

# Public consultation on the evaluation and the review of the regulatory framework for electronic communications networks and services

Fields marked with \* are mandatory.

## 1. Purpose of this document

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### 1.1. Objective of the public consultation

The review of the regulatory framework for electronic communications is one of the 16 actions of the [Digital Single Market Strategy](#) adopted by the Commission on 6 May 2015 and a key element for creating the right conditions for digital networks and services to flourish (second pillar of the Strategy). In accordance with the [Commission Work Programme for 2015](#), the review will be preceded by a Regulatory Fitness and Performance Programme (REFIT) evaluation aimed at assessing whether the current regulatory framework is 'fit for purpose'.

The purpose of this questionnaire is therefore twofold. First, it aims to gather input for this evaluation process in order to assess the telecoms regulatory framework against the evaluation criteria according to the [Better Regulation Guidelines](#):

- Effectiveness (Have the objectives been met?)
- Efficiency (Were the costs involved reasonable?)
- Coherence (Does the policy complement other actions or are there contradictions?)
- Relevance (Is EU action still necessary?)
- EU added value (Can or could similar changes have been achieved at national/regional level, or did EU action provide clear added value?)

Second, the questionnaire is designed to seek views on issues that may need to be reviewed with a view to reforming the regulatory framework in light of market and technological developments, with the objective of achieving the ambitions laid out in the Digital Single Market Strategy. More information on relevant developments and the emerging challenges for the existing sector rules can be found in a [background document](#) to the public consultation.

### 1.2. Details of the timetable and process

The Commission invites citizens, legal entities and public authorities to submit their answers by 7 December 2015. The Commission will assess and summarise the results in a report, which will be made publicly available on the [website](#) of the Directorate General for Communications Networks, Content and Technology. The results will also be reflected in an evaluation report assessing the functioning of the current regulatory framework and in a Communication underpinning the future review proposals in 2016.

You are invited to read the privacy statement attached to this consultation for information on how your personal data and contribution will be dealt with.

### **Personal data**

Contributions will be published on the website of the Directorate General for Communications Networks, Content and Technology. The responses received will be available on the Commission website unless confidentiality is specifically requested.

To this end we would kindly ask you to clearly indicate in the general information section of this questionnaire if you would not like your response to be publicly available. In case your response includes confidential data please also provide a non-confidential version of your response.

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

## **1.3. Structure of the public consultation**

You are invited to fill in the online questionnaire, which is available below. An accessible version for persons with disabilities can be provided upon request. Please note that it is available in English only.

The questionnaire of the public consultation has a first section with general questions on the overall evaluation of the functioning of the current regulatory framework and five sections, which are dedicated to different policy areas (you can download the public consultation document ):

- Network access regulation
- Spectrum management
- Communication Services
- Universal service
- Institutional set-up and governance.

These sections are further split into backward and forward looking subsections to distinguish between the evaluation of the current performance of the regulatory framework for each specific policy area and the modifications that you consider need to be introduced for the future.

**You can skip questions that you do not feel comfortable responding to. You can also pause at any time and continue later. Once you have submitted your answers, you would be able to download a copy of your completed responses.**

Please note that due to technical requirements for processing the questionnaire and in order to ensure a fair and transparent consultation process, only responses received through the online questionnaire will be taken into account and included in the report summarising the responses. Questionnaires sent by e-mail or in paper format will not be analysed except those due to accessibility needs of persons with disabilities.

## 2. General information

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\* **Question 1:** You answer as:

- Private individual
- Consumer association or user association
- Business (please specify sector)
- Electronic communications network or service provider
- Internet content provider
- Government authority
- National Regulatory Authority
- Other public bodies and institutions (please specify)
- Other (please specify)

Please specify business sector (if applicable) or if "other"

*Text of 1 to 250 characters will be accepted*

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)

\* **Question 2:** Is your organisation registered in the Transparency Register of the European Commission and the European Parliament?

- Yes
- No
- Not applicable (I am replying as an individual in my personal capacity)

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

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

\* Please enter the name of your institution/organisation/business.

Vodafone group plc

**If you object to publication of the personal data on the grounds that such publication would harm your legitimate interests, please indicate this below and provide the reasons of such objection**

\* **Question 3:** What is your country of residence? (In case of legal entities, please select the primary place of establishment of the entity you represent)

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- The Netherlands
- United Kingdom
- Other

If other, please specify

*99 character(s) maximum*

### 3. Issues for consultation

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#### 3.1. Introduction

Since the liberalisation of the EU telecommunications markets at the end of 1990s, the EU regulatory framework on electronic communications networks and services has been founded on the use of regulatory tools to open markets, free up bottlenecks and enable access to key inputs. These tools have facilitated market entry, protected end-users and enabled them to avail of market opportunities, and ensured social and territorial inclusion. This common framework, applied by Member States authorities and independent regulators and the Commission, has provided consistency of underlying economic principles and a degree of legal security and predictability which have enabled a transformation of European telecommunications markets.

Successive adaptations of the electronic communications regulatory framework, combined with the application of EU competition rules, have been instrumental in ensuring that markets operate more competitively, bringing lower prices and better quality of service to consumers and businesses. Moreover, effective competition is also a key driver for investments. However, important policy and regulatory challenges remain. Since the last review in 2009, electronic communications networks and services have been undergoing significant structural changes characterised by slow transition from copper to fibre mainly via hybrid networks (FTTC), more complex competition with the convergence of fixed and mobile networks and rise of retail bundles as well as emergence of new online players (so called OTTs) along the value chains which challenge the traditional role of Telcos and Cablecos in providing vertically integrated communications/audiovisual services in addition to broadband/internet access, and not least changing end-user expectations and requirements. At the same time societies have become increasingly dependent on broadband networks and demand for capacity is growing year on year. Challenges the reform has to respond to include the following:

- Relatively little full "infrastructure competition" has emerged in the fixed-line networks, except in very densely populated areas, where cable networks were already present, or where local authorities have been active; and the extent of upgrades to the highest capacity networks varies markedly;
- Progress towards more integrated telecoms markets is slow and the provision of connectivity to consumers and business remains highly divergent across the Union;
- Significant differences remain with regard to approaches to spectrum governance and strategies to make spectrum available which cannot be justified solely by differing national circumstances;
- Online services are increasingly seen by end-users as substitutes for traditional electronic communications services such as voice telephony, but are not subject to the same regulatory regime;
- Technological and economic developments, such as fixed/mobile convergence, network virtualisation and the shift to all-IP networks, are likely to profoundly change the functioning of the electronic communications sector.

Further information on policy challenges can be found in the background document and annexes.

Major additional benefits can be derived from a European market with genuinely common rules on key parameters, where players of different scale and business models can seek comparative advantage from economies of scale or from local focus and market knowledge (see background and annexes for more).

At the same time, the content of the rules counts: it is time to examine whether the framework of common rules devised for liberalisation of markets needs remains fit for purpose or needs to be adapted, in particular to face the challenge of growing needs for connectivity and changing consumer demand, habits and expectations.

In this regard, it should be noted that companies in most economic sectors are subject to general law (itself a mix of Union law and of the laws of the respective Member States), whether it be as regards the authorisation to do business, the application of competition rules to their market behaviour ex post, the commercial negotiations to purchase key inputs, the geographic areas or customer segments that they choose to address, or the protection of consumers. On the other hand, electronic communications networks have certain specificities, not least their sine qua non character for the very functioning of the digital economy and society. Moreover, the EU telecoms regulatory framework prevents a possible proliferation of divergent national sector-specific regimes.

The review of the telecoms regulatory framework is one of the 16 actions of the [Digital Single Market Strategy](#) adopted by the Commission on 6 May 2015 and a key element for creating the right conditions for digital networks and services to flourish (second pillar of the Strategy). It encompasses, in particular, the review of the Framework Directive (Directive 2002/21/EC), the Authorisation Directive (2002/20/EC), the Access Directive (2002/19/EC) and the Universal Service Directive (2002/22/EC) as they were modified in 2009 by the Better Regulation Directive (Directive 2009/140/EC) and the Citizens' Rights Directive (Directive 2009/136/EC) and more recently in 2015 by the draft Telecoms Single Market Regulation, as well as the BEREC Regulation (Regulation 1211/2009). This exercise will not cover: the Directive on privacy and electronic communications (Directive 2002/58/EC because of the ongoing legislative process of the general data protection regulation (see COM(2012)11 final); the Roaming Regulation (Regulation 531/2012) as covered by the draft Telecoms Single Market Regulation (COM(2013)627); or the Broadband Cost Reduction Directive (Directive 2014/61/CE), which is currently in the process of being transposed by Member States.

## 3.2. General questions on the current regulatory framework

### 3.2.1. Evaluation of the overall functioning of the current regulatory framework

This section of the public consultation includes some general questions on the overall evaluation of the functioning of the current regulatory framework for electronic communications in relation to the key evaluation criteria established in the Commission's [Better Regulation Guidelines](#) (i.e. effectiveness, efficiency, coherence, relevance and EU added value).

**Question 4:** To what extent has the regulatory framework **effectively** achieved its objectives of:

	significantly	moderately	little	not at all	do not know
a) the development of internal market	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) the promotion of competition	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) the promotion of the interests of the EU citizens, including citizens with disabilities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses, in particular the reasons for the levels of achievement and if there are factors other than the regulatory framework which have contributed to those objectives.

The regulatory framework has successfully contributed to the

harmonisation and consistency of regulatory approaches across Member States. In this regard, we would characterize the current regulatory framework (including the institutional arrangements for implementing the framework) as the first step towards the desired Digital Single Market. The framework has removed most outliers in terms of regulatory approaches and the degree of convergence among Member States will allow the next steps towards a truly single digital market to be realized. This will require more consistency of approaches and therefore a more stable and predictable regulatory regime across Member States. Additionally, there will need to be more centralized regulatory oversight - especially on matters which are crucial for the performance of the single market.

In terms of competition, over the life of the framework there is no doubt that competition was enhanced. At the service level we have seen the emergence of Over the Top (OTT) operators who have brought an additional dimension to the competitiveness of communications, which needs to be reflected in a modernised approach to consumer regulation. The remaining bottlenecks are predominantly in relation to fixed access networks. However, in the latter years of the framework there has been a worrying trend towards remonopolisation in relation to fixed networks, with incumbent operators regaining market share of retail broadband connections. We believe there are a number of different contributory factors behind the remonopolisation trend, most notably:

- Incumbent operators making technology choices (FTTC variants) that restrict competition/move wholesale access further downstream. This has been most stark in the Netherlands where the operator rolling out competitive FTTH (Reggefiber) was purchased by KPN. Since acquisition, the FTTH roll-out plans of Reggefiber have been scaled back significantly with KPN focusing on FTTC.
- The extent to which incumbent operators earn excess profits on legacy assets which can be used in adjacent markets such as content and mobile. In the UK, which is the only market that has transparent, publicly available separated accounts, it has been estimated that BT earned more than £5bn excess profit on its regulated products between 2006 - 2014. BT is now aggressively moving into content with its purchases of premium sport rights and also into mobile with the planned acquisition of EE.
- Incumbent operators refusing to provide access on higher speed networks, e.g. in Spain where Telefónica refused to provide any access above 30 Mbps.
- Insufficient access to passive infrastructure in a number of markets.

This remonopolisation can be observed in the UK where at the end of 2014 BT had 34% retail broadband market share but 73% retail VDSL market share, and in Germany where Deutsche Telekom had 53% retail broadband market share and 64% retail VDSL market share. The new framework must deal with these problems at their source, and facilitate a long-term industry structure that breaks these access monopolies through the

promotion of competitive FTTH roll-out, with investment facilitated for a number of market participants.

In terms of the interests of EU citizens, the framework has helped to deliver both higher quality and lower prices for access to networks. However, we note differing performance across Member States in terms of delivering long-term value for citizens. Despite some progress on the deployment of superfast and ultrafast broadband services like FTTH and Cable networks, at the current trajectory the European Digital Agenda broadband targets for 2020 are unlikely to be met. Alarmingly, at a global level Europe risks falling behind.

We believe citizens deserve future-proof competitive FTTH networks, which will also provide key inputs for 5G wireless networks. The revised framework should reflect the experiences from countries where FTTH networks have already been rolled out to ensure all European citizens and businesses benefit from best in class digital infrastructure.

Footnote [1]

<https://www.vodafone.com/content/dam/group/policy/downloads/the-relationship-between-BT-profitability-and-charge-controls.pdf>

(continue here if necessary)

**Question 5:** As regards the **efficiency** of the regulatory framework, if you compare the administrative and regulatory costs borne by your organisation with the results achieved, how do you rate the cost-benefit ratio at scale 1 to 5 (1=costs exceed significantly benefits, 5=benefits exceed significantly costs)?

- 1
- 2
- 3
- 4
- 5
- do not know

Please explain your response.

The regulatory costs of the organisation are small compared to the benefits of regulation. It should be noted that whilst we inevitably disagree with some aspects of the regulation that is imposed on us (or not imposed on competitors), having a stable and predictable regulatory regime is of substantial value and to a large extent the framework achieves this. Whilst the framework needs to be updated to reflect the latest technological and commercial realities, the very fact that there is a framework which covers the 28 Member States (and spreads much further beyond) is of great importance to the telecoms industry.

Footnote [1]: See Frontier Economics - <https://www.vodafone.com/content/dam/group/policy/downloads/the-relationship-between-BT-profitability-and-charge-controls.pdf>

(continue here if necessary)

**Question 6:** Could you give an estimate of annual direct costs for your organisation in applying the regulatory framework? Please indicate, if possible, the cause of these costs.

It is difficult to accurately estimate the annual cost of applying the regulatory framework. Across Vodafone's 12 European Operating Companies and Central Group function we have approximately 50 full time equivalent employees working on regulatory issues. In addition, we incur costs of external support on certain specific issue. An approximate estimate of the total cost is €6m.

(continue here if necessary)

**Question 7:** Have you identified any areas in the regulatory framework where in your view there is room for improvement in terms of simplification, elimination of regulatory burden or reduction of associated costs? Please explain.

As noted above, we do not believe the framework is so burdensome in terms of costs, and especially not in relation to the benefits it yields. We believe there are two key areas where changes to the framework (and its implementation) can result in lower costs and greater simplification for the sector.

First, the framework should allow for more cross-border synergies. This can be achieved through a European authorisation process, harmonisation of rules associated with the provision of pan-European enterprise services and a streamlined European approach for spectrum allocation/management.

Secondly, the framework should ensure there is no overlap, and certainly no inconsistency, between general consumer rules, consumer rules in relation to digital services and consumer rules that are specific to telecoms, e.g. in relation to Universal Service. In practice this means that there should only be a limited number of sector-specific consumer rules given that general consumer rules already provide consumers with a high degree of protection.

(continue here if necessary)

**Question 8:** As regards the **relevance** of the regulatory framework, to what extent is a regulatory framework for electronic communications at EU level still necessary for EU citizens and businesses in the following areas:

	significantly	moderately	little	not at all	do not know
a) Market analysis and access regulation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Universal service and end-users' protection	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Management of scarce resources (such as numbering, spectrum access)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Authorisation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Network and service security	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Other areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please explain your responses.

A stable and predictable regulatory regime is of fundamental importance for the European telecoms sector. In all of the above areas, having an over-arching framework that is consistently applied across all Member States will remain relevant and necessary. This is especially true in the following areas:

- The appropriate regulation of access bottlenecks will be increasingly complex as there is a need to ensure that future-proof competitive FTTH networks become the norm across Europe rather than the exception which is currently the case.
- A consistent approach to Universal Service, especially the extent to which access to broadband should be part of a Universal Service requirement (if at all), and if there is such an obligation how it should be funded and implemented in a competitively neutral manner.
- There will still be a need for management of scarce resources. Spectrum and numbering are the most obvious examples, but non-replicable infrastructure such as ducts should also be considered scarce and would therefore benefit from a consistent set of access principles.
- As noted above, a European-wide authorisation would yield efficiencies, especially in relation to the provision of pan-European enterprise services.
- Finally, the emerging split between network access and OTT service provision means a consistent European approach to both consumer regulation and also network and service security is of utmost importance.

(continue here if necessary)

**Question 9:** To what extent are the policy objectives as defined in Article 8 of the Framework Directive (developing the internal market, promoting competition and promoting the interests of EU citizens) **still relevant?**

	significantly	moderately	little	not at all	do not know
a) the development of internal market	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) the promotion of competition	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) the promotion of the interests of the EU citizens, including citizens with disabilities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

The policy objectives are still relevant although there is a need for some additional emphasis. The first objective should be to enhance the European economy through the creation of the Digital Single Market. We believe that a true Digital Single Market will bring broader economic benefits. By enshrining this in European policy the ultimate objective is better understood and prevents the risk of pursuing activities that strengthen the internal market but ultimately make the market itself weaker rather than stronger.

The second objective should be the promotion of sustainable competition, reflecting the balance between short-term pricing and longer-term competitive investment which ultimately leads to better consumer outcomes. This will only be achieved if regulatory intervention limits the extent to which monopoly bottlenecks remain.

These should be the two overarching objectives of the telecoms framework. The third objective - to promote the interests of EU citizens should be a consequence of the first two objectives - the strengthening of the internal market through the promotion of sustainable competition will lead to the promotion of the interests of European citizens.

(continue here if necessary)

**Question 10:** As regards the **internal coherence** of the regulatory framework, to what extent have the different elements (legislative and non-legislative) which form part of the regulatory framework contributed coherently to the policy objectives of developing the internal market, promoting competition and promoting the interests of EU citizens in the following areas:

	significantly	moderately	little	not at all	do not know
a) Market analysis and access regulation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Universal service and end-users' protection	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Management of scarce resources (such as numbering, spectrum access)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Authorisation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Network and service security	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Other areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please explain your responses.

In relation to all of the above areas we believe the current regulatory framework has delivered a reasonably consistent and harmonized approach. The degree of harmonisation and consistency was appropriate for Networks and Communication Services, which existed in a relatively narrow and largely local ecosystem. This has contributed to competition that manifests locally, leading to positive outcomes (in most cases) for consumers. However this is no longer sufficient. The ecosystem that networks support has broadened and is not limited by national borders. It is important to understand that the role of the internal market needs to be expanded in response to this technological change in order for pan-European networks and services to emerge. At the network level this means a European approach for the key network inputs, namely, authorisation procedures, release and management of spectrum, and access to key infrastructure such as ducts, poles and dark fibre. At the service level this means a consistent set of rules that are coherent with the nature of the services provided and the commercial models that underpin them.

For consumer services this is important given that the emergence of OTT operators has seen competition played out across national borders. It is even more important for enterprise services as it allows pan-European businesses to receive pan-European services, a vital step towards a Digital Single Market and the broader economic benefits that will follow.

(continue here if necessary)

**Question 11:** To what extent is the regulatory framework for electronic communications **coherent with other EU policies**, in particular:

	significantly	moderately	little	not at all	do not know
a) Competition policy and state aid	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Data protection and privacy	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Audiovisual policy	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Rules applicable to online service providers under the e-Commerce Directive	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Other EU policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please explain your responses and indicate if you have identified specific areas for improvement.

There is a moderate degree of coherence between the regulatory framework and other EU policies which affect the communications sector. We believe a greater degree of coherence is necessary, in particular:

- Both competition policy and the regulatory framework must share the same objective of promoting long-term efficiency through competitive investment. At present the competition analysis in relation to mergers is more geared towards short-term impacts on pricing rather than longer term dynamic efficiency.

- There is a need for ambition in relation to setting targets for broadband capacity. Vodafone strongly believes in 'The Gigabit Society'. This ambition has an impact in a number of areas. The concept of technology neutrality needs to be dealt with consistently by both the framework and State aid. In this regard there needs to be a recognition that the treatment of incremental (non future-proof) upgrades to legacy networks does not merit the same treatment as step-change networks that will enable 'The Gigabit Society'. This can be managed in a technology neutral manner in the sense that any network (technology) that meets key criteria (also including competitive neutrality) can be eligible for State aid and might be afforded a different regulatory treatment where regulatory remedies are tailored to incentivise investment in step-change networks.

- For data protection and privacy related rules, the general principle that needs to be followed is that all requirements must be consistent and should apply in a proportionate way at each level of the ecosystem.

- In relation to audio-visual services, there needs to be recognition that content is now a key input for providers of broadband services, and as such can lead to competition problems/bottlenecks. The existing SMP framework must be adjusted to deal with this competition problem to avoid dominant operators cross-leveraging their market power. The SMP framework will need to be more explicit as to how dominance can be remedied in relation to converged bundles given the risk of competitive distortion.

- In relation to rules applicable to online service providers under the e-Commerce Directive, we think that there needs to be a harmonised approach establishing digital rules for digital services and removing duplication between consumer regulation and sector-specific regulation.

(continue here if necessary)

**Question 12:** As regards **EU added value** of the regulatory framework, to what extent is there still a need to continue action at EU level by maintaining/establishing sector specific legislation for:

	significantly	moderately	little	not at all	do not know
a) Market analysis and access regulation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Universal service and end-users' protection	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Management of scarce resources (such as numbering, spectrum access)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Authorisation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Network and service security	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Other areas	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

See question 13.

(continue here if necessary)

**Question 13:** In your opinion, what is the additional value resulting from the implementation of the EU regulatory framework for electronic communications? Please explain your responses.

Answer to questions 12 and 13:

All of the areas referred to in question 12 are 'special cases' that are specific to the provision of network services. As such there is a need for continued sector-specific regulation. As noted above, communication networks are now supporting services that travel (or should travel) seamlessly across borders. It is therefore essential that the sector-specific regulation is cognisant of this and applied consistently across all Member States. Further, the framework itself must enable the roll-out of competitive future-proof networks. This is necessary for pan-European networks and services to emerge - both of which will provide significant value-add to European citizens

(continue here if necessary)

### 3.2.2. Review of the objectives of the regulatory framework

The 2002 regulatory framework laid down as objectives the promotion of competition, development of the internal market and promotion of the interests of EU citizens. The 2009 reform included the promotion of efficient investment and innovation in new and enhanced infrastructures as a regulatory principle to be applied by the National Regulatory Authorities (NRAs) while pursuing the aforementioned policy objectives.

Access by all citizens and businesses to high-quality networks is a prerequisite for them to reap the full benefits of digital society. As set out in Commission's Communication on the Digital Single Market strategy, individuals and businesses should be able to seamlessly access and exercise online activities under conditions of fair competition. This goal cannot be achieved without ensuring access to connectivity based on ubiquitous, high-speed and high-capacity fixed and mobile broadband infrastructure. The telecoms review therefore offers an opportunity to recognize achieving access to such high-performance connectivity, on terms which would enable widespread take-up by end-users, as the main substantive policy priority sought by the Commission and as one of the main objectives of the regulatory framework.

**Question 14:** As regards the policy objectives included in Article 8 of the Framework Directive and taking into account the need to reflect adequately and completely the main European policy priorities in the electronic communications field, and more generally in the digital sector:

	yes	no	do not know
a) Should any policy objective be withdrawn or amended?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Should any additional policy objective be included?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

As noted in the response to question 9, the broad policy objectives remain relevant. However we believe that for the policy objectives to be met there needs to be a higher set of objectives which address the fundamental problem of the communications sector. The biggest threat to the internal market, to the promotion of competition and to the interests of citizens is the persistence of enduring bottlenecks that incumbents are leveraging both vertically and horizontally. Whilst the previous frameworks promoted regulation of those monopolists, the revised framework should seek - as far as possible - the removal of monopoly which is in the best interests of European citizens. It is only through such an approach that competition can flourish and by extension, the scope of ex ante regulation significantly reduced.

The key policy objective that will yield such an outcome is the promotion of investment in FTTH networks by both incumbents and alternative operators. This step-change network can be rolled-out by incumbents and competitors alike (e.g. France, Spain, Portugal) and can significantly reduce (although not eliminate) the ongoing reliance on access regulation, and the associated asymmetrical landlord/tenant relationship between incumbents and their competitors. FTTH networks are ideal for breaking up access monopolies because:

- The extent to which alternative operators rely on the incumbents' assets is limited to passive infrastructure assets that can be reused for FTTH. All new passive infrastructure can be jointly deployed by multiple investors.
- By only using the incumbents' passive assets, alternative operators have full control over the services they can offer to customers.
- Once alternative operators have deployed their own fibre in the ducts, the extent to which the incumbent can employ non-price discrimination tactics is substantially eliminated.
- Alternative operators are free to grow market share without facing a risk of escalating pricing for scale, e.g. in relation to backhaul products.

These factors explain why incumbents appear to prefer FTTC when other external pressures are not present. The ability to restrict competition downstream allows the incumbent to gain retail market share. The incumbent then has a second-order benefit if overall competition in the retail market is reduced allowing prices for FTTC to rise. As such, investment in FTTH by all market participants should be a high-level objective for the next framework. This will require a number of supporting initiatives that will take into account the experiences of countries that have already enabled extensive FTTH roll-out.

Necessary conditions for facilitating competitive FTTH roll-out include access to passive infrastructure (duct, poles, dark fibre and vertical wiring), electronic records and databases as well as third-party installation capabilities. This is necessary as it is uneconomic and environmentally wasteful for alternative operators to dig new ducts in areas where re-usable ducts already exist. So far, these conditions have been attained without requiring significant additional investments in passive infrastructure, and it has not been considered necessary for regulators to intervene beyond the granting of access.

(continue here if necessary)

However, in some markets it is likely that further regulatory/policy interventions will be required. Possibilities include:

- In general, access to passive infrastructure will be possible as a result of the Broadband Cost Reduction Directive. However, whilst this Directive provides a base level of access for all market participants, it is not sufficient to remedy competition problems that occur in the case of SMP when access needs to be without delay and without any form of discriminatory behaviour. As such, more detailed and prescriptive rules are required in relation to passive infrastructure remedies imposed on SMP operators. We therefore call for detailed guidelines that go beyond the existing Recommendations and Directives on how passive infrastructure access should be facilitated (refer to question 23 for more details on the type of passive infrastructure that is required).
- Where passive access is provided by the SMP operator, the retail arm of the incumbent must use the same passive inputs and processes as are offered to other access seekers.
- Separating the passive infrastructure in an Asset Co, when access alone seems to be insufficient to remedy a persistent access bottleneck. This may have several advantages
  - o Separation changes the incentives of the owners of the assets and encourages them to invest in order to improve the utilisation of and returns from the ducts.
  - o A separate Asset Co could become a repository for non-telecoms

ducts and assets as well as those formerly owned by the incumbent operator. This is more straightforward than structural separation of the incumbent's entire network where the inclusion of active assets might result in sub-optimal incentives for upgrading to state of the art networks.

o The opportunities to exploit non-telecoms assets to complement those of the incumbent could prove an important means of promoting FTTH deployment.

o Separation of the passive infrastructure enables public funds to be targeted so as to promote the deployment of FTTH (and more effective competition) in a way which would not be possible if the funds were applied to a vertically integrated firm (incumbent or otherwise). Crucially, if all ducts are treated as 'bottleneck assets' for the purposes of the State aid rules, then public subsidy can also be directed at regional cities (where high quality duct infrastructure may be even more critical for competitive provision) as well as the rural areas which have, to date, been the target for public subsidy of FTTH and FTTC. In this way, not only would a separated Asset Co facilitate a new model of direct network competition in markets currently reliant on FTTC monopoly, but it would also facilitate a new State aid financing model to enable this to happen as well as creating opportunities for risk-averse institutional investors.

Europe can be proud of what has been achieved in relation to mobile networks. There is deep infrastructure competition providing extensive coverage of high-quality networks at affordable prices. It is Vodafone's hope that at the time of the next framework review, the same can be said for fixed networks.

**Question 15:** Should those primary policy objectives explicitly include the promotion of investment in and wide take-up of very high-performance fixed and mobile broadband infrastructure corresponding to the future needs of the European digital economy and society?

- yes
- no
- do not know

Please explain your responses.

Yes, Vodafone agrees that primary policy objectives should include the promotion of investment and wide up-take of very high performance fixed and mobile broadband infrastructure. In the case of fixed this will need a clear policy approach for incentivizing the roll-out of FTTH - which is the only fixed future-proof technology option that supports competitive investment outcomes as well as meeting longer-term speed and quality requirements. For mobile there will be no need for specific

measures to incentivize the roll-out of new technology other than to ensure that the industry has the right input, i.e. spectrum, available in a timely manner and in a co-ordinated fashion to avoid distortions across markets.

In the answer to question 14, we set out some measures that could be used to incentivise the roll-out of FTTH networks. It is also possible that some interventions will be required to disrupt the status quo, i.e. incremental upgrades to legacy copper networks.

The approach that we recommend would be to have a more effective application of the existing Costing Recommendation, stronger focus on EOI and non-discrimination or full structural separation between the FTTC network and retail operations of the incumbent in order to eliminate any incentive to discriminate against rivals in the downstream market (see also Q 22). The current costing recommendation is not sufficient as equivalence of inputs is a choice rather than an obligation. In our view, equivalence needs to be an absolute obligation.

In addition, the approach to costing needs to take into account that a significant proportion of the passive infrastructure has a perpetual lifetime. By setting prices based on the value of these assets as if they were built today and assuming shorter lifetimes than has been observed to date is one of the contributory factors to the high profitability enjoyed by incumbents. As noted at the time in our response to the Costing Recommendation consultation, these assets should be assessed on the basis of historic cost rather than current cost, yielding lower prices, other things being equal, for both wholesale FTTC products and passive access products. This is a rational approach given that the concept of current costing is primarily to ensure the market receives the correct build or buy signals. In the case of duct this is not relevant. Refer here to a report commissioned by Vodafone on this point:

[http://www.vodafone.com/content/dam/vodafone/about/public\\_policy/policy\\_papers/nga\\_costing\\_proposals.pdf](http://www.vodafone.com/content/dam/vodafone/about/public_policy/policy_papers/nga_costing_proposals.pdf)

By applying historic cost not only will access to passive infrastructure be more appropriately priced but this will also positively affect the cost level of other downstream access products (e.g. VULA) on which access seekers will have to rely until fibre based infrastructure competition emerges or in areas where such competition will not develop. This will be an important facilitator of competition as even in countries where FTTH is rolled-out, alternative operators will still need products such as VULA and if they are not priced in an appropriate way, alternative operators will remain at a significant disadvantage to the incumbent by being unable to benefit from scale in relation to retail operations and the acquisition of content.

Previous debates around the price regulation of NGA show that it would be counter-productive to intervene in order to set a lower regulated wholesale rate for FTTC payable by rivals, since this would likely weaken rather than strengthen incentives (of both incumbent and rivals) to move from FTTC to FTTH (Notwithstanding the point above about costing

of legacy assets and the step change in relation to ducts which results in lower costs for both FTTC and FTTH). A better approach would be to insert a 'tax wedge' between the wholesale price payable by rivals (which might remain unchanged) and the price received by the incumbent. The result of this will be that, over time, an incumbent pursuing FTTC deployment would see its average returns decline. The more FTTC it deployed the faster this would happen. This tax wedge therefore removes the extent to which the incumbent can excess profits on its copper assets without destroying the business case for FTTH provided by alternative operators.

