Broadband Cost Reduction Directive
- OTT: Over-The-Top services

Below the Commission services present an outline of this consultation questionnaire:

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- Section 5: Consultation questions
 - Section 5.1: Relevant technological and regulatory trends in the electronic communications sector that have an impact on the definition of the relevant markets
 - Section 5.2: Scope of the relevant markets listed in the 2014 Recommendation
 - Section 5.3: Potential removal from the list of the relevant markets listed in the 2014 Recommendation
 - Section 5.4: Markets to be potentially added to the revised Recommendation
 - Section 5.5: Transnational markets
 - Section 5.6: Other

Although all types of respondents are welcome to participate in this consultation, given the highly technical nature of the topic, most questions require expert knowledge of the ex ante regulation of the electronic communications markets.

4 General information

*4.1 The Commission will publish the responses to this targeted consultation. You can choose whether you would like your details to be made public or to remain anonymous. Note that, whatever option chosen, your answers may be subject to a request for public access to documents under [Regulation \(EC\) N° 1049](#)

[/2001](#), such request will be assessed against the conditions set out in the Regulation.

Please read the [Privacy Statement](#) on how we deal with your personal data and contribution.

Please choose one of the following options:

- Anonymous.** Only your organisation name, country of origin and contribution will be published. All other personal details (name, email address and transparency register number) will not be published.
- Public.** Your personal details (name, email address, organisation name, transparency register number, and country of origin) could be published with your contribution.

*4.2 Regarding the confidentiality of your contribution, please choose one of the following options:

- Non-confidential.** My contribution does not contain confidential information.
- Confidential.** My contribution contains confidential information which should not be published.

In case your contribution contains confidential information, you are requested to provide a non-confidential version of it, which will be published on the relevant website.

4.3 You answer as:

- Private individual
- Consumer associations
- Business/user associations (please specify sector)
- Electronic communications network or service provider
- Fixed network operator
- Mobile network operator
- Mobile virtual network operator
- Convergent operator
- Internet content provider
- Government authority
- National Regulatory Authority
- Other public bodies and institutions (please specify)
- Other (please specify)

4.4 Please specify if requested.

5000 character(s) maximum

Vodafone is primarily involved in the operation of (mobile and fixed) telecommunications networks and the provision of telecommunications services in 12 EU Member States (UK, DE, ES, PT, NL, CZ, HU, IT, IR, MT, RO, GR)

4.5 Is your organisation registered in the Transparency Register of the European Commission and the European Parliament?

- Yes
- No
- Not applicable as I am replying as an individual in my personal capacity or I am a public authority, such as a National Regulatory Authority (NRA) or a National Competition Authority (NCA).

4.6 If yes, please indicate your organisation's registration number in the Transparency Register.

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If your organisation is not registered in the [Transparency Register](#), please do so before answering this questionnaire. If your organisation responds without being registered, the Commission will consider its input as that of an individual.

4.7 Respondent's first name:

Lauri

4.8 Respondent's last name:

Mustonen

4.9 Respondent's professional email address:

lauri.mustonen@vodafone.com

4.10 Name of the organisation:

Vodafone Group Plc

4.11 What is your country of residence? (In case of legal entities, please select the primary place of establishment)

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Other
- Poland

- Portugal
- Romania
- Slovak Republic
- Slovenia
- Spain
- Sweden
- United Kingdom

4.12 If other, please specify.

5000 character(s) maximum

4.13 If you answer as an electronic communications network or service provider, has your company been designated as an operator with significant market power (SMP) on at least one electronic communications market in the EU?

- Yes
- No

4.14 If yes, please indicate on which market(s) your company has been designated with SMP.

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We have been designated an operator with SMP in all of our EU markets for mobile termination, and a number of them for fixed termination. We also have been designated with joint SMP in NL for fixed access.

5 Consultation questions

5.1 Relevant technological and regulatory trends in the electronic communications sector that have an impact on the definition of the relevant markets

In order to be able to assess whether, and if yes to which extent, the current list of relevant markets should be subject to a revision, it is crucial to identify the relevant technological and commercial trends that have an impact on the definition of the relevant markets from an *ex ante* perspective.

5.1.1 What are the technological developments in the electronic communications sector at the EU level that may influence how the markets should be defined in the revised Recommendation?

Please explain. Please only consider those present and future market trends that will impact the susceptibility of the relevant markets for *ex ante* regulation until 2030.