A question then arises as to what might be done with the 'taxes' that would be generated under these arrangements. One option, consistent with the objectives of this approach, would be to allow the incumbent operator to recapture these revenues if it deployed FTTH instead. Alternatively, they could be applied to improving the conditions for competitive FTTH deployment (for example, by being reinvested in an Asset Co, as described earlier) or in removing barriers which the incumbent otherwise faces in moving to FTTH (for example, they could be used to compensate for investments in FTTC that operators must otherwise write off).

(continue here if necessary)

**Question 16:** Have you identified regulatory or any other type of obstacles which could constrain fixed-line networks from fully contributing to the provision of full ubiquitous and accessible very high-speed connectivity across the EU?

- yes
- no
- do not know

Please explain your responses, outlining any obstacles you have identified.

Fixed line networks are not contributing sufficiently to high-speed connectivity across several European markets due to the regulation of the fixed line networks predominantly being implemented on a local (national) basis, not reflecting the optimal outcome for consumers in relation to competition or investment. As a result, operators like Vodafone are unable to either roll-out networks across markets or deliver pan-European connectivity services to large Enterprises, on a consistent basis. The key issues that need to be addressed to reverse this situation are to:

- Ensure that there is adequate access to civil infrastructure to enable the timely and economic roll-out of competing fibre networks
- Standardise business-grade wholesale connectivity services where pan-European service providers will continue to require downstream access
- Impose equivalence as an access remedy and ensure it is implemented without exception

(continue here if necessary)

**Question 17:** Have you identified regulatory or any other type of obstacles which could constrain advanced wireless technologies from fully contributing to the provision of full ubiquitous and accessible very high-speed connectivity across the EU?

- yes
- no
- do not know

Please explain your responses, outlining any obstacles you have identified.

Yes, the realisation of ubiquitous and accessible very high-speed wireless connectivity across the EU could be constrained by any of the following:

- Insufficient spectrum being made available for mobile on a timely basis.
- Inflated prices for mobile spectrum, due to artificial scarcity and high reserve prices, thereby reducing capex budgets.
- Licensing uncertainty, resulting from unorthodox award mechanisms, set asides, insufficiently long licence terms and unpredictable renewal terms.
- Dominance in one sector of the communications industry being cross-leveraged to reduce competition in the mobile sector. The main risks at present appear to be through very limited and non-regulated access to fibre backhaul and/or access to premium content.
- Overly restrictive implementation of net neutrality legislation resulting in mobile operators being unable to effectively optimize networks.

(continue here if necessary)

**Question 18:** In your view, should there be a prioritisation amongst the current and/or future policy objectives?

- yes  
 no  
 do not know

Please explain your response and describe possible conflicts which may have been experienced between the objectives. If your answer is yes, please explain how any conflicts between such priorities should be resolved.

As noted above, the overarching policy objective should be the elimination of monopolies and by extension, the reduction of ex ante sector-specific regulation. This is already the reality in relation to the mobile sector. The new framework should make this a reality for the fixed sector by incentivizing the roll-out of competitive FTTH. This should be the primary policy objective, which will lead to the best outcomes for European citizens.

(continue here if necessary)

### 3.3. Network access regulation

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The current framework for electronic communications has delivered more competition, better prices and choice for consumers, and spurred operators to invest. However, it is often criticised for not having sufficiently promoted the transition towards high-capacity Next Generation Access (NGA) networks fit to meet future needs, and the huge investments required, especially in rural areas. Progress towards more integrated telecoms markets is slow and the provision of connectivity to business and consumers remains highly fragmented and divergent across the Union today. It is also important not to lose the benefit of the positive pro-competitive effects of the liberalisation achieved over the past years.

The Digital Agenda for Europe targets of universal access to connectivity at 30 Mbps by 2020 indicated the ambition to ensure territorial cohesion in Europe. The penetration target of 100 Mbps (50% of subscriptions in Europe by 2020) sought to anticipate future competitiveness needs, in line with the likely global developments.

The vision of ubiquitous, high-speed, high-capacity networks as a necessary component for global competitiveness lies at the heart of the Digital Single Market strategy. While the 30 Mbps target for 2020 is likely to be largely reached on the basis of current trends, the uncertainty of adoption dynamics remains a key constraint to investment in very high-speed fixed connectivity. The EUR 90 billion investment gap identified in order to meet the 100 Mbps take-up target for 2020 will not be entirely filled from EU and national public sources, which was also never intended. Moreover, in late 2015, it is already necessary to look further than 2020, and to seek to identify and anticipate the needs of Europeans in 2025 and beyond. The incentives for investors to do more must therefore be examined afresh, along with alternative regulatory regimes which have been applied in certain areas. The review offers this possibility.

#### 3.3.1. Evaluation of the current network access regulation

The first set of questions aims at providing input for the evaluation of the functioning of the current regulatory framework.

**Question 19:** To what extent has the access regulatory regime overall contributed to deliver the three objectives set in Article 8 of the Framework Directive:

	significantly	moderately	little	not at all	do not know
a) Competition in the provision of electronic communications networks, electronic communications services and associated facilities and services?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) The development of the internal market?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) The interests of the citizens of the European Union?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

During the course of the current framework there have been significant advances in competition at the retail level, which have given consumers significant value. However, in the most recent years some of the benefits of this competition have begun to unwind as incumbent operators, through their dominance at the wholesale level, make technology choices that reverse the positive effects of unbundling to increase their market share at the retail level. This has manifested in the following ways:

- Network technology choices (FTTC) that push wholesale access seekers further downstream, thereby increasing the incumbents' control over their local markets such as VULA in the UK and bitstream in Germany.
- Regulated access pricing regimes which have not been sufficiently stringent have given the incumbents significant profits on legacy/fully-depreciated assets which they have leveraged in adjacent markets such as content or through aggressive bundling of fixed and mobile services such as Telefónica's Fusion product in Spain.
- This lack of stringency in setting regulated access prices has been observed in a number of forms including:
  - o Retail-minus approaches being used instead of cost-based approaches
  - o Multi-year glide paths that are weak in terms of efficiency targets
  - o Repeated returns on fully-depreciated assets that will never be replaced

Whilst the review of the framework could be used to address these

concerns through more targeted behavioural and cost access remedies, we believe a more fundamental shift in policy is required. Rather than seek to optimize access regulation, the framework should encourage access (wholesale) competition by actively promoting the roll-out of competitive FTTH networks. This will deliver the best results for European citizens in the form of future-proof, competitive high speed/high quality networks, and have the biggest impact on the internal market. In response to the questions that follow we set out the details as to how this can be achieved, but broadly speaking the general regulatory approaches are required:

1. Regulated access should move as far upstream as possible. In practice this will mean a combination of duct and pole access as well as unbundled fibre access. Regulated access further downstream can be removed once competition emerges.

2. Vertical wiring regulation is essential to ensure roll-out in new development areas with tall buildings or multi-unit dwelling units. Regulation of vertical and in-building wiring is necessary to ensure that the first operator to establish a network in the building does not then create a bottleneck that prevents competitors from accessing customers. It has also helped reducing disruption within buildings that might arise from multiple deployments inside the building (through verticals) or outside on the façade. While telecoms NRAs have the remit to regulate the infrastructure of the operators, cooperation with agencies supervising the housing stock is necessary to ensure appropriate access, ownership, and billing of vertical wiring.

3. In markets/areas where competition-enabling passive wholesale products have not materialised, NRAs need to have a menu of potential interventions that can be imposed, with ever-increasing stringency, until the appropriate level of enduring competition is realised.

4. In these markets/areas it will be necessary to ensure fit-for-purpose VULA is available and priced appropriately.

It is clear from experiences in a number of Member States that competitive roll-out of FTTH networks is achievable. The Commission should learn from the experiences in these markets and apply those lessons to the new framework.

It is also important that NRAs are able to deal with content bottlenecks that are emerging. Increasingly in many European Member States the same company supplies content and connectivity to end users. This trend is driven by network convergence (the ability to supply content/media and other communication services over a single converged IP network) and retail convergence (the prevalence of retail bundles which include both media/content and communication services) [2].

The way (exclusive) content is distributed suggests that economic bottlenecks are likely to develop if the vertically integrated operator has SMP in the fixed broadband market, even if this operator has no dominant position in the Pay TV market.

(continue here if necessary)

- The incentives for a vertically integrated broadband provider to make content available are not the same as for independent content providers without a network to distribute content. Generally, independent content providers will seek the widest possible distribution for their content, as the audience reach determines their revenues. The more eyeballs they reach, the higher their revenues will be.

The incentive for vertically integrated providers is different. While there remains a degree of differentiation in the broadband and telephony elements that providers include in their bundles (in particular, broadband speeds), content is one of the most important ways in which providers differentiate their bundle from competing providers. Such a foreclosure strategy, in which content is only distributed over the vertically integrated network, will be successful in case of content that is sufficiently compelling to drive a significant number of consumers to switch (“ideally” the entire bundle). One of the key characteristics of such content is that it has no close substitutes, such as live sport events, where the consumer is interested in the coverage of a particular sport, league or team.

Thus for customers subscribing to bundles, the variations in the price/quality between fixed line suppliers are not likely to have the same impact on their choice of bundle, as this is dominated by the exclusive availability of the content highly valued by these customers. Accordingly, the market available for alternative suppliers is materially reduced.

- There is an interaction between the existing customer base for fixed broadband and the economic capacity to win (exclusive) key premium content in bidding markets.

When access and exclusive content are sold together the size of the existing (fixed access and content) customer base determines the maximum economic value of that content. Retailers with large customer bases can outbid those with small customer bases for exclusive content, which stops the smaller retailer from increasing its customer base, which stops the smaller retailer obtaining exclusive content in the next bidding round. Even where content is available at wholesale level on a fixed price per jurisdiction (or a high minimum price etc.), the bundling of access with content can still result in distortions. This arises because in the retail market the unit cost of content per customer will be (materially) higher for the smaller access provider. Smaller providers of bundles will find it difficult to compete due to significant scale disadvantages.

This problem is also directly related to some of the issues with fixed access in general. If the incumbent is always able to restrict access to its newer technologies - even for a relatively short period of time - it is always in a stronger position to bid for the next generation of

content (e.g. higher definition, more interactivity etc.)

This results in the ability of an operator with SMP in the telecoms market to leverage its dominance into the Pay TV market, even without having a dominant position in this market, and vice versa. The current regulatory framework does not address this problem sufficiently - an issue that seems to be acknowledged across the market [3] .

The existing framework does not cover content services. Instead, from a broadcasting standards point of view, content is dealt with in the Audio-visual Media Services Directive (AVMSD). As a result, most of the regulatory discussion around content focuses on the nature of the material, rather than issues of effective competition that may arise from access to content and its distribution. The few provisions on content accessibility that exist at European level (e.g. Art. 31 Universal Service Directive) focus on access for broadcasters to networks, rather than access for networks to broadcasting content. Most European regulators have not intervened on an ex-ante regulatory basis (Ofcom being the only regulator to have done so) or do not even have the relevant ex-ante regulatory powers.

As the competitive dynamics in the communication and media markets and consumer outcomes are determined jointly by the level of competition in the provision of connectivity (broadband services) and media services, a holistic approach to ex-ante regulation which considers potential bottlenecks in the provision of both services are necessary to ensure that bundled markets work well for consumers.

The responses to questions 21 and 31 explain in more detail where competition problems have arisen, and how they can be remedied.

Footnote [2], [3]: See Annex

**Question 20:** Within the current model of access regulation, to what extent have the rules to determine whether a market should be regulated, based on the definition and analysis of relevant markets, on the three criteria test used to identify markets susceptible to ex ante regulation under the Recommendation on relevant markets, and on the identification of Significant Market Power (SMP) operators, been effective in:

	significantly	moderately	little	not at all	do not know
a) Promoting competition?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Maximising incentives for different types of operators to innovate and invest efficiently, in respect of both networks and services?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Delivering the desired level of availability of electronic communications networks and services, as well as quality of connectivity, throughout the Union?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Promoting to the extent possible take-up of high-quality services by end-users?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Ensuring efficiency, bearing in mind in particular the impact of compliance costs on providers of electronic communications networks and services?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

The process of market analysis and the three criteria test have provided and continue to provide a robust framework for identifying markets which require ex ante intervention. During the course of the last framework the remedies applied on the finding of market power facilitated access to networks but didn't seek to remedy the source of market power at its root. Going forward, the goal of the framework should be to achieve competition as far upstream as possible. This will result in more competitive network build and service innovation. To achieve this, the market analysis process and three criteria test remain highly relevant, but the remedies applied on finding market power need to be updated. These are set out in more detail in the response to q.22.

(continue here if necessary)

- The incentives for a vertically integrated broadband provider to make content available are not the same as for independent content providers without a network to distribute content. Generally, independent content providers will seek the widest possible distribution for their content, as the audience reach determines their revenues. The more eyeballs they reach, the higher their revenues will be.

The incentive for vertically integrated providers is different. While there remains a degree of differentiation in the broadband and telephony elements that providers include in their bundles (in particular, broadband speeds), content is one of the most important ways in which providers differentiate their bundle from competing providers. Such a foreclosure strategy, in which content is only distributed over the vertically integrated network, will be successful in case of content that is sufficiently compelling to drive a significant number of consumers to switch (“ideally” the entire bundle). One of the key characteristics of such content is that it has no close substitutes, such as live sport events, where the consumer is interested in the coverage of a particular sport, league or team.

Thus for customers subscribing to bundles, the variations in the price/quality between fixed line suppliers are not likely to have the same impact on their choice of bundle, as this is dominated by the exclusive availability of the content highly valued by these customers. Accordingly, the market available for alternative suppliers is materially reduced.

- There is an interaction between the existing customer base for fixed broadband and the economic capacity to win (exclusive) key premium content in bidding markets.

When access and exclusive content are sold together the size of the existing (fixed access and content) customer base determines the maximum economic value of that content. Retailers with large customer bases can outbid those with small customer bases for exclusive content, which stops the smaller retailer from increasing its customer base, which stops the smaller retailer obtaining exclusive content in the next bidding round. Even where content is available at wholesale level on a fixed price per jurisdiction (or a high minimum price etc.), the bundling of access with content can still result in distortions. This arises because in the retail market the unit cost of content per customer will be (materially) higher for the smaller access provider. Smaller providers of bundles will find it difficult to compete due to significant scale disadvantages.

This problem is also directly related to some of the issues with fixed access in general. If the incumbent is always able to restrict access to its newer technologies - even for a relatively short period of time - it is always in a stronger position to bid for the next generation of

content (e.g. higher definition, more interactivity etc.)

This results in the ability of an operator with SMP in the telecoms market to leverage its dominance into the Pay TV market, even without having a dominant position in this market, and vice versa. The current regulatory framework does not address this problem sufficiently - an issue that seems to be acknowledged across the market .

The existing framework does not cover content services. Instead, from a broadcasting standards point of view, content is dealt with in the Audio-visual Media Services Directive (AVMSD). As a result, most of the regulatory discussion around content focuses on the nature of the material, rather than issues of effective competition that may arise from access to content and its distribution. The few provisions on content accessibility that exist at European level (e.g. Art. 31 Universal Service Directive) focus on access for broadcasters to networks, rather than access for networks to broadcasting content. Most European regulators have not intervened on an ex-ante regulatory basis (Ofcom being the only regulator to have done so) or do not even have the relevant ex-ante regulatory powers.

As the competitive dynamics in the communication and media markets and consumer outcomes are determined jointly by the level of competition in the provision of connectivity (broadband services) and media services, a holistic approach to ex-ante regulation which considers potential bottlenecks in the provision of both services are necessary to ensure that bundled markets work well for consumers.

The responses to questions 21 and 31 explain in more detail where competition problems have arisen, and how they can be remedied.

**Question 21:** To what extent has the definition of the type of networks and services to which SMP regulation can be applied, been effective in :

	significantly	moderately	little	not at all	do not know
a) Promoting competition?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Maximising incentives for different types of operators to innovate and invest efficiently, in respect of both networks and services?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Delivering the desired level of availability of electronic communications networks and services, as well as quality of connectivity, throughout the Union?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Promoting to the extent possible take-up of high-quality services by end-users?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Ensuring efficiency, bearing in mind in particular the impact of compliance costs on providers of electronic communications networks and services?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

We have not noted any issues with respect to the type of networks that SMP regulation has been applied. The principles of SMP apply independently of network definition and we believe this is appropriate. However, the framework review needs to recognise that going forward it is not just networks that will need regulation. In the case of fixed networks, this means content, especially premium content, needs to fall within the regulatory framework given the competition problems set out in the response to question 19. We have observed a number of cases where premium content is being used by dominant broadband providers to increase their market power. Examples include:

1. Spain - Double dominance/prominence

The Spanish market for Pay TV was recently transformed by Telefónica's acquisition of digital satellite operator Canal Plus.

The Spanish competition authority (Comisión Nacional de los Mercados y La Competencia, 'CNMC'), who approved the transaction in April 2015, required that Telefónica, among other remedies, provides alternative operators with access to up to 50% of its premium channels, including the crucial First Division Football League and King's Cup's games, the most popular sports content in Spain.

However the wholesale pricing model for sport content includes a high Minimum Guaranteed Cost (MGC) and 75% of the costs are benchmarked on all subscribers, not on premium TV subscribers.

These provisions disadvantage operators with a smaller proportion of Pay TV customers and, in the extreme, deter them from continuing to offer PayTV services in the market. Given Telefónica's large share of the market and its quadruple play propositions, competing operators are unable to replicate competitive offers.

## 2) UK - Duopoly of dominant players

Since 2012, BT has invested significant sums of money in acquiring sports content rights - particularly FAPL and Champions League matches - and in creating sports channels under the BT Sport brand to broadcast this content. BT's strategy is to bundle these channels with the sale of its broadband services, offering them free of charge or at a considerable discount to the prices paid by non-BT broadband customers.

Accordingly, in its recent decision on the wholesale local access market review, Ofcom imposed an ex ante margin squeeze remedy on BT's wholesale provision of wholesale fibre access (or virtual unbundled local access, VULA), which included the cost of BT Sport in the calculation. Ofcom argued that BT's bundling strategy might have the effect of strengthening its market power in the provision of wholesale fibre access.

## 3) Italy - Joint dominance

In Italy, there has been less convergence of content and connectivity compared to other European countries. While the market for the provision of Pay TV is highly concentrated, with Sky Italia and Mediaset accounting for 80.2% and 18.6% market share respectively, none of these Pay TV players is an important provider of fixed telecom services.

However, in 2014, Telecom Italia (fixed broadband market share of 29.8%) entered into an exclusive agreement with Sky Italia, which makes available the whole of Sky's television offer through its ultra-fast broadband networks to Telecom Italia subscribers. Telecom Italia's offer, targeted at its fibre subscribers, includes the same conditions as offered by Sky in terms of content, services and prices. This agreement (which will last for five years) has enabled Telecom Italia to launch Italy's first quadruple play offer in 2015. Although other bilateral vertical agreements may exist in the market, this agreement links the two largest operators in their respective markets, and may

result in joint dominance by the two operators, foreclosing the market to smaller competitors.

The response to question 31 sets out proposed remedies for dealing with these competition issues.

(continue here if necessary)

**Question 22:** To what extent have the provisions of Directive 2009/19/EC (Access Directive) concerning the principles that guide the imposition of remedies on SMP operators, as well as the description of the types of remedies that can be imposed, been effective in:

	significantly	moderately	little	not at all	do not know
a) Promoting competition?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Maximising incentives for different types of operators to innovate and invest efficiently, in respect of both networks and services?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Delivering the desired level of availability of electronic communications networks and services, as well as quality of connectivity, throughout the Union?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Promoting to the extent possible take-up of high-quality services by end-users?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Ensuring efficiency, bearing in mind in particular the impact of compliance costs on providers of electronic communications networks and services?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

As noted in the response to q.20, the area that needs most change in relation to fixed access regulation is the proposed set of remedies and

their implementation. Examples of 'worst' practice include:

- Incumbent operators making technology choices (FTTC variants) that restrict competition/move wholesale access further downstream. This has been most stark in the Netherlands where the operator rolling-out competitive FTTH (Reggefiber) was purchased by KPN and since acquisition, the FTTH roll-out plans have been scaled back significantly in favour of FTTC.
- In Spain, Telefónica refusing to provide wholesale access at speeds above 30 Mbps.
- In Germany, Deutsche Telekom pushing bitstream access further away from the customer, thereby increasing their control over end-to-end service delivery of their competitors and also delaying the roll-out of a fit for purpose VULA product.
- 'Cost'-based remedies have proven far too generous in setting multi-year glide paths without appropriate efficiency adjustments and giving incumbents repeated returns on fully-depreciated assets. In the UK alone, BT has earned over £5bn excess profits over the last 9 years on its regulated products (<http://www.vodafone.com/content/dam/group/policy/downloads/the-relationship-between-BT-profitability-and-charge-controls.pdf>).
- In general Accounting Separation - which is a crucial tool for both regulators and industry more generally to monitor compliance and identify excess profitability - is only implemented sporadically, and rarely are the accounting separation reports made publicly available.

We firmly believe that remedies should be first and foremost designed to encourage competitive investment in FTTH. In order to achieve this Europe needs:

- Clear prioritisation for passive upstream remedies such as duct, pole and dark fibre access
- An appropriate regime for access to verticals and in-building wiring
- An absolute obligation for equivalence of input, rather than the current situation which effectively leaves equivalence as a choice with the alternative being business as usual. In some markets, e.g. Spain, we have even seen a watering down of equivalence in conjunction with additional pricing freedom for Telefónica.
- A clear statement that in the absence of equivalence there will be a need for a separated wholesale-only company that is responsible for the non-replicable passive infrastructure assets

We also recognise that the move to FTTH will be slower in some Member States than in others, and in some cases there will be a need for NRAs to incentivise FTTH through the application of targeted remedies. These should include:

- A more rigorous application of cost-based remedies recognising the difference between assets that will be replaced and legacy, non-replicable assets that have a perpetual/near-perpetual life and allow these cost reductions to feed through to the other downstream access products such as VULA. .

• Alternatively and as noted in the answer to question 15, NRAs could implement a 'tax wedge' in relation to copper pricing. One way to do this would be for NRAs to calculate the difference between cost on a current basis and historic basis (where fully depreciated assets are not relevant). Where incumbent operators are slow to move to passive access/FTTH, the wholesale price that the incumbent receives should be reduced to a historic-cost basis. Competitive operators should still pay based on current-cost to ensure that the business-case for fibre is not destroyed by retail pricing for copper below the forward-looking sustainable level. The difference between these two 'prices' would be the tax wedge.

• The imposition of full structural separation remedies to eliminate the possibility of wholesale dominance being leveraged in the retail market. This is more complex than a separate company managing the passive infrastructure assets and will require ongoing regulatory oversight to ensure the separate wholesale-only operator is incentivised to maintain the network and continue on the technology upgrade path.

We recognize that some of the remedies outlined above are intrusive. We believe they are best applied through escalation procedures. At each market review the incumbent operator can either facilitate competitive investment with appropriate upstream remedies, or face ever-increasing regulation on its existing suite of active wholesale products, until the point whereby there is irreversible full structural separation. We believe this threat will be required in some markets to enable the long-term industry structure based on competitive investment that is in the best interest of European citizens.

(continue here if necessary)

**Question 23:** To what extent is the current scope of the symmetric obligations (i.e. imposed irrespective of SMP) of co-location and sharing of network elements and associated facilities for providers of electronic communications networks as established in Article 12 of the Framework Directive effective?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your responses.

Symmetric access obligations should be applicable across industries on

the basis of the Cost Reduction Directive. As such, there is no need for additional symmetric obligations through the framework directive. Symmetric obligations are clearly different from obligations that arise as a result of a SMP determination.

Vodafone has extensive experience of how effective access to suitable passive infrastructure has enabled the rapid deployment of competitive FTTH infrastructure in both Portugal and Spain. These Member States provide the rest of Europe with models of how such regulation should be undertaken (although the regulation of access to poles in both markets is still in need of improvement). These measures include:

- The establishment of an online database which allows third parties to understand the nature, location and availability of the assets that can be used without having to undertake surveys or await responses from the incumbent. This obviously presupposes that the incumbent has first developed an accurate record of its assets [4] .
- Detailed processes and robust service level agreements relating to ordering of services and the conduct of any surveys or remedial work that is required in order to ensure that the assets can be used for the purposes required. These need to include clear timelines and appropriate penalties for non-performance.
- Regulated prices both for the occupation of the infrastructure and the ancillary services associated with surveys, orders and maintenance work.
- Strong incentives to ensure that the assets can be used by all parties. For example, owners of such assets should have obligations to reserve space for third party use and should remove unused cables in order to release capacity for others. If particular ducts are congested, the owner should have an obligation to provide alternative facilities, whether in the form of dark fibre or through the provision of access to alternative routes. Effective regulation of access to vertical and in-building wiring. Again, this is addressed by Article 9 of the recent Cost Reduction Directive, but more detailed implementation measures will be required within Member States

In conjunction with these measures, it should be a requirement that no service restrictions on the use of passive infrastructure assets are applied.

In circumstances where passive infrastructure access has been constrained by incumbents or the underlying passive infrastructure is insufficient or unsuitable, we consider that the best and probably only way to achieve significant improvements in the passive infrastructure that would be required to enable competition is to establish a separated asset company.

The model we envisage, which might be termed Asset Co, would involve the divestiture of the incumbent's existing duct and civil engineering

assets into a separate ownership vehicle. The Asset Co would thus be tasked with maintaining, expanding and updating existing passive infrastructure.

A separated Asset Co could also become a voluntary repository for non-telecoms ducts and assets. The opportunities to include non-telecoms assets to complement those of the incumbent will differ by market, but could prove an important means of promoting FTTH deployment. Our proposals for Asset Co therefore complement and take further the initiatives already taken by the Commission in the recent Cost Reduction Directive.

Another advantage of a separate Asset Co is that it enables public funds to be targeted so as to promote the deployment of FTTH (and more effective competition) in a way which would not be possible if the funds were applied to a vertically integrated firm (incumbent or otherwise). Crucially, if all ducts are treated as 'bottleneck assets' for the purposes of the State aid rules, then public subsidy can be more purposefully directed. In this way, not only would a separated Asset Co facilitate a new model of direct network competition, but it would also facilitate a new State aid financing model to enable this to happen.

Footnote [4]: See Annex

(continue here if necessary)

### 3.3.2. Review of the network access regulation

### a) Addressing bottlenecks in access networks with an appropriate regulatory regime

The telecoms review offers an opportunity to assess ex ante wholesale access regulation, in light of market and technological developments including in particular the transition to new and enhanced infrastructures such as NGA networks, fixed-wireless convergence and the migration to an all-IP environment. The objective would be in particular to ensure that regulation addresses the remaining "bottlenecks" or obstacles that impede effective competition and choice for consumers, lowers barriers to investment and facilitates cross-border services, while insisting on the sufficiency of ex post competition law in markets where competition has sufficiently developed. This includes taking stock of the level of competition, including infrastructure competition, which has developed in the market since liberalisation, and identifying any areas where enduring – often local - bottlenecks require particular attention in view of both a potentially persistent risk of abuse of dominant market positions and the European ambition to have a universally connected society. In this regard, the telecoms review offers an opportunity to consider whether access regulation is focused on the necessary inputs to allow alternative operators to deploy NGA networks in the future and compete effectively in the market, and whether they, as well as historic incumbent operators, have effective incentives to do so according to realistic timeframes.

**Question 24:** Should access and interconnection to electronic communications networks and services continue to be regulated *ex-ante*?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your responses.

Vodafone fully supports the continuation of access and interconnection regulation on an ex ante basis where there is SMP. Fixed access regulation is currently indispensable in enabling competition in European downstream markets. As noted above, the aim of the new framework should be as to promote competitive investment by alternative operators thereby allowing the need for ex ante regulation to be significantly reduced. Of course, in markets where there is sufficient competition in the absence of access regulation, there is no justification for a continuation of ex-ante regulation. However, the current regulatory framework already ensures that access regulation can only be imposed in cases of SMP.

(continue here if necessary)

**Question 25:** Will the current access regime model, including the analysis of relevant markets and the identification of Significant Market Power (SMP) operators as well as the three criteria test used to identify markets susceptible for ex ante regulation, continue to be the appropriate operational tool in determining the threshold for ex ante regulatory intervention beyond 2020, in all types of geographic areas and economic conditions?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your responses.

The use of the three criteria test in conjunction with the Recommendation on relevant markets has proven to be a sound basis for regulating the telecoms sector. However, there are two areas of concern that must be addressed at this point of time.

First, the speed of technological and market change is increasing. As such, the Recommendation on relevant markets needs to have sufficient flexibility to ensure that new emerging bottlenecks are dealt with rapidly. This will need to be the case in relation to content and mobile backhaul services - both of which will be provided by incumbent operators who have the ability and incentive to leverage their dominance in fixed markets into these adjacent markets. Whilst the risk of leverage in mobile markets was considered in the review of the relevant markets, mobile backhaul was not included in the list. Whilst it is possible to regulate this market on the basis of the three criteria test, this is not sufficiently quick given the pace of technological development and risk of a significant reduction in competition. The economic regulation of content (as opposed to broadcast networks) is not covered by the current framework which partially explains the limited experience to date of regulatory interventions in this space. This is explained in more detail in q. 31.

Second, we are concerned that efforts to promote competition at the wholesale level could lead to premature removal of regulated access services. Whilst SMP-based regulation rightly considers market competitiveness on a prospective basis, there is a need to avoid a competitive lacuna by ensuring access is only deregulated as a result of actual observed competition rather than prospective competition. This will be crucial to ensure the benefits of competitive investment are not undermined by premature deregulation.

(continue here if necessary)

**Question 26:** Do you consider that the current ex ante regulatory approach gives regulatory authorities adequate tools to map and reflect in their analysis the local variations in infrastructure availability, investment and competition within many Member States?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your responses.

The current framework gives NRAs sufficient flexibility to analyse markets at both a national and sub-national level. This is evidenced by the different conclusions reached by NRAs, where some have concluded that fixed access is a national market, whilst others have defined sub-national markets. For an operator like Vodafone that relies on fixed access across a number of different Member States, it is of utmost importance to have a stable and predictable regulatory regime. As such, the criteria for establishing sub-national markets should be clearly set out within the framework, and the analyses consistently applied across Member States. This will require an expanded role for BEREC going forward as explained in our answers to section 3.7.

The review will have to consider whether the parts of the networks that are regulated under the current rules are the appropriate and sufficient point of intervention to address the market failures that limit the growth of the Digital Single Market. It will need to consider whether - in certain cases - it would (also) be necessary or more proportionate to address retail market failures at the level of services and/or content. These elements are increasingly important to consumer choice and to the competitive dynamics at the retail level, and are in many circumstances controlled by undertakings that are not network owners.