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The technological trends are happening in parallel - both in the improvement and rollout of physical networks, and in the development of new services. We are moving towards deployment of new networks, as well as improvements in capacity of existing and legacy networks, primarily:

Deployment of 5G networks: the rollout of 5G networks will bring about significant improvements in services offered. 5G slices can move away from homogenous connectivity services and allow for different dimensions of connectivity and latency. We expect MVNOs will emerge in the slices rather than in the network as a whole. Some examples of currently identified use cases for 5G slices indicate that network competition will have a multifaceted realisation in the future. The main scenarios of 5G slicing cover a wide variety of services. These include enhanced mobile broadband with high speed access (1+Gbps), very high network capacity, and local performance zones which enable uses such as video streaming (3D, 4K and 8K), VR/AR on the move and high density experience. For mission critical comms there is ultra-low latency, ultra-high reliability and availability and stronger e2e security, which enables use for automotive/V2V, industrial/robotics, health and wellness and drones. For IoT there will be billions of connected devices, longer life-battery, very low cost and deeper coverage with less signaling. This will enable a range of services such as meters, sensors and smart cities. The following are some use cases: https://www.youtube.com/watch?v=LCWd3aR_8bM&t=5s, <https://www.vodafone.com/business/news-and-insights/case-study/vodafone-and-tomtom-enable-zenith-hygiene-group-to-slash-fuel-and-insurance-costs-and-transform-driver-productivity>, <https://www.vodafone.com/business/news-and-insights/case-study/vodafone-and-tomtom-enable-zenith-hygiene-group-to-slash-fuel-and-insurance-costs-and-transform-driver-productivity>

Evolution of cable networks: cable technology has evolved to offer gigabit connectivity, and the cable upgrade path will offer a competitive constraint on fibre networks. The new generation of hardware will be able to offer up to 10Gbps broadband download speeds and very low latency.

Rollout of fibre networks: the EECC clearly recognises rollout of fibre networks as one of its key priorities. While the extent and speed of deployment may vary, fibre rollout will play a key role across the industry in the coming years. Between 2020 and 2025 NGA access speeds offering options up to 10G via XGS-PON will increase connectivity across both consumer and business networks. This development will improve latency and speeds, and allow symmetrical download and upload speeds.

Evolution of copper access technologies: G.fast may impose some “global parameters” that limit degrees of freedom & hence differentiation. This is because it uses Time Division Duplex (TDD), unlike ADSL or VDSL, which use Frequency Division Duplex (FDD). Technically TDD transmits only in one direction at a specific time and not in both directions at the same time as FDD. Therefore, with respect to moving to an enhanced VULA service with Fixed Access Network Sharing (enhanced VULA) G.fast would have some inherent limitations compared to fibre in terms of speed profile options. For example, all G.fast access lines would have to be synchronised in the same portion of the network, defining the same maximum speed for upstream vs downstream, capping the maximum speed bounds being offered to end-customers in this network part.

The developments in multi-access edge computing (MEC) are enabling us to improve the network capability and right size services for customers, such as virtual reality, gaming and video conferencing. The manner in which these services are offered via MEC will have an impact on the more traditional fixed access bottlenecks, as MEC depends on being able to install equipment to the best place possible that is closest to the customer in order to provide the least latency and best quality to the customer. It is worth noting that MEC could emerge as a new bottleneck that needs to be addressed in the future, and this should be something that ought to be monitored carefully in terms of anti-competitive impact.

In relation to services, the improvement in physical networks is bringing about a range of new solutions that are dependent on high network capacity and reliability. These include internet-based applications and services, Internet of Things, convergence between networks and services, and OTTs. In order for these new technologies to flourish it will be important to ensure that bottlenecks in access to physical networks are addressed. While the improvements in network capacity and quality and capability of services will be significant in the coming years, the “traditional” bottlenecks will remain.

5.1.2 What are the changes in the structure and functioning of the relevant markets (such as 5G deployment, bundling, convergence, possible competitive constraints of OTTs, etc.), that may have an influence on how the markets should be defined in the revised Recommendation?

Please explain. Please only consider those present and future changes in structure and functioning of the relevant markets that will impact the susceptibility of the markets for *ex ante* regulation until 2030.

5000 character(s) maximum

There are three key, interrelated trends that can be observed in the industry that will be of relevance in the coming regulatory period, namely:

- Continuing high fixed wholesale network market share sitting with traditional incumbents;
- Ineffective separation, with incumbents separating wholesale and retail arms operationally while retaining ownership, thus continuing to maintain dominance in the market;
- Leveraging of dominant positions to gain market share across different market segments.

Wholesale network market share: Traditional incumbents still maintain a large percentage share of wholesale networks across the EU. For example (the official numbers are not published consistently between NRAs but to illustrate) lines provided through TIM's network (copper + FTTC + a little part of FTTH lines) are around 90% of total access lines in Italy (see AGCOM's Osservatorio Sulle Comunicazioni 1 /2019).

Ineffective separation: Structural separation is an accepted way of removing the dominance of traditional incumbents and freeing up the bottleneck at the wholesale network level which should stimulate competition at retail (access to deeper levels of wholesale, including ducts and poles, is another). What we have seen emerge in a number of Member States, notably Czech, UK and tentatively Italian markets, is an ineffective form of separation.

For structural separation to be effective it requires full separation of wholesale and retail, with separate ownership and governance structures (such as Telecom splitting into Spark and Chorus in New Zealand). It also requires maintaining non-discrimination and equality of inputs obligations. This type of separation ensures a level playing field for fixed access as a way of addressing this bottleneck.

However, this is not the separation model that has been carried out in the above Member States. For instance, in the Czech market the incumbent Czech telecommunications infrastructure (CETIN) is legally separated from the former vertically integrated operator O2, while they retain common ownership. Despite the common ownership, the NRA has removed regulatory obligations on CETIN. Likewise in the UK, BT and Openreach also retain common ownership despite the legal separation. The Italian proposal has been introduced on a similar common ownership basis. This type of separation is ineffective because it doesn't fully remove incentives for discrimination by the incumbent. Coupled with deregulation of fixed access obligations and removal of non-discrimination and equivalence of inputs obligations it has the potential to create new bottlenecks and restrict competition as the legally separated incumbent is incentivised to use its dominant position in the market. Ineffective separation therefore leads to distorted markets, inefficient market performance and lack of consumer choice.

Leveraging of dominant positions: The final trend that can be observed, and is linked with the above two, is the tendency for incumbents dominant in one market to leverage such dominance into markets where they do not currently have SMP, for instance in mobile from fibre to the mobile base station.

In the context of the current consultation, we consider that one way of countering the above market structure issues is to ensure that fixed wholesale access obligations are in place to ensure bottlenecks are effectively dealt with and competition can flourish. In this respect, the relevance of markets 3a and 3b is of key importance. A market for access to ducts and poles would be an effective solution to these issues, as demonstrated through the Spanish and Portuguese experience.

5.1.3 What are the legal/regulatory developments that may have an influence on how the markets should be defined in the revised Recommendation? How should these developments be reflected in the revised

Recommendation?

Please explain. Please only consider those present and future legal/regulatory developments that will impact the susceptibility of the markets for *ex ante* regulation until 2030.

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The new European Electronic Communications Code (EECC) will shape the legal and regulatory landscape in the coming years. Key aspects are:

A further attempt at better harmonisation across the EU: The objective of further harmonisation is relevant, as we are continuing to see diverse regulatory approaches across Member States with a range of differentiated outcomes in local markets. We support this objective as it can improve regulatory certainty and predictability, and improve consistency of consumer outcomes.

Eurorates & OTTs: Introducing a requirement for the Commission to adopt a delegated act setting maximum fixed and mobile voice call termination rates in the EU by 31/12/2020. This regulatory change will make the need for ongoing regulation of Markets 1 and 2 less relevant.

A number of competition issues could arise from the growth of digital platforms and their provisions of Number Independent Interpersonal Communications Services (NI ICS) in competition with traditional telecoms services. While we don't think there is a need for any additional markets in this space at this time, it will be important to monitor how these markets are developing. Where it becomes visible to the Commission that particular conduct by digital platforms threatens to undermine competition in communications services markets, it should be open to consider forms of regulation designed to protect competition and the appropriate remedies to address such issues. Regulators to date have been reluctant to conclude that termination services are effectively competitively constrained. It has been noted by EC that OTT services are 'not yet' actual substitutes for a number of years. The concerns have been based on a number of reasons including the following:

- Concerns over differences in quality between OTT and traditional services. However, this seems less relevant to current OTT services.
- The fact that OTT requires the receiving party to have the same App installed (in the absence of interoperability between services). However, WhatsApp penetration is around 82-86% of smartphone users in the Netherlands, Italy, Spain, Germany and Finland and smartphone penetration is also now around 80% in a number of Member States.
- That there remains a significant segment of consumers who continue to only make voice calls.

It is worth noting that with the growing competitive constraints today lighter forms of regulation could be considered. Article 75 of the EECC provides for Europe-wide caps for fixed and mobile termination charges and Ofcom has noted that the cap for mobile termination is likely to be much lower than the UK current regulated MTR (0.489ppm) and could be much closer to the UK's current FTR (currently 0.0307ppm). Ofcom argues that ongoing regulation of termination is warranted by risks of unregulated charges such as potential distortions of traffic, artificial inflation of traffic and the fact that businesses still rely on landlines. However, maintaining rates at current levels would protect against these risks while minimising compliance costs. The growing pace of regulation outside of the SMP framework, including the Eurorates, roaming regulation and intra-EU call caps are not necessarily consistent with the strong customer take-up of NI ICS and the resulting increase in competition.

Boosting investment and competition in Very High Capacity Networks: One of the key objectives of EECC and it is at the core of considerations related to regulation of operators with SMP and relevant markets for fixed wholesale access.

One of the greatest barriers to deployment of the new VHCN is the high cost of digging and deployment of ducts and poles. Studies by WIK and others have estimated that at least 50% of total costs of deploying networks sits with digging and access to ducts and poles. (see WIK, Best Practice on Physical Infrastructure Access: <https://www.vodafone.com/content/dam/vodafone-images/public-policy/reports/pdf/best-practice-passive-infrastructure-access-050517.pdf>).