(continue here if necessary)

The review will have to consider whether the parts of the networks that are regulated under the current rules are the appropriate and sufficient point of intervention to address the market failures that limit the growth of the Digital Single Market, or whether - in certain cases - it would (also) be necessary or more proportionate to address retail market failures at the level of services and/or content, which are increasingly important to consumer choice and to the competitive dynamics at the retail level, and are in many circumstances controlled by undertakings that are not network owners.

**Question 27:** Should the regulatory framework indicate more clearly that the absence of effective retail competition is the justification for regulatory intervention?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your responses. In case of a positive reply, please indicate what should be the mechanism for determining such intervention.

In Vodafone's view, the current framework sufficiently defines the requirements for regulatory intervention. Considering the inevitable costs and distortions associated with any inappropriate market intervention, ex ante regulation should only be introduced where there is a market failure.

Vodafone supports the Commission's guidance in its working document accompanying the relevant market Recommendation, which states that "although the final SMP analysis will be carried out at wholesale level, the starting point should be the competitive conditions at the retail level". NRAs are thus expected to "identify - following a 'modified Greenfield approach' - whether, absent regulatory intervention upstream, there is a risk of consumer harm on the retail market due to a lack of competition" [5].

In other words, the wholesale market review should be informed primarily by a comprehensive analysis of the retail market in question and should take account of the risk of consumer harm through the lack of, or significant reduction in, competition. In Vodafone's view, this means the analysis should also consider the state of competition in wholesale markets given that long-term sustainable competition at the wholesale level is the soundest basis for ensuring long-term sustainable competition at the retail level.

Footnote [5]: See [http://ec.europa.eu/information\\_society/newsroom/cf/dae/document.cfm?action=display&doc\\_id=4968](http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?action=display&doc_id=4968)

(continue here if necessary)

Moreover, electronic communications networks are currently undergoing significant technological changes due to the transition to new and enhanced infrastructures such as NGA networks, fixed/mobile convergence, and future developments such as network virtualisation and the shift to an all-IP environment. These trends need to be taken into account in the effort to make access regulation simpler. It is opportune to verify whether the number of wholesale access products to SMP networks should be reduced, in order to reduce administrative burden while addressing the most important types of demand expressed by access seekers, and adapting to technological change.

**Question 28:** In 2020 and beyond, will the essential inputs that an access seeker would need to effectively compete downstream in the retail market be the same as they are today, when legacy copper networks still play an important role? If not, which will be those vital inputs?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your responses.

The essential inputs that will be needed beyond 2020, when FTTH should be the norm, will be significantly different to those needed today when FTTC is the norm.

Today, access is typically based on a mix of upstream unbundled products and downstream active products provided at different layers. Going forward, in order to achieve long-term sustainable competition, there is a need for the essential inputs to move further upstream (ducts/poles and dark fibre) to enable competition rather than regulation downstream. In order to achieve this there is a need for passive infrastructure access to be provided in a non-discriminatory way in terms of pricing, quality and fulfilment.

In practical terms, the inputs required will be:

- Duct and pole access and in-building wiring: this should be without service restrictions in order to enable challengers to benefit from economies of scope (e.g. use of passive infrastructure for residential, enterprise and mobile backhaul) and should include dark fibre where ducts are full. (See Vodafone submission to Ofcom on what fit for purpose regime for passive access should look like, ([http://stakeholders.ofcom.org.uk/binaries/consultations/dcr\\_discussion/responses/Vodafone.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/dcr_discussion/responses/Vodafone.pdf)).
- Layer 1 access on FTTH networks.

If there are some markets where FTTH does not materialize and FTTC remains the predominant network, the essential inputs will be largely

the same as they are today. To optimize the level of competition, these should be:

- Layer 2 wholesale access (VULA) enabling full service differentiation and delivering appropriate QoS for enterprise customers both at local and regional level depending on the scope for infrastructure based competition (see Vodafone submission to BEREC on Layer 2 WAP, ([http://www.berec.europa.eu/eng/document\\_register/subject\\_matter/berec/download/0/5383-vodafone8217s-response-to-the-berec-publ\\_0.pdf](http://www.berec.europa.eu/eng/document_register/subject_matter/berec/download/0/5383-vodafone8217s-response-to-the-berec-publ_0.pdf))).
- Depending on the extent fibre roll-out, LLU and SLU would still be necessary for some time, although those inputs should become less relevant overtime as fibre networks are deployed.

There will also be a need to maintain access to leased lines, including dark fibre for mobile backhaul.

To achieve the ambitions of the Digital Single Market, obtaining fair and non-discriminatory access to all the inputs described above will be essential. Greater harmonisation of technical and service characteristics of regulated products will also be necessary to enable operators to control and deliver the best possible customer experience and build innovative new services. If true equivalence of service provision is not achieved, there will be a need to consider separation remedies to ensure the full benefits of competition are realised.

Beyond the network-related needs, there will also be a need for adequate access to content, especially premium content. This is expanded further in the response to question 31.

(continue here if necessary)

**Question 29:** Should the number of wholesale products providing access to SMP networks be reduced?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your responses. If you agree with the above, what are the most relevant access products?

The number of wholesale products shouldn't decrease - only the number of regulated wholesale products should decrease. This will be achieved when the key regulated access product moves upstream, and competitive (active) wholesale products are provided by a range of operators downstream. Deregulation of specific products is a response to competitive provision of those products, so there is no reason to believe the number of access products will reduce.

It is also important to stress that there is a difference between consumer and business markets. For business markets there is an even greater need to ensure that active products (on a standardized basis) are maintained across all geographic areas. This is a fundamental requirement for providers of national and pan-European business services for multi-site corporates. As such, the analysis of actual competition rather than just prospective competition is vital.

The relevant suite of access products is set out in Vodafone's answer to question 28.

(continue here if necessary)

**Question 30:** What will be the appropriate type, layer and number of wholesale access products that would ensure that investment is incentivised and that retail competition thrives in new and enhanced infrastructures, such as NGA networks?

Should the answer to this question take into account the interest in incentivising all market participants – historic incumbents and alternative operators – to invest in the highest capacity networks, instead of more incremental upgrades, in areas where infrastructure competition is possible?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your responses.

As already described, the main aim of the framework should be to enable the competitive roll-out of FTTH. This is the only solution which is in the long-term interest of European citizens - the highest quality infrastructure provided in a competitive environment. There are two key elements that are needed to support this.

First, wholesale access should be regulated as far upstream as possible. This will mean a combination of duct and pole access and fibre unbundling. Second, the way these upstream products are provided needs to be on a truly equivalent basis.

Too often regulators place a disproportionate emphasis on the incentives to invest of incumbents, who in turn can make technological choices to upgrade their copper networks (e.g. FTTC, G.Fast) without any regulatory oversight despite holding SMP. Those choices have the effect of limiting competitive opportunities.

It makes physical unbundling uneconomical and pushes access seekers back to active services, which present inferior economics and less ability to differentiate and innovate relative to LLU. In doing so it breaks the ladder of investment and makes obsolete the investment undertaken by access seekers over time.

Further, it inhibits competing investment opportunities as it is not conducive to investment from challengers into FTTH. From a business stand point, it is preferable for a challenger to deploy a future-proof technology such as FTTH because of the absence of legacy assets and copper. The reverse is generally true as incumbents seek to maximize the return from their existing assets and to avoid cannibalizing the returns on largely depreciated assets by undertaking more risky investment.

There is now evidence that with the right set of conditions, investment in future-proof technology by challengers and incumbents is feasible. For example, countries like Spain and Portugal have seen the emergence of infrastructure based competition between cable and FTTH networks with both the incumbent and challengers investing heavily in FTTH. As of September 2015, Vodafone covered approximately 1.2M premises in Spain and 2M in Portugal with FTTH. This is not to say that there is a single model of FTTH roll-out that will work in all scenarios. Rather, on a case-by-case basis the barriers to FTTH roll-out need to be understood, and the experiences from the different markets where FTTH has already been rolled-out can be used to identify solutions for the removal of those barriers.

The framework should focus on delivering a regulatory regime that fosters investment in future-proof and high quality ultrafast broadband network and not copper upgrades, which are less costly and risky and inhibit investment and competitive opportunities.

(continue here if necessary)

**Question 31:** Should NRAs have the powers to address access bottlenecks in relation to other inputs, whether or not these relate to electronic communications services and networks, if such inputs are considered to be decisive for the development of the retail market (i.e. such as for example access to content)?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your responses.

There are a number of different remedies that can be considered in order to ensure that operators are not able to expand their dominance/scale in the broadband market through the purchase of premium content.

Margin squeeze test

If the content that is being bundled is available to other access providers then the issue is largely the same as a margin squeeze test, where the cost of the content needs to be taken into account in conducting the margin squeeze test. This can be relatively straightforward when the wholesale price of the content is related to the number of purchasers in the retail market, as the cost to be included in the margin squeeze test is reasonably easy to identify.

However, where, for example, the wholesale provider sells content on a fixed price per jurisdiction (or a high minimum price etc.), the bundling of access with content can still result in distortions. This arises because in the retail market the unit cost of content per customer will be (materially) higher for a smaller provider. Smaller providers of bundles will find it difficult to compete due to significant scale disadvantages.

A potential remedy in this case would be to insist that wholesale content is sold on an eyeball basis or possibly a potential eyeball basis. This would reflect the underlying differences in the market shares in the access market, which are not captured when content is sold on a by jurisdiction basis. An alternative approach would be to create a wholesaling requirement on any operator with much higher market shares in the access market, and apply that wholesale price to the margin

squeeze test (in the same way that would apply to the wholesale prices for access products).

This type of remedy seems most appropriate in the situation where an operator is dominant in a single service-content or connectivity. Ofcom's ex ante margin squeeze remedy on BT's wholesale provision of wholesale fibre access provides a useful illustration. The remedy is particularly interesting in relation to the assessment of the conditions under which the operator offers wholesale fibre access. Ofcom took into account the fact that BT has increasingly been bundling sports channels with the sale of its broadband services. The test thus included the cost of BT sport in the calculation.

Whether or not a margin squeeze test remedy is sufficient to address the underlying competition problems identified is likely to depend on factors such as the amount of 'key' content owned by the fixed access operator. In cases where the underlying competition problem is access to the 'key' content, a margin squeeze test remedy may not suffice as alternate operators will not be able to replicate the bundle even with the imposition of a margin squeeze test. In this case a wholesale must offer (WMO) remedies may be required.

#### Wholesale must offer remedies

The previous analysis set out why in many cases a margin squeeze remedy would not address the fundamental competition problem involved. Where there are a material number of customers for access who will be taken out of competitive play because of the exclusive content, the remedies would be likely to lie in a form of wholesale must offer (WMO) obligation. These are remedies which are similar to the regulatory remedies imposed on physical infrastructure bottlenecks used to provide connectivity.

The temporal dynamics of the interaction between bundles in the retail market, and the sale of exclusive content in the wholesale content market suggest that a problem of leverage, or reinforcement, occurs when the current market shares in access are very uneven. If market shares in access were approximately even, even if competition is coming from the use of wholesale access products, the various retail access providers would be more evenly matched in the wholesale content market. A WMO remedy may not be appropriate. It is worth noting that this assumes that wholesale access is appropriately priced. In the event that wholesale access is providing incumbents with excess profits, there is a risk that these excess profits can be used to bid for content which will then increase the incumbent's market share. As such, equal market shares at the retail level would no longer remain evenly distributed.

(continue here if necessary)

An example of this is the remedy imposed in Spain as part of the CNMC's decision to clear Telefónica's acquisition of Canal Plus (DTS). The resulting content access obligation provides alternative operators with access to Telefonica's premium channels (albeit only up to 50% of them), explicitly including the crucial First Division Football League and King's Cup's games. However, this remedy has proven insufficient due to scale issues and national pricing. This has resulted in Vodafone's cost to acquire the same content increasing by 300%. As such it is important to ensure that any test is devised to ensure that alternative operators, with a different subscriber profile, are able to effectively compete based on the applicable WMO rates.

An additional lesson from this example is that in designing a wholesale must offer remedy, it is crucial to consider how much and what type of content is covered by the offer. If less than 100% of a pay TV dominant operator's content portfolio is opened up to access, it is important to analyse whether access explicitly includes key content, and whether the quality will remain the same. As such, access per se is not sufficient - NRAs will need to determine whether the access offer as a whole, taking into account all relevant parameters, including pricing, % of content available and quality of provision is sufficient to remedy the competition problem identified.

Unbundled retail must offer

Forcing the 'key' content owner to distribute this content via a non-network dependent offer may also be considered as a new form of unbundled retail 'must offer' remedy and may be considered less intrusive and onerous by the content owner. However, this will be a feasible regulatory option only if these alternative options are sufficiently attractive (in terms of price, content, quality, user-experience) to act as a real constraint on the bundled offers of a dominant broadband provider. If this is not the case, these offers will not prevent the distortion of competition from bundled offers.

Structural/semi-structural remedies

More radical remedies may also solve this problem by, for example, restricting the way content is sold in the wholesale content market. However, we recognise that these remedies are intrusive and should only be considered if the other available options are deemed to be insufficient.

A relatively simple ban on formal or de-facto exclusive sales would, for example, fix the problem identified as all access providers would be able to bundle the same content.

Also in contrast to margin squeeze test and wholesale must offer

remedies which require long-term monitoring by regulatory authorities, and may be inflexible to market changes a ban on exclusivity is more straightforward to implement, as well as to lift, Also once non-exclusivity is implemented margin squeeze test and wholesale must offer type remedies should not be required.

However, conventionally IPRs (intellectual property rights) are based on the ability to exploit a monopoly in the specific relevant content. An intervention to ban formal or de-facto exclusive rights sales would be likely to reduce the value of the rights to content creators. There is likely to be a significant tension between ensuring that competition in the bundled retail market works well for consumers and the rights of content creators to fully exploit the economic value of their monopoly IPR. Indeed, if exclusive content was more valuable when sold non-exclusively in the wholesale markets, this change would be expected to occur.

Regulatory intervention at this level would, therefore, require a more complex trade-off between the interests of content creators in maximising their economic value by exploiting a (given) monopoly, and the interest that retail customers have in the efficient functioning of the bundled market as a whole. However, interventions at the rights holder's level with respect to the way rights are sold may be effective, and if it was it may mean that (for some types of rights) regulatory remedies (such as WMO) which bring with them complexities of implementation, are not required.

In the current climate, a more pragmatic potential option would be to constrain the acquisition of 'key' content by the dominant fixed access operator. For example in its decision clearing Telefónica's acquisition of Canal Plus, the CNMC limited the scope of Telefónica's acquisition of exclusive content. Telefonica is thus no longer allowed to acquire exclusive content for a period above 3 years, in the case of linear content, and for shorter periods in the case of non-linear content (e.g. SVOD, TVOD).

Strict structural remedies may be more appropriate in instances where the non-structural remedies are likely to be ineffective or difficult to implement. There may also be a case for implementing such remedies if competition problems are identified in the way rights are sold by right owners.

One important aspect is the enduring importance of legacy copper networks, which continue to be controlled by former monopolies in all Member States and continue to be a vital input for a large share of access seekers, and have an impact on their owners' incentives to roll out NGA networks. In this regard, the state of copper switch-off in Member States needs to be examined.

The Commission Recommendations on regulated access to Next Generation Access Networks (2010/572/EU, NGA Recommendation) and on Consistent Non-Discrimination Obligations and Costing Methodologies (C(2013) 5761, Non-discrimination and Costing Recommendation) aim at fostering the development of the single market by enhancing legal certainty and promoting investment, competition and innovation in the market for broadband services in particular in the transition to NGAs.

NGA coverage has reached 68% of households in the EU, to a large extent through incremental upgrades of cable networks and of copper networks through FTTC. As NGA networks become more common, it needs to be assessed whether – at least in more densely populated areas or in areas where such upgrades are already far advanced – the risks linked to NGA roll-out beyond 2020 will mainly concern the roll-out of new networks up to the end-users' premises, justifying a corresponding focus of regulatory incentives on those challenges.

In addition, it is necessary to reflect on the question whether all investors – including incumbents - in higher risk, more costly infrastructures, in advance of short-term demand in many cases, are able to draw sufficient benefits from the differentiating effect that such an investment can give them in competing in the area in question. At the same time, equality of investment opportunity may be desirable – network economics may not allow every operator present in a given area to build its own network, leaving SMP operators a significant strategic advantage even if others are willing to commit capital to raising network performance and competing at a new level.

**Question 32:** Are incremental upgrades to copper networks likely to be exposed to such a level of investment risk in 2020 and beyond, that specific regulatory incentives will continue to be justified for all NGA technologies?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

If not, should regulators provide specifically targeted incentives for operators that choose to roll out the most advanced NGA networks up to, or very close to, the premises of the customer?

Copper upgrades involve significantly lower risk than investment in FTTH, especially when the investment is undertaken by a challenger: they are less CAPEX intensive, enable the phasing of CAPEX over time and face low demand risks as incumbents are able to transfer their large customer base. Further, as explained above, copper upgrades inhibit competitor investment and flexibility. Therefore not only should they not be subject to regulatory incentives to foster their roll out, they should be disincentivised.

By contrast, regulators should pursue policies that enable competitive roll-out of FTTH. In the first instance, the appropriate upstream products provided on a truly equivalent basis should be sufficient to facilitate this. Only if this proves unsuccessful should regulators develop specific regulatory incentives to operators to deploy FTTH.

Please explain your response, and indicate which incentives you would consider appropriate (e.g. continued application of the Non-Discrimination and Costing Recommendation to Fiber-to-the-premise (FTTP) networks only (or equivalent), improved access to passive infrastructure, adaptation of wholesale access products to SMP networks, lifting of access obligations to the highest capacity SMP networks if a credible anchor access product is made available, or others).

Across Europe, different models of FTTH deployment and effective competition can be envisaged. It thus makes sense to outline four generic models that illustrate the range of options available.

Direct network competition under which a rival first builds (or credibly threatens to build) its own FTTH network and the incumbent operator is forced to respond by upgrading from FTTC to FTTH. This results in competing horizontal FTTH networks, likely with some co-operation in the provision of vertical wiring. 'Network competition' in this case refers to the competing provision of fibre and other active components in the network, but assumes that the incumbent will be required to share ducts, poles and other relevant passive infrastructure rather than these being replicated by others.

Ex post co-operation under which there is a period of direct network competition between a rival and the incumbent in limited geographic areas. At some point, this is followed by the conclusion of an agreement between the parties to avoid further duplication of networks in other areas, with each party then agreeing to deploy FTTH in complementary areas and to provide access to the other in order to allow effective competition in the downstream market.

Ex ante co-operation under which there is an agreement between the incumbent and rival(s) to deploy FTTH in complementary areas and to provide access to the other in order to allow effective competition in the downstream market. Such an agreement is likely to be facilitated by the regulator (or the Government) before anything is built. This is the model adopted in France.

Monopoly - under which the incumbent is induced to move from FTTC to FTTH without any threat of network competition (or at least without sufficient threat) and is then required to provide regulated access to enable effective downstream competition.

Across these generic models many variants are possible and also a different mix of models in a single Member State can be perceived. The most appropriate model will be determined by a variety of factors, such as geographic characteristics (which will significantly pre-determine competitive and challenging areas), modes of existing competition (is it feasible to invest?), and demand patterns. Overall, an assessment of the market situation will need to decide whether a model of direct network competition may be feasible or if other, more complex and interventionist arrangements need to be employed.

(continue here if necessary)

**Question 33:** Should incentives linked to an adaptation of regulated wholesale access to the highest-capacity SMP networks (lifting of access in the presence of an anchor, or regulated access without direct price controls) – which would be principally directed to the SMP operator – be conditional upon the offer to alternative operators of reasonable co-investment opportunities in such infrastructure roll-out?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your responses.

As explained in the previous answer, there are a number of broad approaches for FTTH roll-out which would not require any incentives to be given to the SMP operator. However, if due to specific market circumstances some incentives are required, any adaptation of wholesale access obligations should be made conditional upon the offer to alternative operators of reasonable and genuine co-investment opportunities (including network sharing) and solely for investment in FTTH network. Given the complexity of co-investment and the different incentives of incumbents and alternative investors, it will be necessary to have NRAs fully involved in determining the extent to which a co-investment offer is deemed reasonable and genuine.

Conversely, as noted in the answer to question 32, the regulatory regime applicable to copper and copper upgrades should become less advantageous to incumbents in order to incentivize investment in FTTH.

(continue here if necessary)

**Question 34:** To what extent will connections provided via purely copper-based access points continue to represent effective access points for competitive market entry (inter alia, as a competitive anchor vis-à-vis the most advanced NGA networks) in face of network upgrades?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response. If your response is negative, and in the absence of other infrastructures that could serve as a credible competitive anchor, could regulators require intermediate wholesale NGA access products that could serve a similar function?

In the future, copper access will not be sufficient for competitive market entry. The spread of symmetric ultrafast fibre networks will mean the applications and programs which are used in a typical online session will not give consumers the desired experience when run on legacy copper networks. This is analogous to someone today trying to surf online using a dialup modem.

(continue here if necessary)

**Question 35:** Should copper switch-off be promoted to increase the speed of transition to NGA networks, and if so, within what time frame and geographic range and by what means?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

If so, should any unintended effects of such switch-off (e.g. potentially higher costs for some users who would not voluntarily migrate) be mitigated, and if so by what means?

What transitional measures might be necessary in case of copper switch-off to safeguard sunk investments by access seekers and existing levels of access-based competition?

Please explain your response.

Ideally the issue of copper switch-off should be left to market forces. If FTTH roll-out is facilitated, copper networks will become obsolete and there will be no need to promote their switch-off. If market forces alone are not sufficient (e.g. FTTC countries), Vodafone recognises the need for a mandated, phased copper switch-off in conjunction with innovative remedies (e.g. a tax wedge) to disincentivise copper/incentivise FTTH. Of course, this needs to take place over an appropriate transition period.

(continue here if necessary)

The trend towards convergence between fixed and wireless mobile retail broadband access has accelerated in the last three years. Wireless, including mobile, networks can contribute to a more cost-efficient network roll-out, especially in the less dense areas. Whilst current mobile network upgrades usually relate to the last mile of the access network, they also typically include other parts of the network, both backhaul and backbone up to the core (switch). These parts of the network can in many circumstances also be used to route fixed traffic. A [recent report](#) by the Radio Spectrum Policy Group has stressed that backhaul links with insufficient capacity would become a bottleneck, impacting the operations of the mobile broadband system. It is therefore necessary that access to fixed networks is available, preferably via commercial market mechanisms.

**Question 36:** Is access to fixed-line back-haul capacity for denser wireless networks likely to constitute a bottleneck in future, to which wholesale access regulation should be extended?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response, including what market developments are likely to have an impact on fixed backhaul needs and availability if any.

5G and future ultrafast mobile broadband networks will require very high speed and high quality backhaul provided over fibre. The number of cell sites and capacity on each cell site will increase significantly and at aggregation points. Existing alternatives to fibre such as microwave will no longer be sufficient. Fibre backhaul is therefore likely to become a bottleneck which will need to be addressed by the provision of effective access to passive infrastructure such as duct, dark fibre and leased lines, where relevant. See the Analysys Mason study on this subject commissioned by Vodafone on mobile backhaul:  
<http://www.vodafone.com/content/dam/group/policy/downloads/analysys-mason-mobile-backhaul-market-phase1.pdf>,  
<http://www.vodafone.com/content/dam/group/policy/downloads/analysys-mason-final-report-vodafone-phase2.pdf>.

(continue here if necessary)

**Question 37:** If wireless high-capacity broadband were facilitated by commercial or regulated access to backhaul on an SMP operator's fixed-line network, would the resulting competitive constraint justify a relaxation of wholesale access regulation for the purposes of provision of competitive fixed-line services?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Mobile broadband is not a substitute for fixed broadband services, except in limited circumstances. The competitive constraint of wireless on fixed access is limited and the two are thus complements rather than substitutes. Going forward, with the expansion of IPTV services which require very high bandwidth, and the roll-out of ultrafast FTTH networks which provide that bandwidth, fixed and mobile will be predominantly complements not substitutes. Put simply, the services consumed through a fixed broadband connection will not be viable when consumed through a mobile broadband connection.

This point can be illustrated with reference to the Cisco forecasts for global IP traffic:

([http://www.cisco.com/c/en/us/solutions/collateral/service-provider/ip-ngn-ip-next-generation-network/white\\_paper\\_c11-481360.html](http://www.cisco.com/c/en/us/solutions/collateral/service-provider/ip-ngn-ip-next-generation-network/white_paper_c11-481360.html)).

Whilst the share of data traffic on mobile networks is forecast to grow from 4% to 16% between 2014 and 2019, the total data on mobile networks in 2019 is still forecast to be less than the total data on fixed networks today. This means that all data that is carried on mobile networks could comfortably be provided on fixed networks (theoretically, ignoring mobility), but mobile networks in 2019, which will already be carrying more than ten times the data they carry today, would need to increase by another six times in order to carry all the fixed data. This is clearly not possible and therefore mobile will remain a complement to fixed rather than a substitute.

(continue here if necessary)

In light of the upgrade to NGA networks, one way of lowering deployment costs is to avoid costly duplication and to take more advantage of existing infrastructures that are unlikely to be replicated. This could be achieved by mandating that assets be shared at various levels of network deployment, in particular civil infrastructure (ducts and poles).

Moreover, the regulatory framework was drafted at a time when a high level of vertical integration prevailed in the markets, i.e. when one single undertaking was providing the electronic communications network and services as well as the facilities associated with the provision of these, such as ducts and poles. Other, often competing, business models have developed since then and pure providers of associated facilities, such as ducts and masts, which only provide wholesale services, have had a significant influence on the competitive landscape. On the one hand, municipalities and other local authorities have invested in ducts, while a number of mobile network operators (MNOs) have sold their masts. While providers of associated facilities are within the scope of the regulatory framework, not all its provisions are applicable to them. Certain provisions, and in particular the provisions related to rights of way and to facility sharing, only apply to providers of electronic communications networks.

**Question 38:** Will obligations to grant access to ducts and civil engineering infrastructures play a role in enabling the rollout of new and enhanced infrastructures (such as NGA networks), irrespective of whether or not they are associated to the provision of access to other network elements?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. If yes, how and what adjustments in this regard are needed in order to facilitate rollout, and is sector specific regulation required?

As noted in the response to question 30, access to ducts and civil engineering is a necessary (but not sufficient) condition for the competitive roll-out of future-proof FTTH networks. In line with the Commission's Cost Reduction Directive,, basic rules on access should be provided on a symmetric basis. In addition, there is a need for sector-specific regulation on this form of access through the SMP process whereby the type of access and also the rules associated with providing the access - i.e. equivalence - go beyond the basic provisions in the Cost Reduction Directive. This is because the sector-specific regulation will recognize that the access provider is also a retail competitor and unless mandated otherwise, has the incentive to favour its own downstream business. This manifests in a number of ways including:

- Delays in meeting access requests
- Refusals to open certain ducts
- Using duct access requests from competitors to inform own roll-out decisions

It is for these reasons that sector-specific regulation is required, and NRAs must be able to implement targeted remedies to ensure the discriminatory behaviour described above does not materialise.

(continue here if necessary)

In addition to the obligations imposed following the analysis of relevant markets and the identification of Significant Market Power (SMP), the current regulatory framework also empowers NRAs to impose certain type of symmetric obligations on providers of electronic communications networks, i.e. irrespective of whether they hold significant market power. In particular NRAs are empowered to impose objective, transparent, proportionate and non-discriminatory symmetric obligations of access and/or interconnection in order to ensure end-to-end connectivity, interoperability of services to end users and accessibility for end-users to digital radio and television broadcasting services (Article 5 of the Access Directive). Such measures are subject to the Article 7 of the Framework Directive consultation procedure, when they affect trade between Member States.

Moreover, the current regulatory framework also empowers NRAs to impose symmetric obligations of co-location and sharing of network elements and associated facilities for providers of electronic communications networks (Article 12 of the Framework Directive), in order to protect the environment, public health, public security or to meet town and country planning objectives and only after an appropriate period of public consultation. Such obligations may concern the sharing of facilities or property, including buildings, entries to buildings, building wiring, masts, antennae, towers and other supporting constructions, ducts, conduits manholes, cabinets of electronic communications network operators.

**Question 39:** Should in your view the NRAs be empowered to impose obligations set out in Articles 9 to 13 of the Access Directive on operators irrespective of whether they hold SMP, in circumstances other than those listed in Article 5 of the Access Directive?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. If your answer is yes, please specify these circumstances.

The threshold for ex ante regulation should not be lowered. However, consideration should be given to instances where public subsidies are involved, in which case, obligations regarding transparency, access and price controls could be justified.

There are already symmetric access obligations as a result of the Cost Reduction Directive, and we see no reason to have any additional symmetrical obligations.

(continue here if necessary)

**Question 40:** Is the current procedure envisaged for supervising the application of symmetric remedies effective, or could a more efficient procedure be envisaged?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and indicate possible improvements.

As noted above, symmetrical access obligations should be dealt with outside the framework as it primarily deals with SMP situations.

(continue here if necessary)

**Question 41:** Are current rules in the Framework Directive, in the Access Directive and in the Cost Reduction Directive (2014/61/EU) sufficient to ensure that operators that roll out networks to a building have access to entries to buildings and to building wiring, for example where that wiring is not owned by an operator?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

The rules contained in the Framework Directive grant regulators the ability to set appropriate obligations in relation to access to buildings and the sharing of in-building wiring. Those rules are complemented by additional provisions included in the Cost Reduction Directive which grants network operators a right to request access and imposes on network operators an obligation to meet reasonable requests for access.

However the Directive does not provide a constraining framework on SMP operators as it includes many possibilities to refuse access and access requests have to be made on a case-by-case basis. Further uncertainty stems from the dispute resolution process that may be followed at the Member State level and the conditions under which access may be granted or otherwise. This is why it is important to have additional sector-specific requirements as part of the SMP process.

In addition, and as explained in the response to q.19, an appropriate regime for access to verticals and in-building wiring is very important for the efficient roll-out of FTTH. The requirements go beyond SMP regulation and extend to co-ordination with other authorities.

(continue here if necessary)

Market developments in several Member States point towards an increasing prevalence of oligopolistic market structures, at regional if not national level. To an extent, oligopolies have come about as a result of the regulated access regime and the transition from monopolistic market structures to competition following liberalisation. Given the high fixed costs of electronic communications networks, in particular of fixed-line networks, it can be expected that, in most areas, at the network level only a limited number of infrastructures will be deployed or would be efficient. Such a scenario, however, does not necessarily lead to an uncompetitive market outcome.