The EECC rightly recognises the importance of access to civil engineering (see Article 72). The new requirement for the market analysis process requires NRAs to consider whether access to civil engineering alone (and primarily access to ducts and poles) would address competitive challenges in a given area before applying downstream access remedies. This acknowledges the role of access to ducts and poles as a horizontal measure which could support competition in multiple downstream markets including not only residential fixed broadband, but also mobile broadband and business services.

The EECC also recognises that decommissioning of legacy copper will need to be adequately managed by NRAs. We consider that the transition from legacy to NGA will be gradual, and as such, maintaining appropriate access remedies within markets 3a and 3b will be fundamental to minimise any adverse effects of a slow market transition.

5.2 Scope of the relevant markets listed in the 2014 Recommendation

It should be established, on the basis of competition law principles, whether the scope of the markets contained in the 2014 Recommendation should be changed in order to reflect relevant trends in the electronic communications sector from an *ex ante* perspective, due to the above-mentioned technological or regulatory developments, or other changes in the structure or functioning of markets.

The 2014 Recommendation already identified a possible need to reassess the product characteristics and boundaries of the wholesale broadband access markets as they were defined at that moment. NGA access network coverage has grown and the importance of virtual access products in light of technical developments such as vectoring and network virtualisation has increased. The degree of flexibility that those virtual products offer for access seekers to differentiate their retail offers has also increased. In some instances it has been argued that the degree of flexibility for access seekers tends to be independent of the proximity of the network access point to the customer (handover point)[1].

[1] The Dutch NRA, ACM, has on these ground recently defined a wholesale access market encompassing both local and central access markets. The Commission has not objected to this finding (NL/2018/2099 and NL/2018/2100).

5.2.1 Market 1 - Should the scope of the market for wholesale call termination on individual public telephone networks provided at a fixed location identified in the 2014 Recommendation be changed (including, for example, combining, broadening or narrowing the scope of some of the existing markets)?

- Yes
- No

5.2.2 Please explain and specify the qualitative and quantitative impact of any proposed change in scope of Market 1 on promoting connectivity and access to, and take-up of, very high capacity networks, promoting competition in the Digital Single Market, contributing to the development of the internal market for electronic communications networks and services, and promoting the interest of the citizens of the Union in line with Article 3 of the Code.

5000 character(s) maximum

Irrespective of any providers maintaining SMP, we consider that the introduction of Eurorates is a remedy that will diminish the relevance of Market 1, and consequently its scope is no longer relevant.

5.2.3 Market 2 - Should the scope of the market for wholesale voice call termination on individual mobile networks identified in the 2014 Recommendation be changed (including, for example, combining, broadening or narrowing the scope of some of the existing markets)?

- Yes
 No

5.2.4 Please explain and specify the qualitative and quantitative impact of any proposed change in scope of Market 2 on promoting connectivity and access to, and take-up of, very high capacity networks, promoting competition in the Digital Single Market, contributing to the development of the internal market for electronic communications networks and services, and promoting the interest of the citizens of the Union in line with Article 3 of the Code.

5000 character(s) maximum

Irrespective of any providers maintaining SMP, we consider that the introduction of Eurorates is a remedy that will diminish the relevance of Market 2, and consequently its scope is no longer relevant.

5.2.5 Market 3a - Should the scope of the market for wholesale local access provided at a fixed location identified in the 2014 Recommendation be changed (including, for example, combining, broadening or narrowing the scope of some of the existing markets)?

- Yes
 No

5.2.6 Please explain and specify the qualitative and quantitative impact of any proposed change in scope of Market 3a on promoting connectivity and access to, and take-up of, very high capacity networks, promoting competition in the Digital Single Market, contributing to the development of the internal market for electronic communications networks and services, and promoting the interest of the citizens of the Union in line with Article 3 of the Code.

5000 character(s) maximum

As discussed in the preceding sections, a number of factors are currently in play which combined mean that the status quo is the most appropriate option. The key notable points are that:

- A number of current wholesale access products will continue to be relevant in the 2020-2025 period. For instance, we still have a considerable amount of customers on ADSL across the Member States. We acknowledge the push to move towards NGA, however this migration is likely to be gradual and any move away from copper will need to be managed through a combination of new network deployment and managed migrations. Given the shift is likely to be gradual and take some time, copper access will remain a necessary bottleneck.
- The second relevant factor is the increase in use of MEC. MEC depends on the ability of providers to access the co-location space and install equipment in the best place possible for the optimal quality of MEC services. Where alternative operators are denied access to the data centre or the central office they will be unable to compete and the incumbent will be able to leverage their dominance for a competitive advantage. Incumbents could restrict alternative providers in terms of quality, speed and latency of services they are able to provide, and therefore fundamentally undermine competitive offerings.

Given the ongoing dominance of traditional incumbents in the fixed access space, markets 3a and 3b are fundamentally important to ensure that regulators can carry out sufficient assessments with the aim of allowing the optimal/cost and allocative efficiency mix of wholesale access products. The optimal mix would allow access seekers to build sufficient scale at relevant layers. This can be achieved through:

- Reselling of dominant operator products,

- Developing their own products, and
- Renting wholesale access from central point of interconnection.

Given that different Member States will be at different stages of market development, deregulation or monopolisation, we are of the opinion that markets 3a and 3b should be retained to allow NRAs to optimise their wholesale access remedies in the next regulatory period.

It is worth noting that the Commission should monitor changes in markets, and once the technological mix has shifted significantly, along with the market implications that are likely to follow, the 3a/3b scope should be reevaluated. We do not consider the scope should be amended at this point in time as that would be premature.

5.2.7 Market 3b - Should the scope of the market for wholesale central access provided at a fixed location for mass-market products identified in the 2014 Recommendation be changed (including, for example, combining, broadening or narrowing the scope of some of the existing markets)?

- Yes
 No

5.2.8 Please explain and specify the qualitative and quantitative impact of any proposed change in scope of Market 3b on promoting connectivity and access to, and take-up of, very high capacity networks, promoting competition in the Digital Single Market, contributing to the development of the internal market for electronic communications networks and services, and promoting the interest of the citizens of the Union in line with Article 3 of the Code.

5000 character(s) maximum

Market 3b continues to be relevant for active access services and should be retained. See also answer to 5.2.6.

5.2.9 Market 4 - Should the scope of the market for wholesale high-quality access provided at a fixed location identified in the 2014 Recommendation be changed (including, for example, combining, broadening or narrowing the scope of some of the existing markets)?

- Yes
 No

5.2.10 Please explain and specify the qualitative and quantitative impact of any proposed change in scope of Market 4 on promoting connectivity and access to, and take-up of, very high capacity networks, promoting competition in the Digital Single Market, contributing to the development of the internal market for electronic communications networks and services, and promoting the interest of the citizens of the Union in line with Article 3 of the Code.

5000 character(s) maximum

Market 4 continues to be relevant and should be retained.

There are two key areas in which the scope of Market 4 needs to be expanded:

Dark fibre access for 5G: One of the main goals of the EECC is to ensure a successful rollout and transition to VHCN and 5G networks in the 2020-2025 period. The success of 5G networks in terms of quality, speed and capacity will be greatly dependent on the quality of the backhaul that is available to the base stations. Currently, only 66% of cities with over 100K population in the EU markets are 5G ready. While we are

currently on track to ensure availability of backhaul for 5G deployment, it is important to ensure that fibre backhaul does not become a bottleneck for this deployment over the next regulatory period. Including dedicated dark fibre for 5G backhaul in Market 4 will ensure that in instances where there is a dominant provider of a fibre network they are still required to provide access on adequate terms. Absent this inclusion no such incentive will exist.

Dark fibre access for high quality business markets: Ensuring high quality business markets can get access to dark fibre is imperative for the success of industry 4.0 and the ability to offer high quality services to business markets. As identified in our assessment of transnational markets, most concerns with high quality business services that are transnational relate to inconsistent dark fibre access on the national level and therefore lack of harmonised offers due to a variety of national remedies. Moreover, the markets for business access are quite distinct from residential and should be treated as such. Business markets have higher bandwidth capabilities going up to 100GB, they are fully uncontested and symmetrical, route resilient for network diversity requirements, need to span the entire national area and be buried deeply underground to ensure quality and network integrity. Also, full and site specific build and installation costs are typically charged to the purchasing businesses which creates a high switching barrier of incurring this high cost a second time.

It is therefore important to maintain Market 4 as a separate relevant market in the revised Recommendation.

5.2.11 Based on their supply and demand characteristics, should market 3a and market 3b as identified in the 2014 Recommendation be considered in the revised Recommendation as constituting one combined market, regardless of the handover point of access?

- Yes
 No

5.2.12 Please explain and specify the qualitative and quantitative impact of such a combination of markets on promoting connectivity and access to, and take-up of, very high capacity networks, promoting competition in the Digital Single Market, contributing to the development of the internal market for electronic communications networks and services, and promoting the interest of the citizens of the Union in line with Article 3 of the Code.

5000 character(s) maximum

As discussed in the preceding sections above there is still an ongoing need for retaining separate markets 3a and 3b in the next regulatory period.

5.3 Potential removal from the list of the relevant markets listed in the 2014 Recommendation

The markets listed in the 2014 Recommendation were defined according to the three criteria test (see Section 1). From an *ex ante* perspective, some of the listed markets may no longer fulfil the three criteria, due to the above-mentioned technological or regulatory developments, or other changes in the structure or functioning of markets; in such a case such markets should no longer be subject to *ex ante* regulation.