This development may raise the question, however, of the extent to which, in circumstances where SMP (individual or joint) might be difficult to demonstrate, but retail competition is still thought to be at risk, the current model of ex ante regulation is sufficient for answering the challenges of the markets that will develop in the future. This also raises the question whether ex ante regulation, which currently is exceptionally applied in the electronic communications sector, requires a lower intervention threshold than ex post antitrust rules applicable to all economic sectors and whether such a further exceptional approach is sufficiently justified.

**Question 42:** Should there be exceptions to the principle that ex ante access regulation can only be imposed in circumstances where regulators can demonstrate SMP, individual or joint?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. In the case of a positive response, please indicate the additional circumstances under which wholesale access remedies should in your view be possible (which retail market conditions, a broader wholesale market structure test, generalised symmetric wholesale access obligations, or other).

In line with our previous submission to BEREC's consultation on oligopolies ([http://www.vodafone.com/content/dam/group/policy/downloads/Vodafone\\_Response\\_BEREC\\_Report\\_on\\_oligopoly\\_analysis\\_and\\_regulation.pdf](http://www.vodafone.com/content/dam/group/policy/downloads/Vodafone_Response_BEREC_Report_on_oligopoly_analysis_and_regulation.pdf)) Vodafone cannot find any evidence that would call for a divergence from existing principles and justify exemptions from principles of ex ante access regulation.

The overarching principles of the existing framework require NRAs to:

- Apply objective, transparent, non-discriminatory and proportionate regulatory principles

- Promote regulatory predictability and consistency

- Safeguard competition by imposing obligations only where there is no effective or sustainable competition and relax or lift regulatory obligations

Vodafone's assessment of oligopolistic market outcomes and industry trajectories does not reveal convincing evidence that would justify a substantial deviation without violating some of these basic principles. The existence of oligopolies in a network industry such as telecom should not automatically necessitate ex ante regulation. Any other proposal will likely lead to more regulation with detrimental effects for Europe's digital future, because it risks an inconsistent approach to ex ante regulation and arbitrary interpretation, which heightens regulatory uncertainty.

The regulatory regime to be put in place from 2020 onwards needs to ensure that intervention is underpinned by clear evidence of persistent market failure. Proportionality, transparency and consistency need to guide the Commission's recommendations to ensure that the benefits of regulation outweigh the inevitable economic costs associated with regulatory intervention.

Therefore ex ante regulatory obligations should only be imposed where there is no effective and/or sustainable competition and competition law is unable to sufficiently address the underlying problem. This will ensure that regulation is only applied where necessary and removed where effective competition has emerged over time.

(continue here if necessary)

**Question 43:** In the event that the wholesale access market in a given area is deemed no longer subject to SMP, or that access remedies are no longer deemed appropriate in that area, by virtue of ongoing infrastructure-based competition on quality and price between a limited number of operators, would you consider it justified in the interests of market stability and existing levels of competition to maintain for some period wholesale access comparable to that previously enjoyed by access-based operators?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. In the case of a positive response, please indicate under which conditions (e.g. what degree of infrastructure competition, nature of the transitional access product, duration, etc.)

While Vodafone observes encouraging signs of infrastructure based competition in some markets, this is limited to geographic areas and differs widely across Member States. Vodafone thus supports the rolling back of regulation once competition has evolved. However, the removal of regulation must be on the basis of observed competition rather than the potential for competition. Only once commercial wholesale offers are observed in the market should wholesale regulation be relaxed.

(continue here if necessary)

An assessment of the future evolution of the regulatory framework also needs to explore how to simplify and make more predictable the current rules for economic regulation, which are based on a forward-looking assessment of market and technology developments, and are necessarily subject to policy drivers at national and EU level, which may not always be consistent. This includes, inter alia, the possibility to extend the review cycles (and as a consequence the implemented remedies) beyond the current 3 years, more routinely than for the exceptional circumstances currently foreseen by the regulatory framework, for instance where the market conditions are unlikely to change significantly or where regulated operators make longer term commitments and access seekers agree. It is also necessary to assess the benefits of reflecting in the regulatory framework itself the key principles outlined in relevant Commission Recommendations, namely the 2010 NGA and the 2013 Non-Discrimination and Costing Recommendations, with the aim of further promoting legal certainty and predictability for NRAs and market actors.

**Question 44:** Should periods of review longer than the current three years be systematically considered for certain markets which are less likely to change?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. If you agree, which markets do you consider to be suitable for such longer review periods.

Article 15(1) of the Framework Directive requires the adoption and regular reviews of the Recommendation on Relevant Product and Service Markets. Vodafone fully supports a regular review of product and service markets susceptible to ex ante regulation in light of technological and market changes.

More specifically, Vodafone considers that market reviews should be undertaken by NRAs at regular intervals to address the trade-off between regulatory certainty necessary for investment decision and regulatory flexibility necessary to ensure regulation is proportionate and adapted overtime to changing market dynamics.

On balance, the three year cycle is appropriate for access markets balancing the need to adapt regulation to changes in competitive intensity and technological changes with investment decisions. Very upstream access regulation may justify longer review cycle as the high level of investment involved require a stable and predictable regulatory regime.

Longer cycles, of say five years, could be applied to termination markets given the nature of those markets (operator specific termination market). This would strike a better balance between regulatory costs and effective regulation.

However, it is important to stress that the other side of this issue is where NRAs do not complete market analyses on a timely basis. The Commission must be able to act faster and with real power in situations where NRAs do not review markets according to the required schedule. In Portugal the current regulation of fixed markets is based on the market analysis from 2009 when fibre wasn't considered. There is the same situation in Spain where the last review on former markets 4 and 5 was in 2009. In addition, the former Market 15 hasn't been reviewed since 2006 resulting in the continued application of remedies based on the market situation 10 years ago. These situations cannot be allowed to continue.

(continue here if necessary)

**Question 45:** If so, should this be subject to certain criteria (for example to binding regulatory commitments and agreements between access providers and access seekers) in the interest of legal predictability and certainty for the market and/or to specific investment or other performance criteria required to the SMP operator?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

For termination markets, there could be a mid-cycle quick review to see if there are significant changes that could justify bringing the review forward.

For access we do not believe there is justification for long-term 'deals' between the regulator and SMP operator. Rather, and as noted previously, the framework should seek the removal of monopoly power rather than enshrining it in long-term agreements.

(continue here if necessary)

**Question 46:** Should key principles of the non-binding guidance provided in Commission Recommendations on EU-wide regulatory approaches in respect of wholesale access regulation be made binding?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

The first EU regulatory framework for electronic communications was geared towards the aim of establishing "a harmonised regulatory framework for networks and services across the Union". Regulatory fragmentation is a problem and the right balance should be struck between harmonisation and accommodating country specificities. Overall, Vodafone considers that this could be achieved by making the key principles of the Commission Recommendation on fixed access binding.

(continue here if necessary)

**b) The impact of network technologies developments: facing new challenges**

The telecoms review offers also an opportunity to assess the regulatory framework's capacity to cope with the electronic communications sector's fast-moving technological environment, and in particular to identify regulatory areas which could require adaptations in order to keep up with the main trends in network technologies, operations and market developments. Against this background, it is necessary to already anticipate these developments taking into consideration relevant time horizon(s) matching the technology's life cycles, from research and development to the roll-out of infrastructure, extending beyond 2020.

The shift to "all-IP" networks has been driven by the gradual roll-out of NGA, and implies moving the point of interconnection for voice services from distributed local central offices to a central point in the network, thereby enabling cost savings for operators as well as a more efficient network management (including across countries). For the time being, one can observe in Europe that the migration to "all IP" in the Member States is moving at various speeds and does not receive the same degree of attention from national regulatory authorities.

**Question 47:** Is it necessary to establish regulatory incentives to speed up the migration to "all IP" networks?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone disagrees that there should be specific regulatory incentives to speed-up the migration to all- IP networks. This is a commercial and strategic matter best left in the hands of the industry. The transition is currently well underway and driven by technological change and market dynamics. Operators across the eco-system are migrating their customer base to all IP networks to replace legacy equipment, save cost, generate efficiencies as IP networks can be used to offer voice and data services on a single platform, and improve their product offerings.

(continue here if necessary)

**Question 48:** Would a common EU approach be required to ensure that the migration towards "all IP" networks in the EU contributes to the achievement of the single market objectives?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone does not consider it necessary to have a common EU approach to ensure that the migration towards all IP networks contributes to the achievement of the single market objectives. See Vodafone's response to Q47.

(continue here if necessary)

There is a trend in communication network architectures towards the "virtualisation" of network infrastructure and functionality (through various approaches such as "Software Defined Networks" (SDN) and "Network Function Virtualisation" (NFV)). The definition of open network interfaces enables to abstract the actual physical deployment, removes proprietary dependencies and allows flexible service provisioning. Network functions (such as set-top boxes, mobile signal encoding/decoding, routers etc.) run in software on general-purpose hardware, instead of expensive locally-distributed and dedicated hardware equipment, and hence add further flexibility, scalability, security and cost savings for operators and their customers.

**Question 49:** Will the on-going virtualisation of communication network infrastructures have an impact on the future demand for wholesale access products for the provision of connectivity services?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

The on-going virtualisation of communication network infrastructures is unlikely to have a profound impact on the future demand for wholesale access products for the provision of connectivity services in the foreseeable future. Virtualisation is also unlikely to provide sufficient levels of differentiation, product development control and innovation relative to passive access. Further, any improvements that the virtualisation of network infrastructure and functionality may entail in the long- run will be gradual and will not address the competitive bottlenecks we have identified in the short- to medium-term. Technologies are still in early development stages with standards not completely defined. Vendors will not develop products until standard are finalised. Hence deployment of new SDN controlled virtualized equipment for wholesale products, is more a long- term option which in our view is unlikely to be a substitute for competing parallel networks.

(continue here if necessary)

**Question 50:** Will the virtualisation of network infrastructures and services have a role to play in the provision of pan-European services?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Virtualisation of network infrastructure and services (SDN and NFV) will facilitate pan-EU scale in the long run. However, as outlined in Q 49 this will take time to evolve and is unlikely to solve fixed access bottlenecks addressed today.

(continue here if necessary)

**Question 51:** What is the relevant timeframe you foresee by when the biggest impact of virtualisation will be reached?

- 5 years
- 5-10 years
- > 10 years

Please explain your response and provide examples.

Please refer to Q.49 for explanation.

(continue here if necessary)

Appropriate interoperability of electronic communications services throughout the EU is critical to ensure freedom of choice for end users and achieve the Digital Single Market. Standardisation is likely to become a prominent issue in the move towards software defined networks (SDN) and network functionality virtualisation (NFV), whose implementation relies on the definition of open network interfaces. In ultra-high definition television (UHDTV) interoperability issues may emerge if industry agreement is not reached on standards across the whole value chain, from film production to the end user's screen. Account needs to be taken of the trend over the last 15 years towards the multiplication of global industry-led fora and consortia involved in the development of common technical specifications for ICT and their implementation, e.g. through certification schemes. This has resulted in a situation which, if not addressed, could lead to an increased fragmentation of Europe, as one can observe at the moment in the area of wholesale access products. The Commission has encouraged the use of a standard for mobile TV from 2008 and (from 2006), for access to unbundled local loops, interconnection, caller location, quality of service for voice telephony and for digital radio. The Commission competence to make the implementation of certain standards and/or specifications mandatory has not been used so far, but the existence of such a competence could in principle help to foster voluntary industry consensus on the use of standards.

**Question 52:** Will the current voluntary and market-driven approach in standardisation remain valid and efficient enough to cope with the future needs of stakeholders in 2020 and beyond, while taking into account the community interest, including of EU citizens?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Standardization remains critical to avoid fragmentation. The processes by which standards are set remain dominated by incumbent operators who have an incentive to hinder the emergence of standards that undermine their historical position.

Vodafone supports greater harmonization of wholesale regulated fixed access services in order to create a Digital Single Market. Harmonization should cover inter alia technical characteristics and processes for consumers and business services.

The debacle of VULA in the EU is a case in point where the Commission needs to be more active in encouraging NRAs to promote more rapid adoption across the various Member States. The required international standards for VULA were established by bodies like MEF and BBF several years ago. However, a wholesale VULA service from Deutsche Telekom is not expected to be available until 2016 - at least six years after it was available in other states like the UK. This should not be allowed to be repeated.

(continue here if necessary)

**Question 53:** Will regulatory safeguards as provided under the regulatory framework for electronic communications (in particular the competences to encourage and ultimately to mandate the use of standards) still be needed in the future to preserve service interoperability across the EU and improve the freedom of choice of end users in addition to the general purpose EU legislative mechanisms on ICT standardisation in place?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Current safeguards are appropriate and remain necessary going forward.

There is however a case for a more pro-active and decisive role by regulators and BEREC in relation to fixed access products. To this end, it is important that BEREC and the European Commission work hand in hand with industry and standards bodies. Considering that standards bodies can identify but not enforce specifications (e.g. service specifications, architectures, multicast, and interoperability of CPE), a more pro-active approach of regulators under the auspices of BEREC/the Commission is required.

Examples of where the lack of a more pro-active approach by regulators has been detrimental include the definition of common requirements for NGA products in the UK by the NICC and in Germany by the NGA forum which were not effectively implemented by the SMP operator (e.g. no multiple QoS for VULA in the UK).

Similarly, BEREC's involvement so far (e.g. the 2015 Consultation on L2WAP common specifications) has not facilitated the development of common standards and specifications despite detailed specifications and requirements proposed by the industry (see Vodafone's response titled "Vodafone Group's Response to BEREC's Consultation on Common Characteristics of Layer 2 Wholesale Access Products in the European Union, 15 July 2015, BoR PC02 (15) 13). This needs to change. Both regulators (e.g. national regulators under the umbrella of BEREC) and BEREC need to consider a more pro-active approach in relation to areas where agreement has not / cannot be reached, in particular in relation to provisioning times, QoS or SLAs and multicast.

In other areas (e.g. IOT) the regulatory approach needs to be more nuanced. As a result, a policy to "encourage" can be more appropriate than a policy to "mandate". The reasons for this are not hard to fathom. The industry needs to have incentives to invest in ICT platforms and evidence illustrates that consumers are better off when regulation does not restrict the industry's ability to do this. In the context of IOT it is thus important to recognise that companies need to compete on the IOT marketplace through technical and commercial differentiation, in particular when it comes to managing large numbers of connections. This differentiation is often achieved through proprietary solutions which, although "closed" to other companies, communicate with other proprietary solutions thanks to the accepted (not mandated) industry standards such as the GSMA embedded SIM specification for M2M/IOT

(continue here if necessary)

Achieving better end-to-end quality of service would allow for more innovation on the application layer (e.g. more widespread use of cloud computing, eHealth, telepresence etc.), with potentially very significant economic and social benefits. Greater consistency in the design of access and interconnection products may facilitate this process. Furthermore, the issue of service interoperability with assured quality level between different networks will also have to be considered if pan-European services with specific quality requirements are to be provided on Europe's still fragmented networks, in particular services with real-time needs.

**Question 54:** Is there a need for common access and interconnection products that can operate across the EU with a view to foster the emergence of high-quality connectivity services, including at pan-European level?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone is a strong supporter of the definition of common regulated access products, covering fit-for-purpose technical characteristics, SLAs and SLGs. In the enterprise sector, lack of consistent wholesale fixed access in respect of products such as Ethernet leased lines, VULA and bitstream is an obstacle to provision of high-speed connectivity to enterprise customers across the EU. Enterprise customers need consistent service levels across EU countries and research shows they have a preference for a single supplier. There are serious inconsistencies around key fixed wholesale access elements such as ordering, provisioning, business grade service level and fault repair, all of which are vital considerations for the enterprise sector.

However, the benefits of increased harmonisation in this area would not just be limited to the enterprise sector. There are clear benefits of greater harmonisation and common specifications for service to consumers and businesses, including:

- Increased competition and customer choice
- Consistent end-user experience
  
- Harmonised wholesale products leading to:
  - o Reduced product development complexity
  - o Faster time to market (design/test once, deploy “many”)
  - o Ability to leverage economies of scale
  
- Wholesale service consistency facilitates:
  - o Cross-border expansion
  - o Intra-market choice of wholesalers without interoperability risks

(continue here if necessary)

**Question 55:** How can service interoperability with end-to-end assured quality level between networks be best guaranteed for the development of services with specific needs in the Digital Single Market? Please explain.

This will depend on the services in question. In broad terms, service interoperability and end-to-end quality level will be best guaranteed through industry-led standards, common interfaces and common specifications. Many of these already exist but NRAs need to be more active in encouraging early adoption to avoid fragmented approaches

(continue here if necessary)

**c) Addressing "challenge areas" to deliver the desired connectivity levels**

In certain areas, primarily rural or semi-rural areas, private investments might not be expected on the basis of current regulatory incentives, due to long-run cost structures and low and long-term returns on investment. Where the SMP analysis leads NRAs to finding national markets and to the imposition of nation-wide remedies, this may lead to sub-optimal incentives to invest at regional or local level, particularly in areas characterised by natural monopoly (e.g. in less densely populated areas) and where public funding may not be available. In these so-called "challenge areas" there is a need to reassess sector-specific access regulation. This could include measures focusing more on "competition for the market", i.e. rewarding/providing incentives to the first mover towards very high capacity network provision that might not otherwise be provided, while safeguarding effective competition and end-user interests.

From the perspective of incentivising the roll-out of NGA networks to such challenge areas, it is also necessary to consider the appropriateness and need of a regulatory approach to co-investment and wholesale-only models (see Annexes for more background).

**Question 56:** Should access regulation aim at addressing network coverage needs in all geographic areas?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

If so, which alternative regulatory models should be considered to give greater security to investments in areas unlikely to be served by the market under current regulatory conditions, with the overall aim of promoting the fullest possible coverage of new and enhanced infrastructures, such as NGA networks, across the EU and how should such challenge areas be defined by NRAs (e.g. classic market definition with additional criteria, State Aid like mapping exercise, other)?

The aim of the Commission should be to incentivize the competitive roll-out of future-proof, ultra-fast broadband (FTTH) in all geographic areas. To this end, a 'challenge' area needs to be defined as an area where a competitive market outcome delivering such future-proof networks does not emerge. Considering evidence from Member States, these are areas in which at least one of the following conditions apply:

- A natural monopoly, where only one FTTH infrastructure will be economically feasible
- A lack of passive infrastructure, which cannot be competitively resolved.

We consider it neither necessary nor appropriate for the Commission to predetermine the model of competition (outlined in Q 32) that might emerge within a challenging area. Different markets will develop in different ways. However, successful competition models from across Member States show that passive infrastructure will be inevitable for any form of sustainable competition. Our proposal thus entails a call for detailed guidelines on how passive infrastructure access can be ensured within the context of the existing Directives and Recommendations (see question 14, 23).

Where passive infrastructure alone cannot effectively address competition bottlenecks, further remedies are required. To this end, the Commission should ensure a more effective implementation of the existing Costing Recommendation. Where SMP prevails, structural separation of the incumbent needs to be considered, if the existing functional separation provisions of the Costing Recommendation prove to be demonstrably inadequate. This is already contemplated as an 'exceptional measure' by Article 13a of the existing Access Directive and the Commission should now define what 'inadequate' and 'exceptional' mean.

(continue here if necessary)

**Question 57:** Is there a need for regulatory measures and/or incentives to better secure the benefits of investing in challenging areas for the first mover, and should this be conditional on the type of network improvements that have been undertaken?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and what these measures/incentives could be (e.g. exclusive protection subject to reasonable access terms for a limited period of time, other). Please see also question 130.

Vodafone does not see a need for regulatory measures and/or incentives for the first mover. FTTH deployment in Europe will only accelerate if the Commission ensures that there can be effective network competition, including in those Member States where FTTC is currently deployed. Additional regulatory measures applying to a first mover would be diametrically opposed to this.

However, where network competition is not credible, we find that public subsidy is likely to be a necessary catalyst for FTTH deployment in certain conditions. This will require that the Commission reconsiders its position on the application of State aid to broadband (NGA) deployment and revise the current State aid guidelines so as to provide that:

No public subsidy for NGA infrastructure deployment can be undertaken within a Member State unless and until the Member State has overseen the establishment of an independent Asset Co in accordance with detailed guidelines on how passive infrastructure access should be facilitated.

Public subsidy can only be directed at a vertically integrated operator in exceptional circumstances, and only if the public authority has demonstrated that effective network competition using the Asset Co's assets is not viable.

If public subsidy is directed at a vertically integrated operator, it may only be applied if that operator has fully complied with all provisions of the (revised) Costing Recommendation, including full implementation of equivalence of inputs for the provision wholesale services. Public subsidy of FTTC technologies should only be considered in very exceptional circumstances, with the Member State providing the Commission with a fully reasoned opinion as to why FTTH is not feasible.

(continue here if necessary)

**Question 58:** Should any such regulatory measures and/or incentives to secure the first-mover investment benefit be subject to conditions in the interest of service competition (e.g. reasonable wholesale access requests)?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

As per the response to the previous question, we do not believe first movers in challenge areas should be incentivised through regulatory incentives. Rather, the Commission's should aim to safeguard competition and facilitate the right incentives for future-proof investment. One option to incentivise FTTH investment often proposed by incumbents is to allow a further competitive advantage in the form of limited access obligations. We do not think the Commission would or should find this argument attractive as this ultimately restricts competition in the downstream retail market. Without effective competition, the superior benefits of FTTH may not be available to consumers, or may be available only at a higher price or at poorer quality. The move to FTTH needs to be accompanied by an improvement in competitive conditions, both at the network and the retail level. This requires an effective passive access regime with a stronger focus on EOI and non-discrimination. Where this cannot safeguard competition and wholesale monopoly remains, NRAs need to have a suite of more intrusive remedies including full structural separation (see questions 14, 23).

(continue here if necessary)

**Question 59:** Should specific measures be devised to prevent strategic overbuild of new NGA or very high capacity NGA networks? If so what are possible regulatory means to do so, and under what conditions as to safeguarding of competition and end-user interests?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone recognises that strategic overbuild by incumbents in response to FTTH investments by alternative operators is a significant concern. Vodafone has experienced tactical overbuild both in Portugal and Ireland by the SMP operators when deploying very high capacity NGA networks as a first mover. This overbuild happened in areas that were initially deemed as economically unviable by the SMP operator but presumably the potential loss of the monopoly dividend motivated the new investment case.

It is difficult to prevent a SMP operator from making its own commercial decisions as to how to expand its network. However, we believe the SMP operator can be prevented from engaging in strategic overbuild tactics - especially heavily discounted FTTC - with the following levers:

- i. Apply a Margin Squeeze Test on the SMP operator which uses FTTH as the modern equivalent asset.
- ii. In areas where a SMP operator engages in strategic overbuild, the FTTH operator has no obligation (for a number of years) to provide the SMP operator with access to any new ducts or in-building wiring that were deployed in rolling out FTTH.
- iii. Use the evidence of strategic overbuild as justification for structural separation.

(continue here if necessary)

**Question 60:** Can the following investment models contribute to foster investment incentives and promote deployment of NGA or very high capacity NGA networks in challenge areas:

	strongly agree	agree	disagree	strongly disagree	do not know
a) Co-investment models	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Wholesale-only models	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If so, what would be the most important features of such models, and how can they be accommodated by the regulatory framework without compromising other objectives? Please explain your responses.

Considering that the most suitable model of NGA investment depends on a variety of factors, both co-investment and wholesale-only models should be perceived as possible options. However, where there is a choice between the two, co-investment or joint ownership models are generally better suited to allow for alternative network operators' investment as they reduce some of the risks associated with substantial network investment.

Vodafone is pursuing co-investment opportunities in both Portugal and Spain to expand coverage and share investment risks. For instance in Portugal, we have an agreement with Portugal Telecom (the incumbent) whereby each party deploys FTTH in a number of non-overlapping areas and grants each other reciprocal access with each party retaining full commercial freedom. We have a similar agreement with Orange (a challenger) in Spain.

In Ireland, we have set up a joint venture with the electricity company ESB in which we are investing €450 million to roll-out FTTH in 50 regional cities to cover 500 thousands homes using the existing infrastructure of ESB. This is a private-led co-investment solution by a non-incumbent telecom operator to bridge the urban-rural divide for fixed ultra-fast broadband.

Vodafone's experiences illustrate that different models of co-investment facilitate future-proof investment in competing infrastructures.

However, in a setting where only one ultrafast broadband infrastructure is feasible, a wholesale-only model may be the only workable option. In order to safeguard competition in this context, structural separation will be required.

(continue here if necessary)

**Question 61:** Should regulatory requirements regarding access to NGA or high-capacity NGA networks be made lighter if the network owner sought co-investment on reasonable terms at the time of the roll-out or the upgrade?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your responses. If your response is positive, is it contingent on being applied in a challenge area / natural monopoly area, or would you apply such an approach more generally to SMP access regulation?

If co-investment does not materialise and monopoly infrastructure ensues, it would not be in consumers' interest for a regulatory vacuum to emerge. As such, even if co-investment negotiations were conducted in good faith, this is not sufficient to override the need for appropriate regulation where SMP is observed. We believe that co-investment is an effective method for creating competition, and once competition emerges, regulation can be reduced/removed.

(continue here if necessary)

**Question 62:** Do you consider that wholesale-only network operators have stronger incentives and opportunities to develop new NGA or very high-capacity NGA networks to serve long-term needs?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

We have illustrated (see questions 32, 56, 57) that there are many diverse models for NGA deployment that facilitate sustainable competition and future-proof investment. This demonstrates that incentives of different players (e.g. incumbent versus other investors) will be influenced by a range of factors. Consequently, a case for stronger incentives for wholesale-only network operators cannot be made. Fundamentally this question will depend on the degree of infrastructure competition. The incentives for a wholesale-only operator to upgrade networks will depend on the degree of competition it faces at the wholesale/infrastructure level.

(continue here if necessary)

**Question 63:** If your response to question 62 is positive, should there be regulatory incentives for voluntary structural or functional separation of existing vertically integrated SMP operators?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response, in particular what kind of regulatory incentives could be considered (e.g. in terms of wholesale access terms).

Our answer to question 62 was not definitive. However, wholesale-only operators that control bottleneck assets are better in terms of competitive outcomes than vertically-integrated operators controlling those assets. As such, voluntary structural separation can be incentivised due to the superior competitive outcomes that prevail.

(continue here if necessary)

### 3.4. Spectrum management and wireless connectivity

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While technical harmonisation of the use of radio spectrum for EU-wide allocations has progressed significantly based on the 2002 Radio Spectrum Decision (RSD), the designation of (additional) spectrum to a (new) application or technology in the EU still requires several steps (first in the European Conference of Postal and Telecommunications Administrations (CEPT), then in the Radio Spectrum Committee) before the Commission can ensure legal certainty in the EU. This iterative process may be particularly burdensome, in terms of costs and delays in "time to market", for innovative new uses, but can also weigh on the ability of existing spectrum users such as wireless broadband providers to expand capacity to meet burgeoning market demand. See also section 3.7.3 below.

In addition, even where globally standardised technologies with universally accepted benefits for users and business (e.g. LTE) do have access to harmonised spectrum, the terms under which the individual authorisations to use spectrum are granted remain widely fragmented, in particular in terms of timing, licence durations and assignment conditions. This may be due not only to objective differences in national circumstances but also to diverging objectives or approaches.

This situation may impede investment, innovation and rapid availability of spectrum for network deployment, broadband capacity needs or new and innovative uses, and prevent the establishment of economically advantageous wireless connectivity at EU scale for new digital services and applications - such as the Internet of Things, connected vehicles or other connectivity-enabled products. Moreover, in particular the exponential demand for spectrum for wireless broadband may require the facilitation of a rapid deployment of denser networks and a more flexible and efficient access and use of spectrum.

In addition, the growing spectrum needs for wireless connectivity are constrained by lack of vacant spectrum and by the high price associated with re-allocating spectrum to new uses, in terms of cost, delays and the occasional need to switch off incumbent users. To satisfy growing demand, greater efficiency and innovation in spectrum use are crucial. Mechanisms such as sharing, trading or leasing therefore deserves more attention, including understanding why they have been used only to a limited extent so far and how to enable an increasing number of users to share simultaneous rights of access to a specific frequency band in a pro-competitive manner (for more details, see [COM\(2012\)478final](#) on promoting the shared use of radio spectrum resources in the internal market).

### 3.4.1. Evaluation of the current rules on spectrum management

The first set of questions aim at providing input for the evaluation of the functioning of the current regulatory framework.

**Question 64:** The regulatory principles and policy objectives applicable to spectrum allocation, assignment and use in the EU are based on the regulatory framework for electronic communications (ECRF), the Radio Spectrum Decision 676/2002/EC (RSD) and the 2012 Radio Spectrum Policy Programme (RSPP). To what extent has the fact that electronic communications and other spectrum users are addressed in different legislative instruments (ECRF, RSPP) impeded their effective interpretation and/or implementation?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

The communications industry in general and the mobile communications sector in particular, are handicapped by very high spectrum costs, due to the artificial scarcity of spectrum. This resulting from barriers to a combined market for spectrum among all potential users and complexity in the regulation allowing the reallocation of spectrum via market forces from low value to high value uses. Greater consistency of legislation applied to all spectrum user industries is needed to normalise the market and address the particular constraints and costs hindering growth in the European mobile broadband market. For example, a consistent approach to spectrum pricing would create necessary incentives for efficient spectrum use among all users. Industries or state users that currently use spectrum inefficiently would have an incentive to reconfigure their use, occupy less spectrum, and release the surplus spectrum for a more valuable use.

(continue here if necessary)

In 2012 the EU adopted its first Radio Spectrum Policy Programme (RSPP) aiming at developing a strategic planning and harmonisation of the use of spectrum to ensure the functioning of the internal market in the EU in all policy areas involving the use of spectrum, also beyond electronic communications. See [Commission's report](#) of 22 April 2014 with regard to its application for more details.

**Question 65:** Do you see the need for better coordination of EU spectrum policies beyond ECS to maximise the benefits of spectrum use throughout the economy?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

The European economy will benefit most when spectrum finds its way to the uses that have the greatest demand - the market model. For mobile communications at least, this needs to be standardised across Europe. If other spectrum uses (e.g. broadcasting, radar, defence etc.) are not coordinated, but fragmented, the task of bringing the spectrum they use into a more dynamic spectrum market will be much more complicated. In the GSMA's recent report "The socio-economic benefits of greater spectrum policy harmonisation in the EU", research by Arthur D. Little (<http://www.gsma.com/spectrum/socio-economic-benefits-of-greater-spectrum-policy-harmonisation-in-the-eu/>) [6] showed that uncoordinated releases of mobile spectrum across Europe negatively affected "first mover" countries - in particular, the fragmented nature of 4G licensing in Europe meant there was no guarantee for leading handset providers that there would be sufficient market scale at that time, and handset support for 4G was limited and delayed as a result.

Footnote [6]: Available at <http://www.gsma.com/spectrum/socio-economic-benefits-of-greater-spectrum-policy-harmonisation-in-the-eu/>.