5.3.1 Termination markets

The European Electronic Communications Code requires the Commission to adopt a delegated act setting maximum fixed and mobile voice call termination rates (Eurorate) in the EU by 31 December 2020. The Code sets out the criteria that the Commission shall use to determine the Eurorate. These criteria include the requirement that the maximum wholesale rates should be based on the costs of an efficient operator, thereby avoiding excessive wholesale prices and contributing to the policy objectives of the electronic communication framework: to promote competition, the internal market, deployment and take-up of very high capacity networks and consumer benefit. The fixed and mobile Eurorate will be applicable to any operator providing fixed and/or mobile voice call termination services.

Under current NRAs' practice, all service providers active on the fixed and mobile wholesale voice call termination markets are typically subject to a full set of remedies, including but not limited to price control (access and interconnection, non-discrimination) based on findings of individual SMP on markets identified as being specific to each provider. This practice may however be no longer justified and proportionate in light of the upcoming adoption of the delegated act on the Eurorate that will set the single maximum EU fixed and mobile termination rates applicable to all network operators irrespective of SMP findings. This should, besides the clarity on the actual price, also bring further regulatory simplification.

5.3.1.1 Market 1 – On the basis of the three criteria test, should the market for wholesale call termination on individual public telephone networks provided at a fixed location listed in the 2014 Recommendation be removed from the list in the revised Recommendation?

- Yes
- No

5.3.1.2 Please explain.

5000 character(s) maximum

Irrespective of any providers maintaining SMP, we consider that the introduction of Eurorates is a remedy that will diminish the relevance of Market 1, and consequently its scope is no longer relevant.

5.3.1.3 Market 2 – On the basis of the three criteria test, should the market for wholesale voice call termination on individual mobile networks listed in the 2014 Recommendation be removed from the list in the revised Recommendation?

- Yes
- No

5.3.1.4 Please explain.

5000 character(s) maximum

Irrespective of any providers maintaining SMP, we consider that the introduction of Eurorates is a remedy that will diminish the relevance of Market 2, and consequently its scope is no longer relevant.

5.3.2 Broadband Connectivity markets

5.3.2.1 Market 3a – On the basis of the three criteria test, should the market for wholesale local access provided at a fixed location listed in the 2014 Recommendation be removed from the list in the revised Recommendation?

- Yes

No

5.3.2.2 Please explain.

5000 character(s) maximum

Please see response above. This market should be retained.

5.3.2.3 Market 3b – On the basis of the three criteria test, should the market for wholesale central access provided at a fixed location for mass-market products listed in the 2014 Recommendation be removed from the list in the revised Recommendation?

Yes

No

5.3.2.4 Please explain.

5000 character(s) maximum

Please see the response above. This market should be retained.

5.3.2.5 Market 4 – On the basis of the three criteria test, should the market for wholesale high-quality access provided at a fixed location listed in the 2014 Recommendation be removed from the list in the revised Recommendation?

Yes

No

5.3.2.6 Please explain.

5000 character(s) maximum

Please see response above, this market is still relevant. It should be retained and expanded to include dedicated dark fibre for 5G backhaul and business markets.

5.4 Markets to be potentially added to the revised Recommendation

5.4.1 Wholesale access to physical infrastructure

Wholesale access to physical infrastructure could have a great impact on the successful roll-out of new networks because it could significantly reduce the high sunk costs associated with network rollout. National Regulatory Authorities have had different approaches regarding the regulation of access to physical infrastructures and the effectiveness of those approaches could be further affected by the the developments in these markets.

The current section focuses on the potential need to identify one or more market(s) for wholesale access to physical infrastructure as a relevant market in the revised Recommendation.

For the purpose of this questionnaire physical infrastructure should be understood as defined in Article 2(2) of the BCRD[1], namely, any element of a network which is intended to host other elements of a network without becoming itself an active element of the network, such as pipes, masts, ducts, inspection chambers, manholes, cabinets, buildings or entries to buildings, antenna installations, towers and poles.

A potential inclusion of such a market(s) in the revised Recommendation would be without prejudice to the distinct possibility established by Article 72 of the Code for NRAs to impose civil infrastructure access as a necessary and proportionate remedy to address SMP found on another relevant market.

This issue should be addressed in accordance with the “Modified Greenfield approach” as defined in paragraph 17 of the 2018 SMP Guidelines, namely, that existing market conditions as well as expected or foreseeable market developments over the course of the next market review period in the absence of SMP-based regulation, should be taken into account. The analysis should further take into account the effects of other types of (sector-specific) regulation, decisions or legislation applicable to the relevant retail and related wholesale market(s) during the relevant period.

For the purpose of this section, the non-SMP based regulation should be understood as a reference to, inter alia, the Broadband Cost Reduction Directive and the possibility in the Code of applying symmetric regulation of access to the physical infrastructure up to the first concentration or distribution point[2].

[1] Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks, OJ L 155, 23.5.2014.

[2] Article 61(3), first sub-paragraph, of the Code.

5.4.1.1 Do you, under the modified greenfield approach, consider that one or more separate wholesale market(s) for access to physical infrastructure (or certain elements of physical infrastructure) would meet the three criteria test at the EU level? Would the regulation of such a market help to attain the objectives of Article 3 of the Code?

- Yes
 No

5.4.1.2 Please explain and specify the qualitative and quantitative impact of defining any such market on promoting connectivity and access to, and take-up of, very high capacity networks, promoting competition in the Digital Single Market, contributing to the development of the internal market for electronic communications networks and services, and promoting the interest of the citizens of the Union in line with Article 3 of the Code.

5000 character(s) maximum

EECC already recognises the importance of access to civil engineering (Art. 72). As discussed in the preceding questions, due to a mixture of ongoing dominance by traditional incumbents in the fixed access wholesale space, and a need for future investment in the deployment of VHCN, we are of the view the EECC is correct in its acknowledgment of civil engineering as an appropriate solution for increase in high quality networks and competitive consumer offerings.

In terms of different types of civil engineering we are of the view that access to fit-for-purpose ducts and poles at an adequate and viable price point (not including ancillary and onboarding costs that would reduce the viability for investment), is the most relevant bottleneck to be addressed. Access to fit for purpose ducts and poles in order to reduce costs to deploy new VHCN and promote sustainable competition is of high importance to the success of EECC's primary objectives.

A new relevant market under the SMP framework is appropriate. The SMP framework is well-tested, its processes and practices are well-defined and its implementation provides sufficient legal and regulatory certainty going forward. Access to ducts and poles should not be treated as a remedy within markets 3a, 3b and/or 4. Under the existing practice, access to ducts and poles is generally regulated as a remedy, and in most cases it falls under market 3a. However, NRA practices have been inconsistent and have varied greatly between Member States. What is evident, however, is that those Member States that have granted access to physical infrastructure at an adequate price point have seen widespread rollout of alternative FTTH networks, and now enjoy competitive NGA networks with a large footprint (cf. Portugal, Spain).

Additionally, regulating access to ducts and poles in a distinct relevant market has an additional logical and legal benefit. For instance, in case ducts and poles access gets regulated under market 3a, an issue may arise in the future in determining how market analysis should be conducted in case market 3a has become competitive due to challenger investments in their own networks, with these network investments having happened through the use of regulated access to ducts and poles. In this situation, a regulator might face a contradictory situation in which it deems necessary to keep the access to ducts and poles regulated, however, such access would be placed under market 3a which it has deemed competitive. Obviously this is a circular argument, but due to the importance of the issue it needs to be addressed. The clearest and cleanest way to address this issue is by defining a distinct market for access to ducts and poles. It is also the most stable approach.

Defining a separate market for access to ducts and poles is also the best approach from a market delineation perspective, given its homogeneity across separate geographic markets across Member States and since it is heterogeneous with market 3a.

Duct and poles access should rather easily meet the three-criteria test:

1. Since incumbent operators generally own a large portion of physical infrastructure, replicating such infrastructure is a structural barrier to entry.
2. Without regulation there is no tendency towards a competitive environment in this space as the cost of replicating is too high (as mentioned above, studies by WIK and others have estimated that at least 50% of total costs of deploying networks sits with digging and access to ducts and poles); and
3. Competition law has proven inefficient as there is no clear abuse of dominance case.

Given more concentration might be driven in certain markets, there are clear benefits to maintaining a separate market for access to fit for purpose ducts and poles. We also believe that the success of this approach should be taken into consideration and an inclusion of a market for duct and pole access would bring a more harmonised approach across the Member States.

5.4.1.3 If you replied to Question 5.4.1.1 in the affirmative, how would you define the product and geographic dimension of the wholesale market for access to physical infrastructure?

Please explain.

5000 character(s) maximum

If a separate market for access to fit for purpose ducts and poles is defined, the best practices on such access in Spain, France and Portugal should be considered in delineating the product and geographic dimension. We are of the view that ducts and poles of utilities should be included in the market definition only if they are fit for purpose to rollout new fibre networks.

5.4.1.4 In light of Article 72 of the Code, do you consider it necessary to include one or more wholesale market(s) for access to physical infrastructure in the list of relevant markets of the revised Recommendation?

- Yes
- No

5.4.1.5 Please explain and specify the qualitative and quantitative impact of defining any such market on promoting connectivity and access to, and take-up of, very high capacity networks, promoting competition in the Digital Single Market, contributing to the development of the internal market for electronic communications networks and services, and promoting the interest of the citizens of the Union in line with Article 3 of the Code.

5000 character(s) maximum

Please see response above.

5.4.2 Other markets to be added to the revised Recommendation

Please specify any other markets that you consider should be added to the revised Recommendation. In particular, consider whether any of the markets identified at the national level in Member States could be susceptible to ex ante regulation on an EU-wide basis.

5.4.2.1 On the basis of the three criteria test, should any other market(s) be added to the list in the revised Recommendation?

- Yes
- No

5.4.2.2 Please explain and specify the qualitative and quantitative impact of defining any such market on promoting connectivity and access to, and take-up of, very high capacity networks, promoting competition in the Digital Single Market, contributing to the development of the internal market for electronic communications networks and services, and promoting the interest of the citizens of the Union in line with Article 3 of the Code.