(continue here if necessary)

**Question 66:** Which of the following policy areas require a more active common approach to EU spectrum policy to benefit from economies of scale?

	strongly agree	agree	disagree	strongly disagree	do not know
a) Transport	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Audiovisual	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Energy	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) R&D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
e) Satellite	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Internet of Things / M2M	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Other (specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please specify or explain your response.

Mobile communications will be a key enabling technology for transport, audio-visual, smart metering and IOT applications, all of which require scale at a European level and therefore will benefit from greater coordination of spectrum.

This is particularly true for M2M/IOT, which will require new low-frequency spectrum to support wide-area pan-European mass-market implementation.

The Transport sector also urgently requires new spectrum to support intelligent automotive services. These are expected to be 5G-based, and must deliver extremely high reliability (e.g. 99.999%) across national coverage, and which therefore require suitable new low frequency spectrum on a pan-European basis, if economies of scale are to be realised.

Satellite already appears to benefit from economies of scale at a European level – however, further thought needs to be given to how satellite spectrum use can be brought under appropriate market-based licensing arrangements, consistent with other commercial spectrum use.

(continue here if necessary)

**Question 67:** Do you consider that the currently applicable regime for coordinating spectrum policy approaches in the EU has contributed to ensuring harmonised conditions with regard to the availability and efficient use of spectrum necessary for the establishment and functioning of the internal market in electronic communications?

- significantly
- moderately
- little
- not at all
- do not know

Please specify or explain your response.

Moderate consistency has been achieved through the current regime, but there are many examples where national regulators have taken policy decisions that have resulted in an inefficient use of spectrum.

Examples include:

- The significant imbalance in spectrum allocated between mobile communications and other users remains unresolved, as evidenced by the significant premium paid by mobile operators for spectrum relative to other users (failure of the market for spectrum to be able to reach an equilibrium)
- Authorities in a number of Member States applying discrimination against existing operators during licensing processes (e.g. NL, CZ) in terms of spectrum set-asides for potential new entrants, resulting in spectrum costs for established players escalating, some established players being barred from access to new spectrum and spectrum being inefficiently used where it has been reserved arbitrarily.
- Licensed spectrum being released very late in some Member States (e.g. a five year window between first and last release of the 800MHz spectrum)
- Authorities using high reserve prices in auctions to guarantee revenue targets prescribed by Treasury, rather than letting auctions reveal the market value of the spectrum

Greater coordination of spectrum policy approaches across the EU is therefore needed to deliver the harmonised conditions (including standardised EMF limits) that are important to ensure mobile spectrum is available consistently across the EU and that it is assigned in a way that ensures efficient use.

(continue here if necessary)

**Question 68:** Do you consider that the currently applicable regime for granting spectrum usage rights based on general or individual authorisations and setting out spectrum assignment conditions has been effective in:

	significantly	moderately	little	not at all	do not know
a) Providing market operators with sufficient transparency and regulatory predictability?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Ensuring an appropriate balance in terms of administrative burden?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Promoting competition in the provision of electronic communications networks and services?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Contributing to the development of the internal market?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Promoting the interests of the citizens of the EU?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Ensuring an effective and efficient use of spectrum?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response.

"a) transparency and predictability - licence assignment and renewal processes and conditions are still highly unpredictable in some Member States, which has an impact on the process of evaluating and planning mobile network investment and upgrade programmes. Licence renewal is a particular problem, where operators have no powers to seek extended or perpetual licences, and where renewal terms are determined very close to expiry and, at times, on an arbitrary basis. In some Member States (for example, Portugal's current 2100MHz licence renewal), renewal is possible for an administrative fee, which maximises the incentive for ongoing investment, for others (for example, Netherlands' current

2100MHz licence extension), an estimated market value is sought, while for yet others (for example, Germany's expiring 900MHz and 1800 MHz spectrum), the spectrum is put up for full auction, and holders are at risk of others bidding up prices simply to increase a competitor's renewal costs. Regulators should support investment in mobile networks by offering longer licences, lower-risk administrative renewal approaches (as exemplified by Portugal), or even perpetual licences (as exemplified by the UK).

b) administrative burden - the relationship between administrative budget and efficient outcomes is not at all straightforward - some Member States pursue a simple licensing approach, requiring little administrative burden, but which results in inefficient outcomes (for example, simple auctions with very high reserve prices and very few rounds to closure (for example, Greece's 800MHz / 2600MHz auction in 2014) are generally very inefficient - there is insufficient scope over the course of the auction for alternative assignments to be explored by competing bidders and the most efficient outcome to be discovered) - in this case, adopting best practice and running a more complex auction would require an improved level of expertise and effort by regulators and bidders alike.

c) promoting competition - in terms of creating competition, current licensing arrangements have been largely successful in creating network based competition in mobile, which has resulted in strong competition at the retail level and in terms of innovation of services. However, some licensing processes lead to a distortion of competition - reservation of spectrum for a possible new entrant (examples in the Netherlands and Czech Republic) disadvantages existing licensees, pushes up their spectrum costs, and leads to inefficient outcomes. Existing operators and potential new entrants must be treated on a level playing field and pay similar prices for spectrum in an open auction without set-asides.

d) internal market - licensing remains a national activity within Member States and fragmented between user industries, and so movement of spectrum (repurposing or trading) between uses remains very slow, with mobile operators and their customers suffering from artificial scarcity and excessive spectrum costs. Greater coordination of the use of all spectrum is needed across Europe to reduce artificial scarcity for mobile use and facilitate repurposing and trading so that overall spectrum supply and demand can reach an equilibrium

e) interests of citizens - generally, there are very strong benefits from mobile communications for citizens, as a result of investments made by competing mobile operators, but inconsistent approaches and fragmentation of spectrum licensing across Europe inevitably leads to higher input costs for mobile services and therefore higher costs for mobile customers. Mobile spectrum must be seen as an input to the digital economy, and efficient and cost-effective assignment is needed to maximise the benefit to citizens

f) effective and efficient use of spectrum - inefficiencies remain where a member state is late assigning or clearing spectrum, where auction rules discriminate against existing operators or have high reserve prices, and where short term licences and lack of clarity on renewal discourage ongoing innovation or investment. Quick clearing of licensed

bands, non-discrimination in auctions, and longer or perpetual licences would lead to a more efficient mobile sector and European marketplace for mobile services

In the GSMA's recent report "The socio-economic benefits of greater spectrum policy harmonisation in the EU", research by ADL showed that poor auction design has led to inefficient outcomes and roll-out delays in Europe, evidenced by comparing the examples of the 4G auctions in Poland versus Germany.

(continue here if necessary)

**Question 69:** To what extent have selection processes for limiting the number of rights of use been coherently applied by authorities in charge in the Member States and only where strictly needed?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

It is good practice to offer discrete blocks spectrum (e.g. 5MHz units) rather than larger prescribed packages of spectrum, so that the market can decide on the right number of operators and the amount of spectrum needed by each operator. Regulators using spectrum packaging or reservation for possible new entrants to seek to pre-define outcomes leads to inefficient outcomes. In the Netherlands, one existing operator was not able to secure an 800MHz licence for 4G services - the spectrum was secured at a vast discount by a new entrant, who was then able to capitalise on the arbitrage and negotiate a sharing arrangement with the losing operator. Distortion of this sort must be prevented by ensuring open, non-discriminatory licensing.

(continue here if necessary)

**Question 70:** What type of spectrum assignment process has proven most effective for assigning spectrum for wireless broadband, having regard to the objectives listed in question 68?

- Licence exemption/general authorisation ('Wi-Fi bands')
- Comparative administrative licensing ('beauty contests')
- Auctions
- Hybrid models
- Other

Please explain your response.

Licence exemption - does not give operators predictability of capacity or quality of service, and does not ensure efficient use of spectrum. It may play a supplementary role (e.g. off-loading) but is less efficient. Dedicated assignment of spectrum should therefore be the priority.

Beauty contests - can lead to unpredictable outcomes, are burdensome and may not lead to the most effective competition or use of spectrum. They should therefore be avoided.

Auctions - have proven to be effective, where they have been well designed and well run - but there have been examples of badly designed auctions across Europe, where regulators have modified proven designs, discriminated in favour of new entrants (for example, Netherlands, Czech Republic 800MHz auctions), packaged spectrum in an attempt to engineer particular outcomes (for example, Hungary 800MHz auction), set high reserve prices (for example, France 700MHz auction) etc.

Other - administrative renewals can be the most efficient outcome, particularly where expiring spectrum is already used in a way that maximises economic benefit, where users have a long-term ongoing requirement for the spectrum, and where investment is best incentivised through administrative renewal. This approach has been adopted by Portugal for 2100MHz licences, and was commended by investment analysts as being pro-investment and in the long term interest of the economy: "The Portuguese decision is more interesting, suggesting a change in thinking by the government towards promoting more investment rather than just levying spectrum payments...Portugal has taken a particularly constructive approach, focusing on the wider benefits to the economy of broader mobile coverage, rather than maximise up-front payments."

(Telcos - low cost spectrum renewals in Portugal and Netherlands - Credit Suisse, 26 November 2015)

(continue here if necessary)

**Question 71:** To what extent does the lack of coordination across Member States regarding the current methods to select spectrum right holders create obstacles to or difficulties for the development of electronic communications?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

Europe needs a single market for mobile broadband services - to ensure that citizens can access services regardless of where they live in the Union; to provide greater regulatory certainty for investment in next generation mobile networks; and to create the scale needed for Europe to become a global leader again in mobile communications.

Inconsistent regulation at a national level results in significant fragmentation of policies across the Union, delays in services being launched in some Member States, significant differences in spectrum input costs for mobile operators, an uncertain and inconsistent environment across Europe for investment, and a lack of scale to achieve a lead in global mobile standards.

National regulators point to national differences as the essential reason why national regulation must be maintained. Clearly, there are some differences across Europe, for example, population density or proximity to neighbours, that can impact spectrum policy, but in general, these differences are insufficient to justify the scale of policy divergence that perpetuates across the Union. It is not clear that the policy variations that exist at a national level achieve a better outcome, nor that the best outcome could not be achieved with greater policy harmonisation.

The issue is more complicated than whether regulation is centralised or decentralised. A member state's particular approach to mobile licensing can sometimes only be explained by understanding the specific objectives of (increasing revenue from spectrum assignment, design markets), which result in divergent approaches to licences.

Specifically, the development of ubiquitous and accessible very high-speed wireless connectivity across the EU is impacted by the following shortcomings in spectrum regulation at a national level:

- Insufficient spectrum being made available for mobile (premium prices for mobile spectrum, relative to other uses, is evidence that a functioning spectrum market (that allows supply and demand to reach an equilibrium) has not yet been established)
- Mobile spectrum not being released across Europe in a timely manner (a five-year window between first and last 800MHz spectrum being available)
- Inflated prices for mobile spectrum, due to artificial scarcity and high reserve prices (designed to maximise revenue rather set at the opportunity cost of the next best use), thereby reducing capex budgets

Vodafone believes pan-European licences would be the ideal in normalising and optimising the licensing of spectrum across Europe. The next best approach would be pan-European auctions (similar to those that are already successfully deployed in the US and India), where various national (or regional) spectrum licences are offered simultaneously and bidders can choose which licences and markets they wish to invest in - that would create competition between regulators to make their policies, licences and markets attractive to mobile network investors, and this in itself will lead to greater harmonisation and more consistent investment in mobile broadband across Europe.

(continue here if necessary)

**Question 72:** To what extent does the lack of coordination across Member States regarding the current system for setting out spectrum assignment conditions create obstacles or difficulties for the development of electronic communications?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

Licensing conditions vary significantly across the EU - examples include licence durations and approaches to licence renewal, where uncertainty reduces incentives to invest in, reform and upgrade mobile networks, and more generally results in fragmentation across the EU, reducing the economies of scale available to the industry.

In the GSMA's recent report "The socio-economic benefits of greater spectrum policy harmonisation in the EU", research by ADL showed that licence duration is a factor influencing network investment - longer duration licences, and greater certainty over renewal, allows mobile operators to invest more in developing and upgrading networks, because of the longer payback period. The analysis further demonstrated a correlation between longer licences and improved 4G population coverage. Consistent licence terms across Europe would encourage multi-national and pan-European investment in mobile networks, ensuring the benefits of mobile broadband are available to everyone in Europe.

(continue here if necessary)

### 3.4.2. Review of spectrum management rules

The Commission seeks the views of all stakeholders as to the need for greater predictability and consistency in the way radio spectrum use is governed in Europe and whether this could require a revision of the regulatory framework for electronic communications, in particular the Framework and Authorisation Directives, which set fundamental principles and certain operational requirements for spectrum allocation and assignment, as well as the current institutional arrangements for spectrum strategy in the Digital Single Market.

Taking into account the identification of remaining or new obstacles to the efficient use of spectrum, the further development of electronic communications, investments and the development of wireless innovation, it is appropriate to consider whether more coordination or additional measures are needed at EU level, to ensure a future-proof framework which maximises the economic benefits of spectrum use, by providing investment predictability, facilitating business decision-making, driving competition and meeting the future connectivity needs in Europe.

#### a) Principles and objectives of radio spectrum management in the Digital Single Market

**Question 73:** Would more consistency in spectrum management across Europe increase legal certainty and the overall value of spectrum in the Digital Single Market?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Greater consistency would be beneficial to the industry and the market (as long as it is consistency of good practice) by providing clearer incentives for pan-European investment, economies of scale across the Union, a larger homogeneous market for mobile devices, and reduced problems with cross-border coordination and interference. It would increase the role of spectrum in realising the DSM, but it should be noted that a more rational, efficient and coherent policy approach to spectrum in general across could lead to the amount paid for mobile spectrum being reduced (if restrictions on the supply of spectrum for mobile use are addressed).

(continue here if necessary)

**Question 74:** Is it necessary to remove barriers to access to harmonised spectrum across the EU in order to foster economies of scale for wireless innovations and to promote competition and investment?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Barriers remain at the member state level - examples include late access to spectrum (800MHz, 700MHzetc), high reserve prices, contrived spectrum packaging, spectrum left unlicensed (fallow), and discrimination against existing operators. Regulators do not consistently meet their obligations to take account of industry responses to their consultations on spectrum licensing - while inconsistencies in licensing approaches are obvious to mobile operators operating across the Union, some individual authorities ignore recommendations towards embracing best practice.

(continue here if necessary)

**Question 75:** Do you see benefits in integrating the objectives and principles relating to spectrum management for both electronic communications services (ECS) and other spectrum users in a single legislative instrument (see question 65 above)?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Refarming / efficient allocation of spectrum among users has been hindered because of spectrum users falling under different regulatory regimes and subject to different incentives (e.g. spectrum charging). This is reflected in the vastly different prices paid for spectrum by mobile operators compared to other spectrum users (the mobile industry in Europe spends of the order of €7 billion on average every year on mobile spectrum, whereas many other users and public organisations access spectrum for little or no charge), and is evidence of the failure to realise a combined market for spectrum. Managing all spectrum use under a single legislative instrument would result in more consistency, easier refarming of spectrum between user groups and more efficient outcomes, including more affordable spectrum costs for operators and mobile customers.

Please also see our response to question 62.

(continue here if necessary)

**b) Granting individual spectrum usage rights for wireless electronic communications (ECS spectrum)**

Provided that it fulfils the very general rules and criteria set by the EU regulatory framework, the process of granting spectrum usage rights – or assignment - is managed today at national level and in various ways across Member States, as the national authorities in charge may be ministries, national regulatory or other authorities or a combination of these, and subject mainly to national considerations. Under the Authorisation Directive, where it is necessary to grant individual rights of use, such rights should be granted upon request; a selection process is only allowed where a Member State considers that the number of rights has to be limited.

**Question 76:** To what extent does the spectrum assignment process in Member States determine the mobile markets and the competitive landscape for mobile electronic communications, including wireless broadband, such as the number and type of operators in the market and their economic models?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response and provide examples of the impact.

Good practice is to offer discrete spectrum blocks so that the market can decide on the right number of operators and the amount of spectrum needed by each operator. Some regulators use spectrum packaging or reservation for possible new entrants to seek to pre-define outcomes, or set high reserve prices restricting competitive interest, both of which are inefficient and result in competition being harmed and costs being inflated.

(continue here if necessary)

**Question 77:** Could greater coordination of methods for granting spectrum usage rights and of selection processes achieve greater consistency in the Union, thereby removing barriers to entry and promoting further competition and investment?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

A substantial proportion of the investment in mobile networks in Europe comes from large multinational telecommunications groups who seek to allocate capital efficiently between the various investment opportunities available to them, which can include opportunities within Europe as well as beyond, and within mobile networks as well as fixed networks. For mobile networks in Europe to be attractive to such investors, and to attract investment to build pan-European mobile broadband networks, the granting of spectrum licences needs to follow more coherent and efficient principles and offer a balance of risk and return that matches alternative investment opportunities.

(continue here if necessary)

**Question 78:** Could more consistent spectrum assignment processes throughout the Union, based on greater harmonisation of the choice of selection or award methods on the basis of experience and best practice:

	strongly agree	agree	disagree	strongly disagree	do not know
a) ease the process for national administrations?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) increase the predictability and planning sought by investors?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response and provide examples of the impact.

Spectrum licensing in Europe currently involves 28 separate national regulators each determining how they want to run their licensing programme, consulting with the industry and running dedicated bespoke auction programmes. This represents a considerable amount of effort on the part of both authorities and market players. The RSPG has consulted widely across the mobile industry on licensing techniques and identified common aspects of good practice in licensing. Harmonising towards a common, consistent design would avoid repetition and significantly reduce the amount of work required in aggregate. This would appear to be one of the considerations behind multi-regional auctions, which are now an established part of the spectrum licensing regimes in markets such as the US and India.

The one caveat to consider is that, where a regulator currently takes a particularly simplistic approach to licensing (for example, where they set very high reserve prices, and the auction finishes after a couple of rounds - i.e. in reality, the process is an offer-for-sale rather than an auction) aligning to a good practice approach at a European level is likely to involve greater expertise and effort, not less.

For the reasons mentioned earlier, greater consistency would increase predictability for investors interested in building multinational networks across Europe

(continue here if necessary)

**Question 79:** Do you see benefits of greater coordination with regard to the elements of the spectrum assignment processes (listed in the table below) and if so, what would be the appropriate level of such coordination:

**A: General Approximation:** setting only common or harmonised general objectives and principles, leaving the definition of exact criteria and solutions to Member States.

**B: Partial harmonisation:** setting out common or harmonised general objectives and principles, as well as specific solutions for some of the items below (to be indicated) while leaving room for additional national conditions.

**C: Full harmonisation:** setting out common objectives, principles and specific solutions for specific bands or types of wireless communications, with no room for national exceptions or additional conditions (e.g. definition of identical criteria and conditions for all Member States, creation of a common authorisation format or single common or totally synchronised selection process as used for mobile satellite systems).

Please tick the relevant boxes in the table below. If you consider that none of these assignment parameters would benefit from greater coordination, please explain your response.

	This issue should not be covered by the Review: National measures adopted are sufficient, no need for legal certainty at EU level.	<b>A - General Approximation</b>	<b>B- Partial harmonisation</b>	<b>C - Full harmonisation</b>
Determination of need for selection process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Level of transparency to the market regarding the selection process and conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Determination of selection process type (auction, beauty contest, first come first served, hybrid model)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Objectives pursued by the selection process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The appropriateness of an ex ante competition assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The national authority which is responsible for the ex-ante competition assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The need for specific measures (spectrum caps/floors, new entrant spectrum reservation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Selection timetable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Timing of advanced information to market participants.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Frequencies covered, packaging of lots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Spectrum valuation and pricing, fees, charges.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Payment modalities.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Enforcement and ex post auction assessment and enforcement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please explain your response(s).

The objective of a single market is in general best served by seeking full harmonisation of spectrum assignment processes across Europe, across most of the dimensions set out above, as is now the established practice in a number of other parts of the world (such as the US and India). Harmonisation is necessary given the wide degree of variations in licensing approaches currently practiced across Member States, for example:

- regulators do not consistently take account of consultation feedback from interested parties
  - auction designs vary widely in their predictability and efficiency (Poland is possibly the most infamous this year, where the auction needed to be brought to forced close with a pseudo-random assignment of results)
  - objectives vary widely, including the desire of some Ministries to maximise auction receipts, questioning whether the regulator meets the independence requirements of the Framework
  - spectrum set-asides and caps vary widely, impacting competition and efficiency of outcomes
  - timing of licensing and clearance varies widely, preventing multi-national operators from launching services simultaneously to all customers within their European footprint (operators in Germany and Spain had to wait several years between launching 800MHz 4G services in one market versus the other)
  - spectrum packaging is employed by some regulators in Europe to engineer particular market, competition or revenue outcomes (for example, the Hungary process of 2014), when auctioning of individual blocks would lead to a more efficient market-based outcome
  - there are large variations in the timing of payment relative to spectrum availability (800MHz licences in Spain had to wait several years between paying for licences and being able to operate frequencies)
- Our preferred approach would be to start with a presumption of full harmonisation and consider why any variation should be necessary and beneficial - for example, while full alignment on licensing timing may be desirable, in practice some licensing "window" may be inevitable, to ensure that Member States who want to move fast, are not slowed down. The exception to this ambition would seem to be differences in and how governments wish to collect spectrum fees, which sits outside the authority of the national regulator.

(continue here if necessary)

**c) Spectrum assignment conditions for wireless electronic communications (ECS spectrum)**

As is the case with regard to the process for granting spectrum usage rights, assignment conditions attached to such rights are set at national level pursuant to national circumstances. Also these conditions (e.g. coverage conditions, duration of the licenses, or renewal conditions and timing) have the potential to impact the competition structure of the markets, market entry, the deployment of mobile networks and the development of the market for mobile services in general. It is therefore necessary to explore how to best define spectrum assignment conditions with a view to enhance consistency and legal predictability in the EU while leaving sufficient flexibility to Member States to adjust according to their specific national needs.

**Question 80:** Is there a need for more consistent assignment criteria and conditions between Member States, in particular with regard to those criteria and conditions which have the greatest economic significance for investment predictability and business decision-making, for driving competition and for achieving the future connectivity needs in the EU?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples of the impact.

More consistent assignment criteria and conditions are needed to improve predictability for investors, for example, short licence durations and uncertainty over renewal of expiring licences disincentivise network investment and upgrades due to the short investment horizon. Licences fees also have a major impact on investment. 800MHz spectrum in the Netherlands cost three times the average for the rest of Western Europe - winners in this market will have less funding remaining to invest in network infrastructure, and the result is a transfer from the public good of more widespread mobile broadband services to the budget of Member States.

(continue here if necessary)

**Question 81:** What spectrum assignment conditions (among those listed in the table below or others) have the greatest economic significance for investment predictability and business decision-making, for driving competition and for promoting the Single Market, in respect of electronic communications?

Investors will invest in mobile broadband networks in Europe if there is a balance between risk and return. There needs to be sufficient certainty on payback on investments made in: the licence itself; the capital investment of the initial network rollout associated with the licensed frequencies; and ongoing investments, upgrades and repairs during the lifetime of the licence. New generations of mobile standards tend to be launched every 10 years, with interim upgrades introduced more frequently (e.g. UMTS was upgraded to HSPA and more recently to dual-carrier HSPA+). 15 years licences are sufficient to support service launch, but not sufficient to support upgrades mid-term through the licence period. Trying to align licence timeframes to technology investment cycles is particularly problematic - a much better solution is to have licences with much longer terms, and ideally perpetual, so that investments can be made with the certainty that licensing will not contribute to investment risk.

Mobile licence terms should therefore be longer (25 years minimum), should be able to be renewed on a straightforward administrative basis (if there is clear evidence that the spectrum is in active use and being efficiently used) and perpetual licences should be the ultimate objective.

Coverage obligations need to be reasonable and applied appropriately - for example, since 4G services can be delivered over a range of frequencies, coverage obligations should apply to the service rather than to individual bands - there is little point in putting coverage obligations on high frequency spectrum when the service could be delivered more efficiently using a lower band.

Offering wholesale services should be by mutual agreement and on commercial terms - if a regulator believes there is insufficient retail competition, it should first examine competition at the network level and follow the market regulation procedure set out by the Framework Directive.

Technology neutrality should apply to all mobile spectrum, so that operators can choose which technology is the most efficient and when it should be introduced.

Sharing and pooling of spectrum can lead to higher speeds, more capacity and improved utilisation, although it can lead to reduced differentiation between operators and could harm competition if market leaders share at the exclusion of a third player in the market. National authorities should be able to review the impact on competition in line with Art. 5(6) of the Authorisation Directive.

Given the ongoing shortfall of mobile spectrum, and the higher costs of mobile that result, there is a need to facilitate further refarming of spectrum to mobile from other uses, on a pan-European basis. This will need to come from other industries or state organisations that are currently using spectrum inefficiently. A common means of incentivising repurposing of spectrum needs to be implemented - there are a variety of

“carrot” and “stick” options - including consistent spectrum charging across all users, spectrum trading, incentive auctions, or “use-it-or-lose-it” conditions. We believe sharing and trading are the most fair and effective.

(continue here if necessary)

**Question 82:** For which of the following assignment conditions (listed in the table below) would you see benefits of greater coordination or harmonisation and what would be the appropriate level of such coordination or harmonisation:

**A: General Approximation:** *setting only common or harmonised general objectives and principles, leaving the definition of exact criteria and solutions to Member States.*

**B: Partial harmonisation:** *setting out common or harmonised general objectives and principles, as well as specific solutions for some of the items below (to be indicated) while leaving room for additional national conditions.*

**C: Full harmonisation:** *setting out common objectives, principles and specific solutions for specific bands or types of wireless communications, with no room for national exceptions or additional conditions (e.g. definition of identical criteria and conditions for all Member States, creation of a common authorisation format or single common or totally synchronised selection process as used for mobile satellite systems).*

Please tick the relevant boxes in the table below. If you consider that none of these assignment parameters would benefit from greater coordination, please explain your response.

	This issue should not be covered by the Review: National measures adopted are sufficient, no need for legal certainty at EU level.	<b>A - General Approximation</b>	<b>B- Partial harmonisation</b>	<b>C - Full harmonisation</b>
Licence duration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Prior notice, timing and conditions of renewal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Possibility to trade or lease assigned spectrum, and related conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Coverage obligations	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Necessity of wholesale access conditions (e.g. MVNO)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Limits under technology neutrality principles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Requirements on technical performance characteristics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Extent of services allowed and limits to service neutrality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Possibility to share and pool assigned spectrum or mobile network as a whole	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

In general, any condition covered by the Annex to the Authorisation Directive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
'Use it or lose it' clause	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Refarming conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please explain your response(s).

The ambition of a single market is best served by seeking full harmonisation of most spectrum assignment conditions across Europe - though there are a few exceptions where partial harmonisation may be more appropriate, notably:

- coverage obligations will need to reflect differences in national topology
- spectrum pooling may need to be moderated by national authorities where market concentration between sharers could harm market competition

(continue here if necessary)

#### d) Pan-EU or regional licences or selection processes, cross-border services

Currently the process for assigning spectrum and the granting of licences both fall within the competence of Member States and are organised and granted at national level. The organisation of such processes or the creation of rights across Member States appear apt to favour the emergence of cross-border services and operators and facilitate entry into new markets, thereby promoting competition and fostering the single market.

**Question 83:** Are there situations where regional selection processes involving a group of Member States, either combining national or providing pluri-national licences, for example for regions straddling several Member States which share similar characteristics in terms of economic or electronic communications development, could bring more value and a better development of electronic communications?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Players who wish to be pan-European operators would value licences covering multiple Member States - this would facilitate the Digital Single Market through a consistent licensing and spectrum release timetable (allowing synchronised marketing and service launch across Member States, and better cross-border interference management) and consistent licence conditions (leading to a more consistent cost base and investment case for the business, as well as improved economies of scale).

The next best option would be to have discrete national licences offered simultaneously through a pan-European auction. Such a process is well established in the US and India. It has the advantage of allowing investors to evaluate the relative attractiveness of each member state and bid accordingly - Member States will therefore have a strong incentive to compete amongst themselves for a share of the investment by ensuring their national policy environments are pro-investment. Hurdles to overcome in the process include alignment of existing licence terms and coordination of existing positions and responsibilities of national authorities. It is also important to ensure that tightening the licensing timetable does not simply result in early licences becoming late ("release windows" would be a solution).

(continue here if necessary)

**Question 84:** In which market circumstances would pan-EU spectrum selection processes and/or usage rights contribute to the development of electronic communications services in light of public-policy objectives in respect of coverage, choice, accessibility and take-up of high-performance wireless connectivity? Please give and explain your response.

Pan-European licensing / licences would allow interested operators to synchronise the build of networks and the launch of wireless broadband services, allowing consumers and businesses across the Union to enjoy a Digital Single Market for content and services regardless of their location. More consistent roll-out and coverage would improve choice, accessibility and take-up of services for citizens across Member States. Pan-European selection processes would allow investors to choose the more attractive markets, which would create peer pressure among national regulators to ensure a pro-investment environment.

(continue here if necessary)

### e) More flexible availability and shared access to spectrum

All radio equipment (e.g. both for ECS and non-ECS wireless applications) depends on reliable access to spectrum. In the EU, spectrum usage rights can be based on a non-exclusive general authorisation or on individual authorisations (e.g. spectrum licences). General authorisations are however the rule and individual rights are the exception under Article 5.1 of the Authorisation Directive. In order to ensure that spectrum is exploited to the fullest extent possible, it is necessary to harness more flexible use of spectrum to increase the availability and efficient use of spectrum. Further flexibility can be achieved in particular through: increasing market-based solutions to repurpose spectrum such as tradability and leasing of spectrum as well as shared access to spectrum such as using white spaces, spectrum pooling and infrastructure sharing. This requires engaging mutual responsibility of users over acceptable limits of interference and appropriate mitigation strategies. It is also important to provide legal certainty on applicable rules and conditions of shared access, on enforcement procedures as well as to be transparent about compatibility assumptions and protection rights. This is in particular the case as regards spectrum licensing formats (e.g. licence-exempt spectrum, licensed shared access). The shared use of spectrum should enhance competition from additional users and in particular should not create undue competitive advantages for current or future right-holders or result in unjustified restrictions of competition. In principle, beneficial sharing opportunities (BSO) can be identified, in both licensed and licence-exempt frequency bands, wherever the combined net socio-economic benefit of multiple applications sharing a band is greater than the net socio-economic benefit of a single application, taking into account additional costs resulting from shared use (see [Commission Communication on promoting the shared use of radio spectrum resources in the internal market](#) (COM/2012/0478 final)).

**Question 85:** Will a more flexible and/or shared access to spectrum be needed to meet the future demand for spectrum?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone's preference remains for increasing the amount of dedicated assigned mobile spectrum (through an ongoing programme of clearing, refarming and reassignment), which allows mobile operators to configure their networks in a way that maximises spectrum utility and efficiency, as well as control over quality of service.