5000 character(s) maximum

5.5 Transnational markets

5.5.1 On the basis of the three criteria test carried out at EU level, can any transnational market(s) be identified in the revised Recommendation?

- Yes
- No

5.5.2 Please explain and specify the qualitative and quantitative impact of defining any such market on promoting connectivity and access to, and take-up of, very high capacity networks, promoting competition

in the Digital Single Market, contributing to the development of the internal market for electronic communications networks and services, and promoting the interest of the citizens of the Union in line with Article 3 of the Code.

5000 character(s) maximum

As an operator providing services across multiple Member States, in principle we very much support measures to improve the standard of business connectivity for customers across the EU. However, in practice we think that there a number of substantive challenges which make it unlikely that a transnational market exists that would warrant a creation of a new relevant market in the revised Recommendation in the 2020-2025 period.

In our view, the issues that affect transnational organisations seeking a harmonised service tend to sit in the local markets. While there is some transnational demand for services, the access issues for multinationals exist on a national level and should be dealt with on a national level. Primarily, to effectively resolve issues that affect multinationals operating in a transnational environment, NRAs ought to take into account the difference between business and residential markets and ensure adequate access is available accordingly, on a harmonised basis. Access to dark fibre for business customers is of fundamental importance to solve most of the supply bottleneck issues for transnational business services offerings.

5.6 Other

5.6.1 You are invited to raise any other issues relating to the subject of this consultation. Please explain.

5000 character(s) maximum

Vodafone submission – Executive Summary

Vodafone welcomes the opportunity to provide early input to the European Commission in this consultation. The review of the recommendation on relevant markets is an important first step in the implementation of the new European Electronic Communications Code (EECC), and an integral tool in its success and the success of the European digital single market.

We support the Commission's approach in reviewing the list of relevant markets in relation to the technological trends and developments, legal and regulatory changes and observable market structure changes.

In order to achieve the Commission's vision and goals for a connected Europe through deployment of 5G and Very High Capacity Networks (VHCN), and a more harmonised approach to regulation and consumer outcomes, it will be important to strike the correct balance between deregulation where competition is present, ongoing regulation of key bottlenecks, stimulation of investment and appropriate quality of service. This consultation is an important step towards that balance.

There are four key technological areas that will impact the development of the relevant markets framework:

- Deployment of 5G networks – the development and success of 5G will rely heavily on the quality of the backhaul that is available;
- Evolution of cable networks – cable networks will continue to improve as we move towards gigabit connectivity;
- Rollout of fibre networks – a continued push towards more rollout of fibre will continue;
- Evolution of copper access technologies – while improvements in copper access continue to be made, the limitations of copper versus other networks have become apparent. Nonetheless, copper will remain

relevant in the 2020-2025 period as the migration off copper continues to move at a relatively slow pace.

While the technological advancements are significant in terms of higher speeds, quality and latency, the changes in market structure are not as drastic as they may appear at first. Traditional incumbents continue to have a high percentage of fixed wholesale network market share, and fixed wholesale access will continue to be a key bottleneck. As such markets 3a and 3b remain of key importance.

We have considered whether any transnational markets exist that ought to be included on the list. As an operator providing services across multiple Member States, in principle we very much support measures to improve the standard of business connectivity for customers across the EU. However, in practice we think that there are a number of substantive challenges which make it unlikely that a transnational market exists that would warrant a creation of a new relevant market in the revised Recommendation in the 2020-2025 period.

The issues arising in transnational business markets in particular are generally of national character (such as dedicated dark fibre access for business customers) and ought to be resolved within market 4.

Market 4 remains relevant, and we consider that it should be expanded to include dedicated fibre access for 5G and business markets.

The EECC recognises the importance of access to physical infrastructure, primarily ducts and poles. We have seen successful network competition in countries that have mandated such access in a fit for purpose way, such as Spain and Portugal. Access to ducts and poles will be fundamental for relevant markets, whether formulated as a remedy or as a relevant market. Market analysis should lead to adoption of physical access remedies, although in our view including a market for ducts and poles on the relevant markets list would be the most effective approach.

Finally, while we continue to see SMP in relation to markets 1 and 2 in various areas, the introduction of Eurorates is an effective regulatory remedy that will resolve the existing issues, and in our opinion markets 1 and 2 could be removed from the list.

It is worth observing that a number of competition issues could arise from the growth of digital platforms and their provisions of Number Independent Interpersonal Communications Services (NI ICS) in competition with traditional telecoms services. While we don't think there is a need for any additional markets in this space at this time, it will be important to monitor how these markets are developing. Where it becomes visible to the Commission that particular conduct by digital platforms threatens to undermine competition in communications services markets, it should be open to consider forms of regulation designed to protect competition and the appropriate remedies to address such issues.

5.6.2 If needed you can attach a file before submitting your answers.

The maximum file size is 1 MB

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