Sharing should therefore not be considered where full refarming would be a more efficient outcome, even if refarming takes more regulatory effort (a consistent approach to spectrum charging of all spectrum users will help create the right incentives among users and address artificial scarcity and excessive prices of mobile spectrum in particular).

However, we recognize spectrum sharing may be a useful secondary means in specific cases to increase access to spectrum - in this case, our guiding principles - for licensed shared access (as opposed to unlicensed bands) - are as follows:

- the sharing model needs to be scalable at a European level at least (to ensure vendor support and customer mobility)
- the model should be as simple as possible (e.g. exclusion zones rather than use of databases)
- sharing should be market-led and voluntary
- sharing must not be used as a "sticking plaster" where under-utilisation has resulted from a failure to apply correct market incentives - this tends to be the case for TV White Spaces (TVWS), where the spectrum is largely vacant as a result of an inconsistent and inefficient approach to licensing and charging.

Where there is a so-called opportunity for TVWS, the more efficient and sustainable approach is to apply market pricing principles, so that use by broadcasters becomes more efficient, and surplus spectrum can be cleared and licensed for conventional dedicated and standardised deployment - this approach will allow the surplus spectrum to be reused most intensively as a result of mobile frequency reuse.

(continue here if necessary)

**Question 86:** Will shared access to spectrum on the basis of general authorisation be necessary for:

	strongly agree	agree	disagree	strongly disagree	do not know
a) The availability of sufficient wireless backhaul capacity?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) The development of the Internet of Things?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) The development of M2M applications?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

If other, please specify and explain your response and provide examples.

Sharing of microwave bands for backhaul (through current point to point licensing) plays an important role alongside dedicated microwave spectrum in meeting growing backhaul demand.

The role of shared (licence exempt) spectrum for IOT and M2M will become less important as these services mature and where quality of service becomes critical, which will require dedicated licensed spectrum.

In the future, when IOT and M2M extends into the 5G environment, services are likely to be delivered using dedicated microwave frequencies, and at these very high frequencies, spectrum pool frequencies may be possible and appropriate in order to maximise 5G data rates, without the risk of competition being harmed (which can result from more comprehensive pooling of mobile frequencies).

(continue here if necessary)

**Question 87:** Is there a need to better protect the use of spectrum for applications that rely on shared use of spectrum (such as Wi-Fi or short range devices), including in regard to out of band emissions?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Shared licence-exempt spectrum will inevitably support a lower quality of service compared to dedicated spectrum, but an appropriate level of QoS can be achieved by deploying suitable co-existence protocols, such as “listen-before-talk”; channel selection; carrier-sensing adaptive transmission, as is expected to be the case with LTE-U. All transmitting equipment should operate to out-of-band emissions limits that protect all users and optimise efficient use of adjacent channels. As the utilisation of unlicensed bands increases, there may be a need to improve the standards for IEEE 802.11 WiFi to reduce out-of-band emissions or susceptibility.

(continue here if necessary)

**Question 88:** Is there a need for a common approach amongst Member States for documenting sharing conditions/rules and for granting shared spectrum access authorisations in the Digital Single Market?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Common sharing rules are necessary to facilitate the single market for equipment and services, whereas fragmentation will jeopardise economies of scale and can encourage a diverse range of policy positions to emerge.

It is important to distinguish between the different forms of spectrum sharing. TVWS, for example, is a form of sharing that arbitrages free-of-charge spectrum licensing. With consistent charging of spectrum among all users, it is unlikely that the primary spectrum licensee would allow spectrum to be underutilised, and spectrum clearing would likely be a more efficient outcome.

The same might be true for licensed shared access, where a primary user, such as radar, makes extremely limited localised use of nationally assigned frequencies, and market pricing might act as an incentive for rationalisation of spectrum use.

To achieve economies of scale across Europe, and to facilitate incorporation into globally standardised handsets, sharing arrangements should be as straightforward as possible - for example, if Licensed Shared Access in the 2.3GHz band is pursued, the simplest approach would be an agreed "exclusion zone" around radar installations, would ensure that mobile operators do not install any mobile transmitters for these frequencies in the vicinity of radars.

(continue here if necessary)

**Question 89:** Could a more flexible use of spectrum be achieved through any of the following:

	strongly agree	agree	disagree	strongly disagree	do not know
a) Tradability and lease of spectrum	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Use of white spaces	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Infrastructure sharing, including spectrum pooling	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Incentive auctions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

If other, please specify and explain your responses. If yes, should any of these measures be further promoted from a regulatory point of view and how?

Trading / leasing - should allow a more flexible use of spectrum, with the proviso that competition tests may need to be applied as foreseen by Art. 5 (6) of the Authorisation Directive.

White space - this is likely to offer very limited benefit, and to the detriment of more robust management of occupancy / clearance and dedicated reassignment of spectrum (the digital dividend approach taken to the 800MHz band)

Infrastructure sharing/pooling - can deliver trunking gains to sharer parties, but impact on competition must be assessed, particularly where sharing is extensive and exclusive, with another player excluded

Incentive auctions - the effect of such auctions is unproven, a better starting point is to ensure consistent cost of occupancy by all user groups (e.g. AIP spectrum charging as a minimum)

(continue here if necessary)

**Question 90:** So far, mechanisms such as trading and leasing of spectrum have been used only to a limited extent in the EU. Under what market and regulatory circumstances, would these mechanisms be more attractive for spectrum users? Please give your response and provide examples.

The lack of spectrum offered for sale by non-mobile users indicates there is no economic incentive for them to seek to sell the spectrum, and the lack of spectrum offered for sale by mobile operators indicates they do not believe regulators will address mobile spectrum shortages within the lifetime of the current licences.

Consistent spectrum charging for all users (including public sector) will create a greater incentive for users with excess spectrum to offer it for sale, and clearer spectrum caps will encourage excess spectrum to be offered when players merge.

(continue here if necessary)

Spectrum refarming refers to the process of changing or redistributing the allowed uses of spectrum for the sake of a more flexible access and an efficient use of spectrum. Specific regulatory requirements already apply in case of changes to or withdrawal of spectrum usage rights so as to protect right holders and competition. The question arises whether additional provisions should be considered to further facilitate spectrum management. For example where rights with long-term or undefined duration are at stake, specific withdrawal or amendment conditions and/or procedures in case of non-use or highly inefficient or non-intensive use of the band could be considered, such as 'use-or-lose it' clauses, with a view to rapidly cope with technological and market developments while adequately protecting right holders. Since refarming determines the availability of spectrum for applying new technologies and offering new services across the EU, the need for a certain level of coordination of such measures should be considered.

**Question 91:** Should spectrum refarming be further facilitated in the future? If so, is there a need to adopt measures to:

	strongly agree	agree	disagree	strongly disagree	do not know
a) further protect existing right holders	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) further support prospective spectrum users	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) maximise flexibility in spectrum management	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) allow new incentivising methods	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) further protect competition	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) clarify compensation conditions	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) apply 'use it or lose it' clauses	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses. Please indicate any specific criteria which you would regard as an important component of co-ordinated measures (e.g. in the case of *use it or lose it* types of triggering conditions)

There may be a danger in introducing too many conflicting mechanisms, particularly when regulators have not yet introduced the essential tool of consistent, market-based spectrum charging across all spectrum users. Without this arrangement in place, any further measures would be building on a distorted marketplace and may be compounding the problem rather than resolving it.

Protect existing rights holders / support prospective users - there should be symmetric rights between all parties, with spectrum pricing/trading/auctions used to determine the most efficient use of any bands where there is scarcity

Flexibility - refarming has a clear directional trend towards increased mobile broadband use - full flexibility may be the ideal, but may not be necessary and may be overly-complex, and may result in reduced harmonisation across Member States

New incentive methods - This is not necessary or appropriate while charging applies only to a subset of spectrum users. Charging needs to be introduced consistently among all spectrum users and allowed to normalise market incentives before any further mechanisms should be introduced. Incentive auctions may be inefficient because they may reward licensees who originally received spectrum without an appropriate charge, and who would receive a windfall profit. Correct market pricing from the outset for all licensees will help get to a market equilibrium sooner.

Protect competition - Vodafone agrees that there may be a need to protect competition. Spectrum hoarding, whether through trading/sharing, or M&A, risks harming competition under particular circumstances. A competition test should therefore be part of the change of licensee approval process.

Clarify compensation - There may be a role for compensation, but it needs to be considered once correct market-based spectrum charging across all users has been introduced and allowed to "settle", which should reduce the importance of compensation in the overall consideration for incumbents

Use it or lose it - it is better to apply consistent spectrum charging which, if designed correctly, should achieve a similar purpose and is more consistent with a market-based approach

(continue here if necessary)

**Question 92:** Should the withdrawal or significant modification of rights by public authorities be excluded where the application of service or technology neutrality principles and/or the trading and leasing mechanisms are sufficient to ensure spectrum refarming?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Consistent spectrum charging across all user industries and cap rules among mobile operators should be sufficient to incentivise refarming, and intervention by authorities should be in exceptional circumstances only.

(continue here if necessary)

### **g) The impact of network technologies developments**

The telecoms review offers also an opportunity to assess the regulatory framework's capacity to cope with the electronic communications sector's fast-moving technological environment, and in particular to identify regulatory areas which could require adaptations in order to keep up with the main trends in network technologies, operations and market developments. Against this background, it is necessary to already anticipate these developments taking into consideration relevant time horizon(s) matching the technology's life cycles, from research and development to the roll-out of infrastructure, extending beyond 2020.

One of the most important trends in the network environment over the next decade is likely to be that of fixed-wireless convergence, crystallised by the commercial deployment of 5G networks which should be initiated by 2020. 5G will enable operators to cope with rapidly increasing data traffic, thanks to denser/smaller cells and even greater offloading to, for instance, fixed networks via Wi-Fi links. Furthermore, the benefits of 5G are expected to go beyond traditional ECS and to play a key role in other sectors of the economy, by enabling machine-to-machine communications (M2M) and the Internet of things, as well as connectivity needs for transport management and road safety (in-vehicle emergency calls).

From a user's perspective, fixed-wireless convergence means the seamless delivery of services, e.g. telephony, data, digital content, regardless of whether they are delivered via fixed or mobile networks, including the possibility to switch between the two while a service is active. One implication is that the convergence will not be limited to the commercial provision (e.g. service packages) but will also affect network and service operations.

From a network perspective, denser wireless networks will depend on increasing numbers of fixed back-haul links. Wireless network densification could benefit from available under-utilised radio spectrum at higher frequencies (licensed or licence-exempt) as well as from the deployment of small cells including RLAN and low-power small area wireless access points. This deployment could be specified at EU level and the requirements for use in different local contexts could be limited to general authorisations without additional restrictions from individual planning or other permits.

**Question 93:** In light of the increasing demand for mobile services in urban areas and the resulting densification of networks, do you foresee any obstacles in the roll-out of the corresponding infrastructure such as access points for small cells?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Planning restrictions and delays and high costs in the provision of backhaul (see responses to question 24 and following) can delay the roll-out of small cells. These issues should be addressed to reduce costs and time-to-market for urban mobile broadband capacity.

(continue here if necessary)

**Question 94:** Should the deployment, connection or operation of unobtrusive small-area wireless access points be possible under a general authorisation regime, without undue restrictions through individual town planning permits or in any other way, whenever such use is in compliance with a harmonised technical characteristics for the design, deployment and operation of such equipment?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Simplification of the planning requirements will reduce barriers to deployment and investment.

(continue here if necessary)

**Question 95:** Should end-users be entitled to share the access to their Wi-Fi connection with others, as a key prerequisite for the sustainable deployment of denser small cell networks in licence-exempt bands?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Users should be entitled to share access - but this must be on a level-playing-field basis in the case of public networks with state funding.

(continue here if necessary)

**Question 96:** Should the deployment of commercial/municipal Wi-Fi networks in public premises (e.g. public transportation, hospitals, public administrations) be facilitated and if so, in what way?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Greater network deployment in public premises should be facilitated where there is demand. Improved access to locations will assist network operators in installation programmes. However, -public wireless networks should compete with privately-funded networks on a level playing field, or they risk crowding out private investment. Consequently, any facilitation of wireless installations should be available on open and equivalent terms to all players.

(continue here if necessary)

**Question 97:** Is there a need for more unlicensed spectrum for M2M applications?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Various frequency bands are already available for unlicensed services but the lack of control over quality of service, capacity and spectrum efficiency is regarded as a severe limitation by mobile operators and vertical user industries. It and may possibly have safety implications for more critical applications. We expect future M2M services to operate on a pan-European basis and to much more stringent QoS requirements. They are therefore likely to be served by LTE (and future 5G services) operating in licensed bands (both low bands to enable cross-border services (e.g. smart cars) and high bands to provide very high speed).

(continue here if necessary)

**h) Mobile communication networks**

**Question 98:** Improved mobile communications networks could to a certain extent ensure public protection and disaster relief (PPDR) communications, as well as safety systems for utilities and intelligent transport services (ITS) for road and rail (as reported in a 2014 [study](#)). Would you consider it appropriate to include in the licence conditions for spectrum (or for certain spectrum bands), or otherwise to impose on (certain) mobile network operators, obligations in terms of quality of service, resilience of network infrastructure and hardening to enable such dual use of commercial mobile networks?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Member States have a variety of views on whether PPDR services should be carried over public or private mobile networks. Meeting the resilience requirements on public networks has a considerable cost implication, not to mention the opportunity cost of giving PPDR customers pre-emptive right of use of mobile capacity over consumers. This this decision must be taken through commercial negotiation, not mandated within general mobile spectrum licence conditions.

(continue here if necessary)

### 3.5. Sector-specific regulation for communications services

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Over-the-top (OTT) services are increasingly seen by end-users as substitutes for traditional ECS used for interpersonal communications, such as voice telephony and SMS. Such OTT services, however, are not subject to the same regulatory regime. As a consequence, the issue of a level playing field has been raised, with some stakeholders calling for a re-evaluation of the existing provisions, with a view to ensuring that wherever the activities of providers of competing services give rise to similar public-policy concerns, they would have the same obligations and rights (i.e. end- users' protection, interconnection, numbering, etc.). At the same time, the existence of a wider range of choices for end-users may put in question continued utility of certain regulatory obligations. Therefore, it is important to evaluate whether the scope of the regulatory framework should be revised in order to create a level regulatory playing field that modernises the safeguards for end-users, incentivises investment and innovation, and boosts demand for communications services.

Technological and commercial innovations may require a modernisation of the provisions of the applicable regulatory framework, for instance those on end-user protection. In addition, it is important to consider the potential regulatory impacts of the most important trends that will drive the telecommunications sector's transformation over the medium to long term, such as for example the take-up of IP-based services offered by digital service platforms, the development of machine-to-machine (M2M) communications or the challenges for the European emergency number 112 and there is a need to evaluate the relevant framework provisions in that respect.

In addition, the scope and appropriateness of the provisions on 'must carry' and electronic programme guides is assessed in the last part of this section.

### 3.5.1. Evaluation of the current sector specific regulation for electronic communications services

The first set of questions aim at providing input for the evaluation of the functioning of the current regulatory framework.

The current sector-specific rules for end-user protection as regards the access and use of electronic communications networks and services were last reviewed in 2009 and complement horizontally applicable (i.e. cross-sector) EU consumer protection law. For the purpose of this public consultation these are the most relevant legal instruments:

- Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (Framework Directive) as amended by Directive 2009/140/EC (Better Regulation Directive) (scope of the framework and definitions).
- Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive) as amended by Directive 2009/136/EC (Citizens Rights Directive) (provisions on end-users mainly in its chapter IV).
- Certain provisions in other Directives apply also to electronic communications services (such as interconnection and interoperability pursuant to the Access Directive). Directive 2002/58/EC (ePrivacy Directive) as amended by Directive 2009/136/EC (Citizens Rights Directive) also contains certain end-user rights, whose content and substance are not specifically the object of this consultation. However, these rights may be relevant for the questions on the scope of sector-specific regulation for communications services.

The Commission proposal for a Telecoms Single Market Regulation of September 2013 (also known as Connected Continent) contained several end-user protection and empowerment measures. On 30 June 2015, the European Parliament and the Council reached a political agreement on the Regulation. The agreed text covers only a subset of the proposals related to Internet Access Services (IAS) and roaming while other end-users rights contained in the Commission proposal have not been included.

The purpose of the following questions is to evaluate whether the current sector-specific rules, mostly end-user provisions, have proven useful and whether they may have become obsolete, need to be adapted or amended by new provisions.

**Question 99:** To what extent has the current regulatory framework for electronic communications, as last amended in 2009, contributed to effectively achieving the goal of ensuring a high level of consumer protection in the electronic communications sector across the EU?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response and indicate the provisions which have contributed the most/less to this goal.

The internet has created huge opportunities for all digital services, but especially for communications. Data usage continues to grow strongly across Europe, driven by increased 4G coverage, and smartphone adoption and engaging and innovative OTT services, from social networks and apps through to video, games and the internet of things. Much of this innovation and growth has been enabled by light touch regulation, which is targeted and proportionate in the internet space.

At the same time, the prescriptive regulation of telecomservices has remained, despite the emergence of new communications services and the increase in competition in this area, resulting in different regulation applying to the same services. On the one hand, providers of Electronic Communications Services have been subject to multiple overlapping, and on occasion conflicting regulations in relation to the provision of these services. On the other hand, OTT operators who provide functionally similar services have not been subject to the same level of regulatory intervention. The first order effect of this is a tilting of competition in favour of the OTT communications providers – surely not an outcome that should be built into the regulatory framework. More concerning though is the impact on consumers if such a dichotomy remains.

In the near term, the main impact of a different regulatory regime for providers of functionally similar services is likely to be consumers not understanding what protection they are receiving from the regulatory regime for services which seem interchangeable. If rules which are fundamental to any communication service are not applied across the board, then consumers might mistakenly believe their communication is protected by regulations, such as confidentiality of communications, when in practice they are not. Going forward, of even greater concern is the risk that consumers will no longer use consumer OTT services in addition to traditional voice services but instead of traditional voice services. This will be made possible through the proliferation of OTT capable devices which do not have traditional voice capabilities. If

this is the case, some of the consumer protection rules which it would not be proportionate to impose on OTT providers at this point in time, e.g. access to emergency services, would need to be imposed on OTTs if they become the primary service provider and new consumer protection requirements may emerge.

The upshot of the above is the urgent need for the sector-specific regulation to be updated to reflect the changing nature of the services and increase in competition in the following way:

- There is a need for European regulation fit for the digital age, which ensures that consumers have fundamental digital rights for all digital services, whether they are platforms, communications, e-commerce or other services. Horizontal application of harmonised, light-touch and proportionate consumer protection rules across the digital ecosystem will encourage innovation, supported by faster competition law remedies where needed to address bottlenecks. This includes rules relating to transparency, contracts, dispute resolution and redress.
- Consumers should have the same protection for the same services; traditional communications and functional substitutes provided by OTT players should be regulated in the same way and provide the same protection to consumers.
- Universal service obligations need to be modernised, to ensure that issues such as accessibility and emergency services are ensured for the future.
- Given numbering is a limited resource and high quality any-to-any voice services is a valued service, any services that use numbering and provide end to end quality should still be required to provide any to any connectivity, porting and also safety features such as emergency services as an end to end, quality service. However, these requirements should be reviewed on a regular basis to assess whether regulation is needed as the services change in the future.
- Appropriate regulation should apply to security, privacy and neutrality in a proportionate way at each level of the internet ecosystem - not just on the access or network levels to ensure a secure and resilient ecosystem.

Given the need for sector-specific regulation to adapt to market changes, there will also be a need for timely guidance from BEREC of which NRAs need to take utmost account. This is dealt with in more detail in section 3.7.2.

(continue here if necessary)

**Question 100:** Are there any provisions which constitute a particular administrative or operational burden? If so, please explain why and provide a quantitative estimate of additional burden.

A GSMA and Arthur D. Little (ADL) study found that when compared with OTTs providing equivalent services, a generic European mobile operator incurred annual cost of approximately €200m in relation to asymmetric compliance obligations, equivalent to around 4% of mobile revenue. This asymmetry both shows the impact on the competitive landscape and also the high level of regulation which applies to a category of services within a wider, highly competitive environment. The main areas where these asymmetries manifest are:

- Data protection and retention
- Licensing and administration fees
- Security obligations
- Universal Service Obligations
- Consumer Protection
- Interoperability
- Quality of service

(continue here if necessary)

**Question 101:** As regards sector-specific end-user rights provisions, have you identified sector-specific end-user rights provisions in the current framework which are not relevant and should in your view be repealed (deleted) because they are wholly or substantially covered by general EU consumer protection law?

- yes
- no
- do not know

If your answer is yes, should also all corresponding sector specific rules on the national level be repealed (deleted)?

- yes
- no
- do not know

Please specify the provision(s) and provide an explanation.

There is a need for consistent consumer protection across all digital services. Much of this is already in place and there is already overlap with sector-specific requirements. As set out above, many of the existing sector-specific requirements are also outdated. Some examples

are provided below:

## Transparency

Article 20 requires ECS providers to include the following in any contract:

- Identity and address of the ECS provider, services provided;
- Measures limiting access or use to the services, the types of maintenance service offered and customer support services provided, as well as the means of contacting these services;
- Any restrictions imposed by the provider on the use of terminal equipment supplied;
- Details of prices and tariffs, the means by which up-to-date information on all applicable tariffs and maintenance charges may be obtained, payment methods offered and any differences in costs due to payment method;
- Duration of the contract and the conditions for renewal and termination of services and of the contract; and
- The means of initiating procedures for the settlement of disputes.

These requirements are duplicated in the Consumer Rights Directive, which requires the following to be provided to end users:

- Name and address of supplier;
  - Services provided;
  - Details of prices and arrangements for payment;
  - Trader's complaints policy and after sales service;
  - Minimum duration of consumers obligations under the contract;
- and
- Functionality of digital content and interoperability requirements and recourse to dispute mechanism solutions.

Many of the same requirements can also be found in the E-Commerce Directive. The overlapping information requirements result in too much information for consumers and create additional burdens for businesses that have to check both sets of requirements for any small or national differences and also engage with two different sets of regulators in relation to enforcement. This is recognized in the BEREC OTT Report, which provides that the differences between the requirements are "mostly due to the fact that a specific category of services is targeted by the USD while the Directive on Consumer Rights covers a wider range of activities."

Cost control and transparency measures on telecoms operators are particularly prescriptive in comparison to the requirements applicable to other consumer products and services. There should be one set of requirements that apply to all consumer services, to provide certainty to consumers but also flexibility to businesses in relation to how to comply, which should also enable more differentiation and competition.

(continue here if necessary)

#### Contract Duration

Currently, pursuant to Article 30 of the USD, telecoms providers are required to ensure that contracts do not include an initial commitment period that exceeds 24 months and also that users have the possibility to subscribe to a contract with a maximum duration of 12 months. The main reason that customers have a preference for 24 months is that many contracts come with smartphones and providers are able to spread the cost of the handset over the duration of the contract - a feature that customers find very appealing. The topic of contract length was considered extensively by the Commission and the Parliament during the most recent review of the telecoms framework and the following formulation was agreed:

“Member States shall ensure that contracts concluded between consumers and undertakings providing electronic communications services do not mandate an initial commitment period that exceeds 24 months. Member States shall also ensure that undertakings offer users the possibility to subscribe to a contract with a maximum duration of 12 months.”

A wide choice of contract types are made available today as can be seen in relation to the UK below

INSERT CHART HERE: Average Length of mobile phone contracts in the UK market (Ofcom Consumer Experience Report, January 2015)

However, these rules do not apply to OTT communications providers or other consumer services, such as audio visual content where there are regularly 18 month contracts [7] . Any requirements should either be removed as no longer necessary or be addressed in horizontal consumer legislation.

#### Dispute resolution

Article 34 of the USD requires Member States to ensure that transparent, non-discriminatory, simple and inexpensive out-of-court procedures are available for dealing with unresolved disputes between consumers and undertakings providing electronic communications networks and/or services. This requirement should be removed as the same requirement is addressed within the Directive on consumer Alternative Dispute Resolution (ADR)[8] and the Regulation on consumer Online Dispute

Resolution [9] , which requires Member States to ensure that ADR, provided by a certified ADR body, is available for any dispute concerning contractual obligations between a consumer and a business.

Right to withdraw from a contract without penalty upon notice of modification to the contractual conditions

Variations to contractual terms are covered in various Directives; in the USD, in the new proposals for digital content rules and also in the Directive on unfair terms in consumer contracts. The latter is sufficient to ensure that there is a consistent application of the rules and ensure that the right to withdraw from a contract where a change is unilaterally made which is detrimental to the consumer.

E-Privacy Directive

Various requirements within the E-Privacy Directive are now either addressed in the proposed General Data Protection Regulation, out of date or need to be reviewed in the light of the wider definition of Electronic Communications Services to see which provisions are still relevant. Some requirements, such as security and confidentiality of communications should apply to both the wider definition of ECS and services where the purpose is not communications but a communications function is provided e.g. online gaming.

Accessibility (as set out in Question 103)

Footnote [7]: Available at <https://www.cable.co.uk/compare/tv-packages/>.

Footnote [8]: Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:165:0063:0079:EN:PDF>.

Footnote [9]: Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:165:0001:0012:EN:PDF>

**Question 102:** As regards sector-specific end-user rights provisions, have you identified existing sector-specific end-user rights provisions in the current framework which need to be adapted or amended?

For each provision you mention, please give reasons for its relevance (problems in the application; commercial or technological changes, including those which resolve the initial concern; new challenges for end-users; other, please specify):

Many of today's requirements will need to be adapted accordingly so that the policy drivers are addressed in a proportionate manner. Our recommendations would be to amend and adapt the following requirements:

Privacy

Requirements relating to confidentiality of communications (Article 5, EPD) and traffic data (Article. 6 EPD) should apply to all types of communications, whether provided by traditional ECS providers, OTT providers or others. Confidentiality of communications is an essential right which needs to be protected across all services in a proportionate way which also does not stifle innovation - especially in areas such as big data, where pseudonymous data will be used. At the same time there should be no unnecessary duplication of legislation in this area. Similarly, data retention requirements should be reviewed within the wider definition of ECS.

Other obligations are dealt with in the following questions:

Universal Services Obligations - see response to Q. 105

Security - see answer to Q. 107

Neutrality - see answer to Q. 111

(continue here if necessary)

#### Contract Duration

Currently, pursuant to Article 30 of the USD, telecoms providers are required to ensure that contracts do not include an initial commitment period that exceeds 24 months and also that users have the possibility to subscribe to a contract with a maximum duration of 12 months. The main reason that customers have a preference for 24 months is that many contracts come with smartphones and providers are able to spread the cost of the handset over the duration of the contract - a feature that customers find very appealing. The topic of contract length was considered extensively by the Commission and the Parliament during the most recent review of the telecoms framework and the following formulation was agreed:

“Member States shall ensure that contracts concluded between consumers and undertakings providing electronic communications services do not mandate an initial commitment period that exceeds 24 months. Member States shall also ensure that undertakings offer users the possibility to subscribe to a contract with a maximum duration of 12 months.”

A wide choice of contract types are made available today as can be seen in relation to the UK below

Chart: Average Length of mobile phone contracts in the UK market (Ofcom Consumer Experience Report, January 2015)

**Question 103:** The regulatory framework has among its policy objectives and regulatory principles ensuring that users, including disabled users, elderly users, and users with special social needs, derive maximum benefit in terms of choice, price and quality (Article 8 of the Framework Directive). With respect to disabled users, the Universal Service Directive contains specific requirements under the universal service obligation (Article 7) and regarding the equivalence in access and choice (Article 23a).

To what extent has the current regulatory framework been effective in achieving the goal of providing equivalent access to persons with disabilities in terms of choice, price and quality?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response and illustrate with examples.

If you identified any shortcomings, how could the effectiveness of the provisions be improved and what would be the related benefits and costs?

Accessibility requirements should be applied across the value chain to ensure that end users' needs are met in a way that is appropriate and addressed via self or co regulation or alternatively, at the horizontal consumer regulation level where the requirements are applicable to all digital services.

The regulatory framework was implemented in an era when the focus of the regulatory concern was to secure the connection to the fixed network. Within this limited scope, the regulation has been effective in safeguarding the interests of disabled users. However, in most Member States, the regulatory requirements are delivered by one provider and funded via the industry which restricts competition and choice and further embeds monopolies within the telecoms markets.

The approach to accessibility needs to be fully integrated across the value chain, including hardware, software and services providers, regulators, government ministries and NGOs. Accessibility no longer needs to be only about providing equality of access to telecoms services; it can provide the opportunity for increased independent living. For example, many access needs can be achieved by focusing on the terminal features (e.g. voice to text features) and via specialized applications.

Where regulatory requirements provide a minimum level of requirements, there may not be any incentive to innovate in delivering new solutions or services, whereas self-regulation allows industry to innovate and/or differentiate its solutions. A current example is in child online protection where companies deliver parental tools and information and awareness campaigns to meet customer needs in a more dynamic way than regulation can achieve. See: [www.ictcoalition.eu](http://www.ictcoalition.eu) and [www.vodafone.com/bestrongonline](http://www.vodafone.com/bestrongonline) .

(continue here if necessary)

**Question 104:** Number portability is part of the numbering resource management and also an important tool to remove barriers to switching. It thereby facilitates end-users' choice and change of providers and stimulates competition. To what extent do the current provisions on number portability as established in Article 30 of the Universal Service Directive allow for their efficient implementation?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your answer and specify any problems you may have encountered (delays, disruption, loss of service, cost for end-users, slamming (telephone service changed without subscriber's consent), burden for operators, etc.).

Accessibility requirements should be applied across the value chain to ensure that end users' needs are met in a way that is appropriate and addressed via self or co regulation or alternatively, at the horizontal consumer regulation level where the requirements are applicable to all digital services.

The regulatory framework was implemented in an era when the focus of the regulatory concern was to secure the connection to the fixed network. Within this limited scope, the regulation has been effective in safeguarding the interests of disabled users. However, in most Member States, the regulatory requirements are delivered by one provider and funded via the industry which restricts competition and choice and further embeds monopolies within the telecoms markets.

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Where regulatory requirements provide a minimum level of requirements, there may not be any incentive to innovate in delivering new solutions or services, whereas self-regulation allows industry to innovate and/or differentiate its solutions. A current example is in child online protection where companies deliver parental tools and information and awareness campaigns to meet customer needs in a more dynamic way than regulation can achieve. See: [www.ictcoalition.eu](http://www.ictcoalition.eu) and [www.vodafone.com/beststrongonline](http://www.vodafone.com/beststrongonline) .

(continue here if necessary)

**Question 105:** To what extent do you consider the scope and requirements established in Article 26 of the Universal Service Directive still relevant in order to ensure an effective access to emergency services?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response, and indicate possible areas for amendments.

The obligation to allow for emergency calls free of charge is only applicable to “publicly available telephone services”, and the obligation to provide location data only applies to “undertakings which operate public telephone networks”.

The Citizen’s Rights Directive provides that “voice calls remain the most robust and reliable form of access to emergency services. Other means of contact, such as text messaging, may be less reliable and may suffer from lack of immediacy. Member States should, however, if they deem it appropriate, be free to promote the development and implementation of other means of access to emergency services which are capable of ensuring access equivalent to voice calls.”

Certain national laws impose the obligation to ensure calls to national emergency services in a technology neutral manner (including VoIP) but these tend to be limited to those who offer PSTN services and even then, some have refused to provide such services. For example, Skype states that “Skype Software is not a replacement for your ordinary mobile or fixed line telephone. In particular, apart from in very limited circumstances, the Software does not allow you to make emergency calls to emergency services. You must make alternative communication arrangements to ensure you can make emergency calls if necessary.” (<https://support.skype.com/en/faq/FA29/can-i-call-an-emergency-number-from-skype>)

As explained in the response to question 99, the current rules assume that OTT Services are provided in addition to traditional voice services rather than instead of. This might not be the case going forward. There, at a minimum, it would be proportionate to place a requirement upon providers of ECS, as redefined, to provide emergency services unless it is technically impossible to locate the end user, in which case the ECS provider should be required to inform customers of whether emergency services are provided before using the service and not to restrict access to any voice services providing emergency calling features. Going forward, if OTT services are widely consumed on devices with no traditional voice capabilities (e.g. data-only devices), there will be a need to mandate that all providers of ECS provide access to emergency services.

(continue here if necessary)

The objectives of the regulatory framework include ensuring the integrity and security of public communications networks (Article 8, paragraph 4(c) and (f)). Specific rules are provided for in order to ensure that operators take appropriate technical and organisational measures to appropriately manage the risk posed to security of networks and services (Article 13a and Article 13b of the Framework Directive). In view of recent security incidents and revelations concerning spying activities it is therefore necessary to reflect on whether the current rules are still sufficient to achieve the security objectives or whether they need to be reviewed.

**Question 106:** Do you consider that the rules on integrity and security of networks and services (Articles 13 and 13a of the Framework Directive) have been effective in achieving their objectives?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

A holistic approach is essential in relation to network integrity and security. As stated in Recital 44 of the Directive 2009/140 (“Better Regulation Directive”):

“Reliable and secure communication of information over electronic communications networks is increasingly central to the whole economy and society in general. System complexity, technical failure or human mistake, accidents or attacks may all have consequences for the functioning and availability of the physical infrastructures that deliver important services to EU citizens, including e-Government services.”

Currently, obligations are restricted to a narrow area of networks and electronic communications services and are overly reliant on governance and checklists.

(continue here if necessary)

**Question 107:** Do you consider that there is a need to improve provisions referred to in the previous question to make sure that they are in line with modern technology and security threats?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone supports the EC's initiative on a European Cyber Strategy and the NIS Directive, which should guarantee a harmonized EU protection level and the extension of the requirements to both digital services and enablers as well as to non EU operators.

There should be a separation of infrastructure requirements in relation to security, which apply to ECNs and requirements which apply to services. The definition of services must take into account digital services. It is worth noting that the same issue is being reviewed in the context of the draft Network Information Society (NIS) Directive on network information security, which has proposed obligations on critical infrastructure managers and all information society services providers to ensure the security of networks against cyber-attacks set out in the draft proposal as follows.

"The only sector where companies are currently required under EU law to take NIS risk management steps and to report serious NIS incidents is the electronic communications sector. The regulatory framework for electronic communications requires providers of public electronic communications networks and services to appropriately manage the risks posed to the security of their networks and services to prevent and minimise the impact of security incidents on users and interconnected networks. It requires providers to notify the competent national regulatory authority of a breach of security or loss of integrity that has had a significant impact on the operation of networks or services. These provisions had to be transposed at national level by 25 May 2011. However, all players relying on network and information systems face security risks. This leads to an uneven playing field since the same incident affecting for example a telecommunications provider and a company providing voice over IP services would have to be notified to the national competent authority in the former case, but not in the latter. In sum, the current rules do not require businesses other than telecommunication companies to adopt security measures and report NIS incidents, which do not affect personal data. The Diginotar case referred above illustrates the limits of this approach. Another striking example is the BlackBerry outage in 2011, which caused interruptions in

basic communications services such as e-mail and SMS but did not have to be reported since the company is not a telecommunications operator and the incident did not compromise personal data". [emphasis added] ] [10]

Security measures need to be extended in order to ensure the security of communications and to protect individuals. In addition, the current requirements should be amended to ensure that they are flexible and risk based rather than reliant on governance and checklists. It is essential when implementing security features to ensure that these are resilient and that they complement rather than undermine each other. An example of where this has happened can be seen with https encryption at the internet layer, which prevents networks from implementing virus and security controls and can also have a negative impact on traffic management and consequently quality.

Finally, it is essential to have harmonized requirements and to take a more globalized approach through international standards, to ensure a more resilient approach.

Footnote [10]: Available at  
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52013SC0032>

(continue here if necessary)

### 3.5.2. Review of the sector specific regulation for communications services

#### a) Future scope of sector-specific regulation for communications services

The EU regulatory framework on electronic communications services and networks emerged in the context of full liberalisation in the 1990s. At that time voice communications were the focus of attention and distinct from online services. The framework contains provisions for the regulation of both networks and electronic communications services. Services such as so-called over-the-top services (OTTs), providing communications (voice, messaging) and/or other services, do not usually fall within the scope of the current EU regulatory framework's rules on ECS or those on network regulation because these services do not themselves include conveyance of signals. Therefore the regulatory regimes which are currently applied to OTTs or comparable services, on the one hand, and electronic communications service and networks, on the other hand, differ considerably. The present section examines whether the scope of the regulatory framework should be adapted in this respect in order to ensure a level-playing field for players to the extent that they provide competing services and the manner in which this could be done.

**Question 108:** Do you consider that there is still a need for sector-specific regulation of communications services in the EU?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

The changing nature of communications, digital services and the competitive landscape needs to be recognised and a new approach taken to protect consumers in a way that is both proportionate and effective. In principle, horizontal consumer rules should be applied to all consumer services, with specific rules in selected areas where necessary for communications. It is important to distinguish between cases where a competitive market now substitutes for regulation in delivering the policy objectives and those where regulation might be required.

There will be a small number of remaining rules that are limited to communication services. As will be expanded on the following questions, there are effectively three types of communication services:

1. Incidental communication services, e.g. customer care chat features on a website
2. OTT communication services (best-efforts)
3. Managed, high-quality communication services

Rules that are specific to communication services need to be proportionate but also correctly applied to some or all of the categories above.

(continue here if necessary)

**Question 109:** As regards the current definition of electronic communications services (ECS):

	strongly agree	agree	disagree	strongly disagree	do not know
a) Do you consider that the current definition of electronic communications services should be reviewed?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) If the current definition of ECS is reviewed, do you consider that the "conveyance of signals" should continue to remain a necessary element of the definition of electronic communications services subject to sector-specific regulation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c) If the current definition of ECS is reviewed, do you consider that "transmission services in networks used for broadcasting" should continue to be considered as ECS?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

The definition of electronic communications services (ECS) in the Framework Directive was intended to address the convergence of the telecom, media and information technology sectors under one regulatory framework at the time of its introduction. The same review needs to occur again to take into account the convergence of communications services across ECS and Information Society Services (ISS).

The sector-specific requirements under the current framework apply to "Electronic Communication Services" which are defined as "service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but exclude services providing, or exercising editorial control over, content transmitted using electronic communications networks and services; it does not include information society services, as defined in Article 1 of Directive 98/34/EC [11], which do not consist wholly or mainly in the conveyance of signals on electronic communications networks". This definition expressly excludes all services provided by OTTs, which are considered "information society

services”.

The technical link between networks and communication services no longer exists. Even providers of electronic communications services increasingly switch their communication services to IP-technology, providing IP-based quality services. From consumers’ point of view, the distinction between services provided through telecom operators and services provided through OTT players is increasingly blurred and often not even noticed. As usage patterns demonstrate, communication services provided on the one hand through telecom operators and on the other hand through OTTs have a degree of substitutability. This is expanded further in the response to Q.115.

The result of the blurring of the distinction between different types of communication services is that consumers will not be aware of the different regulatory protection they are receiving when using different types of communication services. A possible new definition of communications services would be “consumer services which enable communication using voice, texts or videos in real time or near real time among two or more individuals”.

Further distinctions between managed and best-efforts services are set out in the following question.

On point (c), there should not be any distinction on which networks these services are offered; therefore the current inclusion of “networks used for broadcasting” should remain.

Footnote [11]: “Information Society service, that is to say, any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services. For the purposes of this definition:

- “at a distance” means that the service is provided without the parties being simultaneously present,
- “by electronic means” means that the service is sent initially and received at its destination by means of electronic equipment for the processing (including digital compression) and storage of data, and entirely transmitted, conveyed and received by wire, by radio, by optical means or by other electromagnetic means,
- “at the individual request of a recipient of Services” means that the service is provided through the transmission of data on individual request”

(continue here if necessary)

**Question 110:** If the current definition of ECS is reviewed, do you consider that the definition of services subject to sector-specific regulation should take into account the question whether a service is:

	strongly agree	agree	disagree	strongly disagree	do not know
a) managed or subject to best-efforts online provision only?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Remunerated through monetary payment (directly or as part of a bundle)?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Remunerated by other means (advertising supported, provision of data by users, etc.)?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

In response to (a) End users are entitled to the same protection for the same services such as security and confidentiality of communications. However, voice services which use numbering should still be required to provide any to any connectivity, porting and safety features such as emergency services given that numbering is a limited resource and ensures an end-to-end, quality service which is both beneficial to consumers and provides essential services for society.

As noted in the response to question 99, it is possible that best-efforts online services will become the primary communication service provider for many consumers. Should that scenario emerge, there will be a need to ensure any-to-any connectivity and access to emergency services are maintained. It will also be necessary to ensure that barriers to switching - currently minimised through porting requirements - do not emerge. Given the different nature of online services (independent of phone-numbers) it is not possible at this point in time to say which measures, if any, would be required.

In response to (b and c) Communications services should include services which are paid for via money or any other consideration e.g. data. Most OTT communications services are either funded via a subscription fee, as a bundled product or by collecting data for advertising purposes. For services that are not funded by customers it is clear that payment-related rules will not be required. However, all other requirements in relation to the provision of communication services should be independent of their funding mechanism.

(continue here if necessary)

The internet access service (IAS) sets up the end-user's connection to the internet and many communications services as well as a host of other services are provided via this IAS. It could be argued that sector-specific rules only need to apply to the IAS but not to other communications services, and that general consumer protection rules will be sufficient to protect end-users in their communication activities.

**Question 111:** If sector-specific service regulation is maintained, do you consider that it should be limited to the IAS?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Regulation should apply to all electronic communications services in respect of areas such as confidentiality of communications, safety and security. If regulation was restricted to IAS, it would continue to exacerbate the issue of different regulation applying to different services. Conversely, the regulation which does apply to IAS (net neutrality, transparency) should either be extended to all areas of the value chain where access to third party services and information can be restricted, blocked or unfairly discriminated against or removed entirely and if transparency requirements are seen as necessary, they should apply at the horizontal consumer level or addressed via co-regulatory codes of practice.

(continue here if necessary)

**Question 112:** If a distinction is made between IAS and other communications services, do you agree in principle that the definition of IAS in the draft Telecoms Single Market legislative text could be used for this purpose, namely "*a publicly available electronic communications service that provides access to the internet, and thereby connectivity to virtually all end points of the internet, irrespective of the network technology and terminal equipment used.*"

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

See response above.

(continue here if necessary)

**Question 113:** Which sector-specific (end-user and other) provisions should apply to IAS? Please indicate these provisions (if already present in the current framework) or describe the content of such rights and obligations, and explain your response and the measures you suggest.

See response above.

(continue here if necessary)

**Question 114:** In relation to IAS, is there a need for any further end-user rights in addition to those included in the provisionally agreed Telecoms Single Market Regulation? In case you strongly agree or agree, what should be the level of harmonisation?

	strongly agree	agree	disagree	strongly disagree	Full harmonisation	Minimum harmonisation
(i) Contractual information (e.g. related to quality parameter other than speed)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) Transparency measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iii) Independent price and quality comparison tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) Control of consumption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(v) Contract duration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(vi) Measures facilitating switching (receiving operator-led process;						

<p>protection of end-users throughout the switching process, compensation in case of delay and abuse in the switching process)</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>(vii) Measures to guarantee the effectiveness of end-user rights (in particular contract termination and switching) in relation to bundles of services</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>(viii) Measures eliminating restrictions and discrimination based on nationality or place of residence</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide a brief explanation for each of your responses.

Rules applicable to electronic communications services and internet access service are already onerous and overly prescriptive and do not apply to functional substitutes or digital services.

In relation to the specific areas:

(i) Contractual information (e.g. related to a quality parameter other than speed) - the new TSM requires detailed information to be provided to the end user in relation to speeds, traffic management and specialised services. Additional information such as latency and jitter will be overly technical and provide information to the consumer that cannot be used. Instead, providers of IAS services should be able to provide information about quality in terms that are accessible by consumers.

(ii) Transparency measures -there are detailed transparency requirements already in both the USD and the TSM which are duplicated within consumer regulation. All transparency requirements should be addressed within the consumer regulation in order to ensure parity for all consumer facing services.

(iii) Independent price and quality comparison tools - All transparency requirements should be addressed within the consumer regulation in order to ensure parity for all consumer facing services.

(iv) Control of consumption - there are already controls on consumption in the form of transparency and other requirements. As we move to unlimited packages and given the increasing competition in relation to communications services, there is less need for prescriptive ex ante regulation. In Europe, Vodafone has 17.2 million customers on its worry free Vodafone Red package, which includes unlimited voice and text messages.

(v) Contract duration - Currently, pursuant to Article 30 of the USD, ECS providers are required to ensure that contracts do not include an initial commitment period that exceeds 24 months and also that users have the possibility to subscribe to a contract with a maximum duration of 12 months. Again these rules do not apply to other communications and consumer services, such as audio visual content where there are regularly 18 month contracts

(<https://www.cable.co.uk/compare/tv-packages/>). If there are fewer restrictions, consumers may benefit from a wider range of innovative funding models. Any requirement to also offer shorter options to consumers can be addressed within the horizontal consumer legislation.

(vi) Measures facilitating switching (receiving operator-led process; protection of end-users throughout the switching process, compensation in case of delay and abuse in the switching process) - as set out above, the switching process is very effective and should continue in its current form without additional requirements, but should only apply to IAS and number based voice services.

(vii) Measures to guarantee the effectiveness of end-user rights (in

particular contract termination and switching) in relation to bundles of services - as set out above, the switching process is very effective and should continue in its current form. Bundles have not had a negative impact on switching but instead provide a richer more converged service to end users.

(viii) Measures eliminating restrictions and discrimination based on nationality or place of residence - there are already measures preventing discrimination based on nationality and place of residence.

Beyond consistent consumer protection standards across different digital services, consistency is also required cross-border. This facilitates cross-border offerings and builds consumer trust. Full harmonisation is needed to ensure effective consumer protection at proportionate costs for industry.

(continue here if necessary)

**Question 115:** Do you think that traditional electronic communications services (such as voice or video telephony, SMS/text messages, e-mails operated by telecoms providers, other services) can be functionally substituted by OTT services or platforms with communication elements (e.g. internet telephony services, web messaging services, webmail services, social media platforms, other)?

	strongly agree	agree	disagree	strongly disagree	do not know
Voice telephony	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video telephony	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sms/text messages	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e-mails provided by telecom operators	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other traditional telecommunications services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please explain each of your responses and provide examples of such OTT services.

BEREC have recently issued a draft report on OTT services:

[http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/download/0/5431-draft-berec-report-on-ott-services\\_0.pdf](http://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/5431-draft-berec-report-on-ott-services_0.pdf)

In this report BEREC sets out the extent to which NRAs have concluded that OTT services are a substitute for operator-provided voice and SMS services. The report notes that only one NRA (NKOM) has concluded that OTT services (and in this case, it is with the capability to break-out to traditional networks) are a substitute for voice services. In relation to SMS, the number of market reviews is more limited and different approaches have been followed with some NRAs concluding that OTT services are a substitute for SMS and other NRAs concluding they are not.

The report cites the reasons given for lack of substitutability including concerns over quality, security and lack of interoperability. Going forward, we believe that security differences should be eliminated with the application of consistent security rules on all Communication Service Providers. Concerns over interoperability will not be eliminated without mandating interoperability requirements on OTT (which we do not believe would be appropriate) but concerns should be significantly reduced with the increased penetration of smartphones, the take-up of these services and the market shares of the leading OTT providers. However, we believe differences in quality will remain for voice services. This is because end-to-end managed voice services are prioritised in the network and utilise more network resources to maintain their quality. Therefore we do not believe OTT services will be a full substitute for traditional voice services in the near future.

The conclusion shown above is consistent with the experience observed in markets. According to data from GSMA Intelligence, total SMS messages for operators in the EU (where data is available) fell by 11% between Q4 2013 and Q4 2014. In the same period, total voice minutes increased by 10%. Whilst it is not possible to directly attribute these changes to OTT substitutability or lack thereof, the trend is consistent with our belief that OTT messaging is a stronger substitute for SMS than OTT voice is for traditional voice services. The implication of this is that while there should be full consistency in the rules associated with SMS and OTT messaging, it is still appropriate to have separate obligations apply to managed voice that is provided using number ranges.

(continue here if necessary)

**Question 116:** Should **all** communications services (mainly provided over the IAS) which are functionally substitutable to existing ECS fall under a new common definition for such communications services (which would be different from that of IAS and from the current definition of ECS)?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Where end consumers consider services to be functional substitutes, meeting the same consumer need then the same regulations should apply. Otherwise, instead of encouraging competition, regulation will distort the market and consumers will be uncertain as to the extent their communications are protected, or in the worst case, assume a level of protection which is not actually provided. Communications services should be redefined to reflect the changes in technology and assessed to see which regulations are still needed, which can be removed as no longer necessary and which need to be adapted for this category.

As noted above, there will still be a separate category of high-quality managed voice services, for which best efforts voice is not a substitute. This category of managed voice services is based on phone numbers and any-to-any connectivity, and is highly valued by consumers. Thus, rules associated with maintaining these quality standards should be preserved. Providers of such quality services must not be overly burdened with onerous regulatory obligations. This review as to which regulations should apply must be based on a comprehensive cost-benefit analysis. Specific rules can only be justified and acceptable where the benefits for society exceed the costs.

For specific requirements which should apply to both traditional ECS and functional substitutes, please see the answer to Question 102.

(continue here if necessary)

**Question 117:** What should be the essential elements of a functional definition of communications services? Please explain your response.

A possible definition would be “consumer services which enable communication using voice, messages or videos in real time or near real time among two or more individuals”. For the avoidance of doubt, reference to the requirement of “conveyance of signals” should be deleted.

(continue here if necessary)

**Question 118:** Which types of communications services, possibly including services currently not subject to sector-specific rules, should be encompassed by such a definition? Please explain your response.

This definition would encompass all services enabling two way communications between people in real-time or near real-time. Examples would be traditional voice and text, VOIP, instant messaging etc.

(continue here if necessary)

**Question 119:** Should a definition of communications services include (several answers possible):

- one-to-one communications between persons
- interactive communications between several persons (e.g. via social media)
- communications between persons and machines (e.g. confirmation received by emails or SMS)
- communications between machines (e.g. M2M, IoT, eCalls)?

Please explain your response.

Communications regulation needs to be adapted for machine-to-machine communications where some obligations, such as security may be proportionate but others, such as portability and cost notifications are inappropriate. As such, it would be inappropriate to include M2M and similar services within the new ECS definition.

(continue here if necessary)

**Question 120:** Which sector-specific provisions (end-user and other, such as requirements for reasonable interconnection, or on integrity and security) should apply to communications services as newly defined in the light of your responses to the previous questions? Please indicate these provisions (in the current framework) or describe the content of such future rights and obligations, and explain your response.

See response to question 102.

Integrity and security obligations should apply to the wider definition of communications services for the reasons set out above. In relation to communications services the policy issues to be addressed would be barriers to switching and network effects which prevent competition in the market. We have seen it is relatively easy for users to multihome, using several communications apps at the same time. However, there is a concern that a lack of interoperability may allow a dominant platform to “tip” the market and make it impossible for rivals to compete.

However, implementing an interoperability requirement could both stifle innovation and be disproportionately costly for a nascent market. A standardised interface may be time consuming to develop and costly and also drive down the differentiation that we see today in the communications space, between services as diverse in features as Twitter, Snapchat and Skype. While OTT providers should be encouraged to develop interoperable formats, it would not be proportionate at present to extend interconnection requirements to OTTs.

(continue here if necessary)

**Question 121:** In light of the broad choice of communications services which have become available, is it still justified that providers of communications services as newly defined would be potentially subject to the exceptional ex-ante regulatory regime based on markets and significant market power identified in accordance with competition principles?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

There is a much greater level of competition in communications services markets than is currently recognized by regulatory authorities. As a result, regulatory policy goals can be achieved through competition and horizontal consumer protection requirements.

Given the degree of competition in communication markets, the protection of consumers can largely shift to ex post competition law oversight. This will require the competition law framework to also be updated to take into account OTT business models (complex funding from multi-sided markets), which do not easily sit within the competition law analytical framework. This has already been recognised in work conducted for the European Parliament:

[http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542235/IPOL\\_STU\(2015\)542235\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542235/IPOL_STU(2015)542235_EN.pdf)

(continue here if necessary)

**Question 122:** Do the markets for termination of calls to numbers allocated in accordance with a numbering plan have characteristics (e.g. application of wholesale termination charges rather than peer exchange or bill & keep) that are likely to continue to justify ex ante regulation in the period up to and beyond 2020?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

If your response is positive, should regulation continue to be applied in accordance with competition principles (market definition, identification of SMP, assessment of remedies, i.e. cost-based price controls), or can a simplified approach be considered (symmetric regulation of termination charges, European benchmark termination rate, other)? Please give substantiated examples.

As noted above, there is a category of managed, high-quality voice that is distinct from and not substitutable by best-efforts voice. As such, the current regime of SMP in relation to termination markets will still remain relevant. However, in terms of simplification, we believe the review period can be lengthened to ease the regulatory burden.

Please explain your response.

(continue here if necessary)

**Question 123:** Should providers of communications services as newly defined benefit from a general authorisation, without any attendant notification formalities, as is the case for information society service providers under the eCommerce Directive?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

A simple notification should be required for providers of ECS services. This would be at a country-level where numbering resources are used or at a European level when ECS is only provided on a best-efforts basis.

(continue here if necessary)

**Question 124:** Should all services covered by a new definition of communications services benefit from rights currently attached to the status of ECS provider (e.g. access to numbering resources for their own services, interoperability and interconnection)?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Numbering resources and interconnection carry significant obligations for ECS providers. Managing the service for end-to-end quality and the current phone number regime based on any-to-any connectivity is highly valued by end-users and the ability to prioritise voice traffic ensures reliable emergency call functionalities. If any-to-any connectivity obligation is extended to providers of best-effort quality in a way that requires interoperability between quality and best-effort communication services, this would be both disproportionate and also result in operators providing managed services being unable to guarantee end-to-end quality. Given that consumers already appear to recognise a distinction between high-quality voice and best-efforts voice, it would be both disproportionate and out of line with market realities to apply the same obligations on both types of service. As such, rights to use scarce numbering resources and interoperability obligations should only be applied to managed, high-quality voice services.

(continue here if necessary)

**Question 125:** In relation to **communications services other than IAS**, is there a need for any further end-user rights? In case you strongly agree or agree, what should be the level of harmonisation?

	strongly agree	agree	disagree	strongly disagree	Full harmonisation	Minimum harmonisation
(i) Contractual information (e.g. related to quality parameter other than speed)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) Transparency measures	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Independent price and quality comparison tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) Control of consumption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(v) Contract duration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(vi) Measures facilitating switching (receiving operator-led process;						

<p>protection of end-users throughout the switching process, compensation in case of delay and abuse in the switching process)</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>(vii) Measures to guarantee the effectiveness of end-user rights (in particular contract termination and switching) in relation to bundles of services</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>(viii) Measures eliminating restrictions and discrimination based on nationality or place of residence</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide a brief explanation for each of your responses.

The current sector-specific regulations applicable to IAS and ECS already ensure a high level of consumer protection standards in all of these areas, with overly prescriptive rules which are duplicated in many cases at the consumer level. From the consumer point of view, the issue which needs to be addressed is the discrepancy in consumer protection standards between telcos' services and other providers' services. Accordingly, a thorough assessment of each rule is required to assess whether additional sector-specific requirements are needed at all or whether existing consumer protection regulation is sufficient.

Harmonisation and effective enforcement is also necessary, to facilitate cross-border offerings and build consumer trust.

(continue here if necessary)

**Question 126:** Does the particular nature or importance of voice services for end-users still require specific rules?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

If so, in what should they consist?

See answer to Question 124.

(continue here if necessary)

**Question 127:** Are there any other communications services showing specific features or risks related to their usage which would require or justify specific end-user protection or other rules?

In addition to managed voice services, there may be services which include an incidental communications feature e.g. online gaming, call back features, webchat customer services. For these services, it would be appropriate to extend requirements in relation to the confidentiality of communications and use of traffic data and also security requirements.

(continue here if necessary)

**Question 128:** Should any obligations related to access to emergency services (112) or to quality of service requirements apply to all providers of communications services in the same way, irrespective of whether they are provided as managed services or subject to best-effort (Internet access services)?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

See answer to Q.105. For voice services it is essential to retain a high quality voice service with corresponding emergency functionality to fulfil consumer and public security interests. Providers of best efforts communications service can only influence the quality of their service to a limited extent. The design of this obligation should not result in new obligations for network operators to enable other market players to provide these quality standards.

(continue here if necessary)

## **b) Adaptation of provisions to new challenges**

**Question 129:** Do you consider that there are new or emerging sector-specific end-user protection issues (resulting inter alia from technological or commercial developments) which need to be addressed?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. If your response is positive, please indicate the areas where you see a need for enhanced sector-specific end-user protection and whether such issues should be addressed at EU or at Member States level.

As stated above, regulation has struggled to keep up with the development of technology and will continue to do so in the future - which suggests there may need to be a new approach towards consumer protection more generally, which is principles based, establishing fundamental digital rights for all digital services with strong enforcement mechanisms.

Some of the specific areas which may cause concerns today include:

**Data as a currency:** Several of the current horizontal regulations only apply to products and services charged against a monetary fee. This does not reflect the fact that the Internet relies primarily on commercial services that are funded by advertising or the commercial exploitation of user data. Over the last decade, companies have emerged relying on gathering and using consumers' data in two-sided business cases. However, where such commercial services are offered "for free" in return for customers' data, regulatory requirements are low. The legal framework needs to protect consumers irrespective of the business model.

**Intermediary transparency:** There is currently a gap in consumer protection around the responsibility of intermediaries to provide information in relation to the supplier, guarantees in relation to independence of reviews, information about the service being provided and where responsibility lies and search results. Intermediaries should have a role towards consumers in this regard; this should be addressed within the newly proposed rules on digital content.

(continue here if necessary)

It has been argued that a longer contract duration in certain geographic areas (e.g. challenging rural areas, as discussed in section 3.3.2 (c) above), where there is no strong business case for investments in very high capacity broadband networks, would diminish the risk for first-moving providers and thereby increase the likelihood of such investments. This might in particular be the case where a network investor in a challenging area proceeds on the basis of commitments by a sufficient number of end-users to give reasonable prospects of a return on investment (demand aggregation).

**Question 130:** Do you consider that derogations should be possible, in challenging areas, from the generally applicable maximum contract duration (currently 24 months pursuant to Article 30 USD) in order to diminish the risk of providers who are the first movers investing in very high capacity networks in such areas?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response; in particular describe how such areas could be defined and how any such derogation could be implemented.

We believe 24 month maximum duration strikes the right balance between consumer protection and operators being able to invest (e.g. in relation to CPE) with certainty. To the extent that there are challenge areas which provide different economic problems at the wholesale level, they should be dealt with at the wholesale level. As such, even in challenge areas, we do not see a strong reason to reduce consumers' ability to switch operators which has been a key driver of competition in the past.

(continue here if necessary)

**Question 131:** Should the scope of the number portability regime be adapted to new technology and market developments and apply also to elements other than telephone numbers which may be obstacles to the switching of providers of communications services, for instance to allow moving content stored by end-users with communications service providers?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. Would your answer be affected by the question whether the scope of application of any such obligations would extend beyond providers of electronic communications services as currently defined, e.g. also to providers of online inter personal communications services, or to online service providers do not provide communications services (e.g. cloud-based services, online intermediaries)?

Please see response to Q 104. In summary, number portability is dependent on interoperability of services. Our view is that it would be disproportionate to require all OTT services to be interoperable, given the variety of services and the fact that end users can easily “multi-home”, using several different services at the same time. Imposing interoperability, porting or standardisation requirements may have unintended effects on competition and innovation. Data portability is already addressed in the current draft General Data Protection Regulation Art. 18), which is intended to ease switching between different services, such as social networks by enabling end users to port their personal data.

(continue here if necessary)

**Question 132:** Is there a need to adapt the current rules on change of provider (switching) in view of the increasing importance of bundled offers consisting of (i) several communications services or (ii) a combination of communications services and other services?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

If yes, what amendments should be envisaged? Please specify.

As set out above, any additional consumer protection requirements should be addressed in horizontal consumer protection law where there is a clear policy need and the requirements are proportionate. In the 10th Consumer Scoreboard published in June 2014, the scores for comparability and ease of switching for telecoms are above the average of all services markets, while actual switching rates are the highest among all cluster groups, even with bundles in place. Further requirements would only serve to increase the imbalance between OTT and traditional services and existing requirements should be reviewed to ensure that they are still proportionate given the increased competition in relation to these services.

(continue here if necessary)

**Question 133:** The current sector-specific end-user provisions are based on the principle of minimum harmonisation. This approach provides Member States more flexibility and allows them to maintain or adopt more protective measures. But it also leads to a fragmented level of end-user protection across the EU and additional complications for the cross-border provision of services. The Consumer Rights Directive of 2011[1] therefore adopted a full harmonisation approach. Should any (maintained, amended or new) sector-specific end-user provisions aim at:

- minimum harmonisation
- full harmonisation
- minimum harmonisation at a very high level
- do not know

Please explain your response.

To ensure an effective but also simple future-proof framework, for the benefit of consumers and markets, a greater degree of harmonization of digital service regulation is required. This refers to the legal fragmentation across the digital market value chain (cross-sector harmonization) as well as across Member States (geographical harmonization).

- In accordance with the requirement for consistent consumer protection standards and fair competition, a legal harmonization across the digital market is required. This both provides clarity to consumers and drives trust and confidence in cross border transactions.
- For industries that offer services cross border, or the same services in different Member States, harmonisation of requirements reduces compliance costs and simplifies processes, driving scale. However, this is only true if rules do not impose high burdens for business, but come at proportionate compliance costs.
- One of the prerequisites for a flourishing European digital and communications landscape is a regulatory and policy framework that is more European - with the same rules, European dispute resolution and European oversight to replace the current burden of 28 differently interpreted laws and enforcement mechanisms.

(continue here if necessary)

**c) European emergency number 112 and harmonised numbers for harmonised services of social value (116 numbers)**

Continuous technological change and market developments, in particular regarding voice over Internet Protocol (VoIP) based on digital service platforms associated with a broadening range of connected devices, are raising an increasing number of technical and regulatory challenges on the possibility for EU citizens to access the 112 emergency number in the future. The annual reports on the implementation of 112 provisions have constantly shown a dissatisfactory state of play, such as low awareness of the 112 number, caller location accuracy levels that reach the emergency services well below the current technological possibilities offered by next generation access and Global Navigation Satellite Systems and access for disabled end-users heavily relying on 112 SMS.

**Question 134:** In your view, is it important to ensure access to 112 from all connected devices at the end-user's disposal and from any newly defined communications services, including in a private corporate network environment?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

See response to Q 105

(continue here if necessary)

**Question 135:** Would it be appropriate, having regard to the division of responsibility in the Union regarding civil protection, for the EU electronic communications framework to regulate not only the means of connection to emergency services, but also the performance criteria of those services (e.g. the data processing capabilities and minimum performance levels of the Public Safety Answering Points)?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Emergency calling is a key feature for customers and dependent both on numbering, end to end services and quality and on legacy voice services, both fixed and mobile. This cannot be easily duplicated by OTTs providing communications services, which are not number based and best-efforts only. Additional quality requirements are not required.

As a way forward, transparency requirements should equally apply to all communications service providers, no matter if they are operators or OTTs. In case of “non-compliance” providers should clearly communicate to their customers that their service does not support the ability to reach an emergency service.

To not burden those providers that ensure end-to-end quality to end-users, total emergency calls costs should be covered in first instance by public funds. Should sector funding remain, then all relevant OTT players should contribute to its funding, especially if they do not directly provide “emergency calls” and rely on “full compliance” operators.

(continue here if necessary)

116 is a range of easy-to-remember and free-of-charge phone numbers to assist citizens in need throughout Europe. Based on the Commission decision on reserving the national numbering range beginning with ‘116’ for harmonised numbers for harmonised services of social value (2007/116/EC) and its subsequent amendments, the European Commission has reserved five short numbers with a single format 116 + 3 digits for helplines that should be accessible to everyone in Europe. The decision was based on the provisions of the regulatory framework on the harmonisation of numbers to promote pan-European services. In 2009, the co-legislators reinforced the 116 provisions by introducing requirements on Member States with regards to promotion and access, enshrined in Article 27a of the Universal Service Directive.

On its website, the Commission regularly publishes a report on the state of implementation of 116 numbers. So far only two of the five short numbers have been well taken up (116000 missing children hotline is operational in 27, and 116 111 child helpline in 23 Member States).

In 2011 and 2012, the Commission carried out a Eurobarometer surveys to assess the level of awareness in the Member States. The survey showed the widespread absence of awareness of these services. The survey showed strong support expressed by citizens across the European Union for such services, but also the absence of awareness of these numbers.

**Question 136:** In your opinion have the provisions related to harmonised numbers for harmonised services of social value proven to have EU-level added value, and should they be maintained at the EU level?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

If so, should they be reinforced in order to overcome the difficulties in promoting take-up and raising public awareness?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

We support the current five short numbers in place such as the Missing Children Hotline and Child Helplines and have carried out considerable activities to promote these. However, consumers will look for national based hotlines and helplines to seek assistance. A uniform number across the EU is not essential (and may indeed lead to confusion) when seeking help and advice. As new issues arise, new and existing support organisations tend to publicise their own numbers at national level. There may be a number of different organisations that provide a range of support services dealing with similar issues - consumers will choose the one which best suits their needs so we do not see change as essential in this area.

(continue here if necessary)

#### **d) Future needs for machine-to-machine communications (M2M)**

M2M refers to the automated transmission of data between mechanical or electronic devices equipped with sensors and metering capabilities. It represents one of the fastest growing segments of the telecom market with a widening range of large-scale applications, e.g. in the areas of automotive, health, smart cities, etc. Its rapid uptake is likely to raise critical issues in the area of numbering, and in particular the risk of national mobile number exhaustion, the extra-territorial use of national numbers, the diversity of national numbering regulatory requirements, or the lock-in of SIM cards with the connectivity provider.

**Question 137:** Under the current framework, only undertakings providing electronic communications networks or services may be granted rights of use for numbers under the general authorisation. These numbers are however not available to other undertakings using on (very) large scale electronic communications services as an ancillary component to their products and services (e.g. connected objects). Is the scope of assignees of rights of use of numbers still relevant?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

We understand that this question primarily relates to the scope of assignees of rights of use of Mobile Network Codes (MNCs). As we understand it, reasons given for the variation of the current rights of use in relation to MNCs are as follows: greater switching, enhanced coverage and greater competition. We do not think these concerns are substantiated in practice, for the reasons set out below:

- Switching - the variation of rights of use (often coupled with an 'HLR proxy approach') is often seen as a way to address perceived concerns associated with M2M users not being able to switch from one supplier to another. The GSMA's embedded SIM specification for Over-the-Air (OTA) switching addresses this concern. Further details of this specification are set out in response to questions 140 and 141.
- Coverage - the 'Home Location Registrar ('HLR') proxy' model allows for the HLR proxy provider to enter into roaming agreements with multiple network providers to ensure enhanced coverage. Use of international SIMs (whether supranational or extra-territorial) has the same effect and is an established industry approach for the M2M sector.
- Competition - it has also been suggested that the HLR proxy model facilitates greater competition in the M2M supply chain. However, there is already vigorous competition in the M2M market, with connectivity providers already sub-allocating numbers to service providers and system integrators to resell M2M capability. Regulatory intervention is not required.

(continue here if necessary)

**Question 138:** Should the electronic communications framework address in a coherent manner other aspects of identification and authentication of M2M networks, i.e. not only numbering but also IP addressing and cognitive identifiers?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

It is vital that equivalent services are treated in an equivalent manner. Projections for the M2M market highlight the variety of competing technologies active in this market. Machina Research (M2M Global Forecast and analysis, 2014-24) has estimated that in 2014 there were 5 billion total M2M connections, of which 256 million were cellular based. Machina further estimates that this will rise to 27 billion total connections in 2024, with 2.2 billion of these cellular based. It is important that regulation does not in practice attach to just one subset of the market (in this case M2M services provided via mobile connectivity). Given that these different technologies may be actively competing, any intervention must be evidence-based and subject to a thorough competition analysis.

(continue here if necessary)

**Question 139:** In the face of the above issues, are national numbering plans a suitable way of administering numbers for Machine-to-machine (M2M) communications services of pan-European or global scale?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. If your response is negative, would you consider a European attribution system for M2M communications to have adequate geographic scope?

There are a number of suitable ways of administering numbers for M2M communications services of pan-European or global scale, which may involve the use of supranational numbers (i.e. E.212 or E.164 numbers

allocated by the ITU) or the extra-territorial use of an EU E.212 number. This is why we are answering the question in the affirmative. We can however understand concerns associated with depletion of national E.164 numbering resources that are used extra-territorially and so would advocate the use of supranational E.164 numbers allocated by the ITU in this respect.

Such an approach is welcomed by customers of M2M services, so that they can derive economies of scale from their operations. Further evidence of this usage can be found in the KPMG report 'Enabling the benefits of Industry Digitisation' available at

<http://www.vodafone.com/content/dam/vodafone-images/public-policy/policy-papers-and-news/Vodafone-Industry-Digitalisation-Report-051115.pdf>. We therefore believe that National Regulatory Authorities across the EU should adopt a suitably flexible approach in this area.

We do not see a requirement for a new pan-EU number range for M2M, given the existing approach works well for both us and our customers. We would however support a system of pan-EU authorisation for M2M, which could work in the following way:

- Applicants to the central EU authorisation entity (which could be BEREC) must demonstrate that the body that has allocated the numbering (i.e. whether the ITU or an EU NRA) has agreed for such numbers to be used for M2M and M2M-related applications across the EU;

- The authorisation criteria would ask the applicant to specify whether the applicant is seeking to roll-out different categories of service, specifically:

1. Communications between machines only (e.g. between a vending machine and a server);
2. Communications between machines with strictly limited human interaction (not peer-to-peer voice, e.g. eCall), and
3. Communications between machines which also includes configuration of an open internet consumer service (e.g. a car with an M2M SIM which is used for vehicle diagnostics and to create a Wi-Fi service for passengers in the car).

- For reasons of practicality, we do not propose that the pan-EU authorisation provides for any peer-to-peer voice functionality, given the wider range of national regulatory obligations (e.g. number portability) that may apply to such services.

In Vodafone's case, the ITU has explicitly authorised all of the three abovementioned use-cases for its supranational numbering allocation, based on its selection criteria as set out in 8.1 of Recommendation ITU-T E.164.1 [12]. One such example is criterion 8.1.8, which requires the applicant to demonstrate that other reasonable technical and operational numbering alternatives, e.g. use of national numbers, are not appropriate.

BEREC can then consider the request for pan-EU authorisation accordingly. Clearly, it remains the responsibility of the authorised party to comply with any specific requirements as found under national EU regulatory frameworks (e.g. any security requirements that may be

associated with any consumer facing open internet'capability as per example (3) above). Given the nature of M2M applications, however, such a requirement should be the exception, rather than the rule.

M2M applications are likely to drive demand for embedded SIM cards (eSIM) that are provisionable over-the-air (i.e. reprogrammable in order to authenticate the device with a different connectivity provider without physical change of the SIM) and eSIMs could also be used in end-user terminal equipment (handsets, tablets). The use of eSIMs may have implications on switching electronic communications service provider and the related rules.

Footnote [12]: Series E: Overall network operation, telephone service, service operation and human factors. Operation, numbering, routing and mobile services -International operation - Numbering plan of the international telephone service. Criteria and procedures for the reservation, assignment, and reclamation of E.164 country codes and associated Identification Codes (ICs). ITU-T Recommendation E.164.1

(continue here if necessary)

M2M applications are likely to drive demand for embedded SIM cards (eSIM) provisionable over-the-air (i.e. reprogrammable in order to authenticate the device with a different connectivity provider without physical change of the SIM) and eSIMs could also be used in end-user terminal equipment (handsets, tablets). The use of eSIMs may have implications on switching electronic communications service provider and the related rules.

**Question 140:** Will there be demand for SIM cards to be more easily provisionable over the air, for both M2M communications and end-users' own devices?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone sees a number of advantages to OTA provisioning. OTA provisioning ultimately enables customers to retain control and leverage over their communications spend. It allows the change of operator during the product lifecycle with greatly reduced costs compared with manual SIM swaps. See GSMA study at <http://www.gsma.com/newsroom/wp-content/uploads/BRL-Benefits-Analysis-GSMA-Embedded-SIM-Specification-2014.pdf> for a detailed overview of take-up across market sector.

It is important, however, that regulation does not unduly favour one delivery model (i.e. use of a SIM capable of OTA provisioning) over another (e.g. use of a supranational resource on an extra-territorial EU E.212 resource) over another. Some business customers may not see the need for OTA provisioning. For example, those that are embedding a SIM in equipment as part of the production process which is then resold by their own customers to as yet unknown third parties. Further examples can be found in the KPMG report referenced in response to question 138. Customers in other industry sectors may however value OTA functionality.

(continue here if necessary)

**Question 141:** Should over-the-air provisioning of SIM cards be promoted by regulation?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. If your response is positive, please indicate in which circumstances and by what means this should be promoted.

Given the alternative delivery models highlighted in relation to question 140, regulators should not 'pick winners' (in this case OTA provisioning). If the concern is that there is not sufficient progress underway in relation to OTA provisioning, this is certainly not the case.

For example:

- The GSMA has recently published enhancements to the standards that enable customers to re-program a SIM from one mobile operator to another. The GSMA has also published guidelines which specify the business processes that will be executed when changing operators. This is aimed at providing customers with more confidence that the business processes will be executed when required in a formal, secure, predefined manner that is transparent to all parties.

- Related to this, Vodafone is helping to drive the development of an Independent Entity that will monitor and manage the process of switching operators, provide audit and dispute assurance, guarantee service levels and reduce the cost of switching through shared network components and standardised interfaces. This will build trust with customers that want assurance that they can switch operators at the end of contract. It will also help address security issues as it simplifies the ability to perform end-to-end security audits.

- This Independent Entity will enable industry to effectively 'self-regulate' in a manner that is open and transparent, ensuring that the market can scale effectively, especially given the complexity of switching large sets of devices across geographies between many potential operators. This industry approach will have the following objectives:

- o Timely and reliable provisioning of profile changes with a guaranteed performance (to agreed service levels);
- o A contractual regime that is scalable and does not require "many to many" contracts;
- o A messaging mechanism that records transactions for issue management and dispute resolution; and
- o A code of practice that is maintained according to evolving industry needs.

(continue here if necessary)

If broadcast content is considered relevant inter alia for pluralism, freedom of speech or cultural diversity, 'must carry' obligations ensuring the transmission of specified TV and radio channels can be imposed on providers of broadcast networks (e.g. cable TV or terrestrial TV networks).[2] Similar obligations cannot be imposed on platforms which provide TV services over the open Internet (such as e.g. Netflix, Magine). Furthermore, traditional TV and radio channels represent a declining share of audiovisual consumption patterns and relevant content can also be presented in videos, audio- and text files provided over the Internet and viewed on devices other than a TV set (e.g. smartphones, laptops, PCs).

Member States can also influence the scope and determine the order of TV channel listings in electronic programme guides in TV sets (electronic programme guides, EPG). Some stakeholders have suggested to extend these navigation facilities, e.g. to a general 'findability' facility which would make it easier for end users to find any particular item of relevant content via Internet access.

[1] Similar issues have been raised in the context of media regulation, see the [consultation document](#) pp 18-29. Further information on the consultation is provided [here](#)

[2] The obligations may include the transmission of services specifically designed to enable appropriate access by disabled users.

**Question 142:** Regarding digital content considered relevant for general interest objectives such as pluralism, freedom of speech or cultural diversity typically provided by public services broadcasters, but also by some designated private broadcasters and potentially by other sources, please indicate whether you have experienced (several answers possible):

- cases where availability of such content could be (or risks to be) prevented or restricted
- cases where finding such content could be(or risks to be) made unreasonably burdensome for viewers
- cases where finding and enjoying such content could be (or risks to be) unreasonably burdensome for disabled viewers
- cases where such content is only available in a form which is modified or compromised by a third party beyond the control and without the consent of the broadcaster/source

Please explain your response and provide concrete examples

Content is not only increasingly sold in bundles, with the same company supplying content and connectivity to end users, but also increasingly owned by the distributor (see also Q 19 and 21). Consequently, content is more and more sold exclusively to customers of the distributor's own distributing services, e.g. broadband, or, if available to other customers, at less attractive conditions both in terms of quality and price.

Additionally, powerful studios and broadcasting companies impose restrictions regarding functionalities such as add-skipping, pausing or out-of-home usage, to the detriment of the consumer. Even functionalities such as cloud-based recording are restricted unless costly licenses were obtained, even though recording functionalities have been available to the consumer without additional payments for many years. This is particularly the case for broadcaster with must-carry status.

This clearly indicated that (vertically integrated) broadcaster are becoming new bottlenecks and that the European Commission needs to do more to ensure the consumer has access to events of major importance and similar premium content, particular live sports events, and to enable distributors to offer this content in a consumer-friendly way.

(continue here if necessary)

**Question 143:** Is there a need to adapt or change the provisions on:

	yes	no
'Must carry'	<input checked="" type="radio"/>	<input type="radio"/>
Electronic Programme Guides (EPG)	<input checked="" type="radio"/>	<input type="radio"/>

Please explain your response.

Given the lack of scarce transmission resources on digital networks and the lively competition between content distributors, there is no need either at European or national level to regulate access for (public value) content to distribution services. This might have been justified in times when analogue network resources were scarce. However, the way

networks are operated and audio-visual content is distributed has since changed significantly. Most notably:

- Limited analogue capacities have been replaced or supplemented by digital broadcasting, more than trebling the number of channels distributed.
- Broadcast channels and video on demand services are also available independently from the network service via an increasing number of OTT players.
- The balance of power along the value chain shifted significantly towards broadcasters. Powerful broadcasting companies do not only dictate the commercial terms of the distribution of content, but also impose restrictions regarding functionalities such as add-skipping or recording to the detriment of the consumer. This is often particularly the case for broadcasters that benefit from must-carry status and use their position to enforce distribution agreements at non-commercial rates.

Accordingly, Vodafone asks the Commission to consider, within its review, a new approach which includes, among others things, the following changes to the Framework regarding the regulation of access to content:

- Instead of regulating access for broadcaster to content distributors, there needs to be more effective regulation that enables distributors to access content. NRAs need to be enabled to impose e.g. cost-based wholesale must offer obligations on all content provider that have a dominant position in one of the relevant adjacent markets.
- In case the must-carry concept should be continued, then a fairer balance between privileged broadcasters (those with must-carry status) and content distributors must be sought. This requires to include mandatory provisions at European level on a fair on compensation for content distributors
- Any remaining options for Member States to impose must-carry obligations need to be restricted to a limited number of broadcasting channels that are of the most, outstanding importance for the individual and public forming of opinion.
- It must remain the choice of the consumer if and which must-carry channels to use, or to subscribe to non-must-carry channels only.

Vodafone supports the aim of making as much content available and findable for the consumer as possible. However, Vodafone believes that this can best be ensured on fair and non-discriminatory terms. Distributors already offer consumer-friendly search and recommendation functionalities that allow to easily navigate and find all content available. Offering some broadcasters "preferred visibility" would not only limit consumer choice, but also discriminate against other content, usually to the detriment of local or niche content, and force European platforms to offer less attractive services that do not match consumer demand, e.g. if algorithms must be manipulated in order to recommend particular content.

Accordingly, Vodafone asks the Commission to clarify within the EU framework that general rules on fair and non-discriminatory listings are sufficient to ensure that any such content available on a platform can be found by the consumer.

(continue here if necessary)

### 3.6. The universal service regime

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With the opening of the telecommunications market to competition there was a need to provide safeguards for those circumstances where competitive market forces alone would not satisfactorily meet the needs of end-users, in particular the case where they lived in areas which were difficult or costly to serve, or who had low incomes or disabilities.

The three basic characteristics of the current universal service concept relate to availability, affordability and accessibility, while minimising market distortions. The scope of universal service as determined at EU level includes: (i) access at a fixed location comprising: a connection to a public communications network enabling voice and data communications services at data rates sufficient to permit functional internet access, and access to publicly available telephone services (PATS); (ii) a comprehensive directory; (iii) comprehensive directory enquiry service; (iv) availability of public payphones. Furthermore, Articles 7 and 9 of the Universal Service Directive contain additional elements which may be a part of the universal service obligation(s), namely measures for disabled users and affordability of tariffs.

The current rules do not explicitly mandate the provision of a broadband connection within the scope of universal service at EU level. However, Member States have the flexibility to do so in light of their national circumstances. So far, a few Member States (Belgium, Croatia, Finland, Malta, Spain, Sweden and, only for disabled end-users, Latvia) have decided to include broadband connections within the scope of universal service (from 144kbps up to 1 and 4 Mbps).

The universal service regime provides for the following means to finance the universal service obligations: (a) a public fund, (b) a fund to which providers of electronic communications networks and services are required to contribute, or (c) a combination of both.

The EU has developed other policy tools outside the universal service regime in order to address the needs of users, in particular as regards the deployment of broadband and access to digital services. For instance the Directive 2014/61/EU on measures to reduce the cost of deploying high-speed electronic communications networks; promotion of and usage of public funding from Structural Funds or from the Connecting Europe Facility; promotion of stability of prices for regulated wholesale access to SMP copper networks, and pricing flexibility for non-discriminatory regulated access to SMP NGA networks; advocacy of broadband coverage requirements in less densely populated areas as part of the spectrum assignment conditions; and adoption of the EU state aid rules to support the deployment of broadband networks in areas where there is a market failure.

### 3.6.1. Evaluation of the current rules on universal service

The first set of questions aim at providing input for the evaluation of the functioning of the current regulatory framework.

**Question 144:** To what extent has the current universal service regime, both as defined at EU level and implemented at national level, been effective in ensuring:

	significantly	moderately	little	not at all	do not know
a) the availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b) affordability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c) and accessibility of electronic communications services to all EU citizens?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response.

Existing legislative approaches to Universal Service have not proven effective in the past and are not appropriate to the challenges which Europe faces today and in the future. The communications needs of European citizens have instead been met by fixed and mobile markets without legislative action on universal service. Current trends make existing universal service arrangements, which are focused on subsidising fixed services, both unsustainable and unnecessary. Mobile is replacing fixed services altogether in some households, especially in low income households. Recognising this, some Member States have never activated the existing universal service provisions, or have only partially done so. Where Member States have implemented measures on universal service, this has been done in an inconsistent way across Member States and has attracted a disproportionate number of infringement proceedings and other legal disputes. Many of these are still ongoing, diverting resources away from helping the users who should be at the heart of this debate.

There is a need to replace outdated obligations on fixed incumbents with objectives for the industry as a whole. It is important to distinguish between universal access and targets for rollout of next-generation broadband. Universal access should be funded by public funds if the market cannot fulfil the objective. Next generation rollout targets should not, and should instead be addressed via spectrum harmonisation on timing and conditions and longer licences (essential for coverage and capacity), and fostering investment in FTTH to drive future-proof networks and infrastructure sharing.

One exception is accessibility for disabled users; whilst much is done by ECS providers, more needs to be done within the wider ecosystem, both in terms of tools and education, to serve these groups.

(continue here if necessary)

**Question 145:** From your experience, is the current universal service regime, both as defined at EU level and implemented at national level, efficient taking into account administrative and regulatory costs and the (positive and negative) effects produced?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response, and indicate if you have suggestions for improvement.

The current regime has led to uncertainty and in some cases litigation, for example in relation to the mechanism for cost assessment and the concept of “unfair burden”. As recognized in the EC Electronic Communications Implementation Report as regards the financing of universal service provision, requests for compensation have been received to date in 17 Member States but compensation has so far been paid out in only five of those countries. Spain’s new 2014 Telecommunications Law defines a revenue threshold to determine which operators should contribute to the financing of universal service. Malta is currently carrying out a consultation to determine how universal service should be financed. As for Portugal’s compensation fund to finance the net costs of universal service obligations, the Commission has raised concerns regarding its implementation and compatibility with the relevant requirements under Directive 2002/22/EC.

Going forward, USO requirements should only be imposed where the relevant outcome is not already addressed via the market and should be publicly funded to avoid the imposition of an “indirect” tax on telecommunications operators.

(continue here if necessary)

**Question 146:** Has the universal service regime been an efficient policy tool to ensure that end-users are safeguarded from the risk of social exclusion?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

The aim of providing universal voice telephony access has not been reached through fixed telephony, which is in decline. As set out in the European Commission Eurobarometer 414, while more than two thirds of EU households have fixed telephony access the proportion continues to decrease. In addition, the Universal Service obligation on the incumbent fixed operator has failed to reach segments of the population that do not have access to a telephone line because they do not have a fixed address (e.g. out of home students and professionals, home sharers, immigrants).

As stated in the same Eurobarometer report, this demand has been met by mobile telephony, with more than nine in ten households having access to a mobile telephone (92%). Mobile phone access in households has remained relatively stable at EU level (+3 percentage points) and has slightly increased in nearly all Member States since 2011. Mobile is the primary communications channel for many low income households that cannot afford both fixed and mobile service.

Already for a number of years low usage plans are cheaper on mobile than on fixed. This is evidenced from the Eurobarometer report ([http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_414\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_414_en.pdf)) which shows that at in 2014, 31% of households had a mobile phone but no fixed phone, whereas only 6% of households had a fixed phone and no mobile phone. Also, mobile networks already cover the great majority of any national territory (particularly if coverage from all mobile operators is aggregated).

(continue here if necessary)

**Question 147:** Is the current universal service regime coherent with other provisions and underlying principles of the EU telecom regulatory framework and other EU policies (such as state aid)?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

The universal service regime has become obsolete and today the market is delivering almost all the obligations. In that sense, designing one or more operator(s) in charge of specific services is not consistent with a competition based model. Moreover, the fact that in countries where the sectorial fund has been implemented there are financial transfers between competing operators can create questions in terms of competition fairness.

As further explained below, the use of State aid rules to achieve public interest goals that would not be delivered by the market would be more efficient and less subject to litigation.

(continue here if necessary)

**Question 148:** To what extent have the current rules regarding universal service obligations contributed to EU policy objectives and the interest of the citizens of the EU, in particular citizens at risk of economic and social exclusion?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

Please refer to response to questions 145 and 146

(continue here if necessary)

### 3.6.2. Review of the universal service rules

#### a) Universal service regime

**Question 149:** Will a universal service regime still be needed in the future to ensure that a minimum set of electronic communications services are made available to all users at an affordable price at a fixed location?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Please refer to response to questions 145 and 146.

(continue here if necessary)

**Question 150:** Does universal service have a role in future in the sectorial context of electronic communications in order to provide a safety net for disabled end-users, as opposed to being left to general law?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response, in particular what should be the elements which should be considered.

There are a wide range of packages and services available to disabled users today, as most operators already offer packages and services on a voluntary or regulated basis as identified by BEREC in its recent consultation on this subject. However, the approach to accessibility needs to be fully integrated across the industry value chain, regulators, government ministries and NGO support groups. In particular, hardware manufacturers and OS developers are as important to improving the equivalence of choice of services as ECS providers. We would support the extension of accessibility requirements to all digital services and hardware providers and also the promotion of self or co-regulatory schemes in this area.

The following table summarises what Vodafone is doing in each country in which it operates:

INSERT TABLE HERE [see ANNEX]

(continue here if necessary)

## b) Scope of universal service

Technological and market evolution has brought networks to move to internet protocol technology, and consumers to choose between a range of competing voice service providers. 36% of Europeans use voice over IP applications from a connected device to make cheaper or free phone calls (see "[Special Eurobarometer 414](#)").

At the same time, mobile telephony services are widely available and the tendency for fixed-to-mobile substitution is increasing. While there are still some localised problems with mobile "not spots" even for basic 2G services such as voice telephony, widespread availability and reasonable affordability of mobile telephony significantly reduce the need for a separate access to PATS at a fixed location.

**Question 151:** Do you consider the current universal service scope adequate in the light of latest as well as expected future market, technological and social developments?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Market forces are now delivering most of the universal service obligations, as also highlighted by the European Commission in its latest Digital Agenda Scoreboard for 2014. The current scope is therefore obsolete and any objective of public interest would be better achieved by other more efficient means, such as public funding, social cohesion policy.

(continue here if necessary)

**Question 152:** In the light of recent and expected future technological and market developments, is the requirement for the provision of telephony services at a fixed location necessary?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

What reassurances are needed that for example VoIP or mobile telephony can provide reliability, quality and security on par with such services? Please explain your response.

No - please see answers to Questions 145 and 146.  
As indicated in answer to the previous question, telephony services are provided through various types of players. In addition mobile networks operators have already and independently of the USO committed to specific obligations in terms of quality, coverage or security (for instance via spectrum licensing conditions); those players provide ubiquitous voice services on a competitive basis.

(continue here if necessary)

The market trends over the last years show an increasing shift of EU consumers from fixed voice telephony to mobile-only. It can be expected that the anticipated full fixed-mobile network convergence facilitated by the advent of 5G mobile networks by 2020 will further amplify that trend.

In this context, it could be worth exploring whether the provision of access to a network connection should be delivered at a fixed location (i.e. the end-user's primary location or residence) as under the current Universal Service Directive, or whether it could be more relevant to focus on individual end-users. The universal service objective could in such a case shift to provide connectivity to a network at all locations.

**Question 153:** In light of future market and technology developments and user expectations, would you consider that the provision of connection to a network under the universal service should be targeted towards providing connectivity to end-users anywhere rather than to households/at primary location?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response, also by reference to alternative tools such as coverage requirements in spectrum licences. What could be the possible implications in terms of likely designated universal service operators, the costs, the impact on private investments and on other regulatory measures?

We consider that the current system is not efficient, has legal risks and is largely obsolete. It should not be extended but replaced, where needed, by other tools such as State aid for achieving objective of universal access if and only if the market does not deliver by itself. In that sense, connectivity to broadband via mobile networks is already largely available in the EU.

(continue here if necessary)

Recent surveys show a declining usage of some of the services under the current universal service obligations, in particular with regard to public payphones, directory enquiry services and phone directories (see "E-Communications and Telecom Single Market Household Survey" (2014),; for phone directories see "[E-Communications Household Survey Report](#)" (2010), Special Eurobarometer 335). At the same time, it can be observed that many Member States have relaxed their universal service obligations related to these services. Some Member States have never imposed universal service obligations in this respect. In general, comprehensive directories and comprehensive directory services are often deemed to be satisfactorily delivered by the market without the need for a public intervention, while public payphones are often considered of declining significance due to widespread availability of comparable services such as mobile telephony, for example.

**Question 154:** Given the latest and expected future market and regulatory developments related to provision of the following services, is it justified to maintain them in the scope of universal service?

	strongly agree	agree	disagree	strongly disagree	do not know
a) public payphones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b) comprehensive directories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c) comprehensive directory enquiry services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please explain your response.

Directory services are already offered on a competitive basis by many different providers through operators, voice recognition technologies and SMS. Availability of the same information (for free) through the internet is a further competitive alternative to traditional directory services providers. Many Member States have already taken directory services out of the USO scope. In 18 Member States there is no obligation to provide a comprehensive directory enquiry service, while in 14 Member States there is no obligation to provide a comprehensive telephone directory.

Public phone boxes: the need for public phone boxes as a normal mean of communications or for emergencies is now minimal. At the same time, the costs of providing the service are simply too high relative to the minimal benefits for customers. There are no universal service obligations on payphones in 12 Member States.

Therefore we would not recommend maintaining these obligations in the future.

(continue here if necessary)

Article 7 of the Universal Service Directive on specific accessibility and affordability measures for disabled end-users related to network connection and PATS gives a clear preference to similar (not mandatory) measures being taken under Article 23a of the Universal Service Directive, where requirements enabling access and choice for disabled end-users can be imposed on a much wider scope of undertakings (all undertakings providing electronic communications services as opposed to only those with a universal service obligation).

**Question 155:** Would it be reasonable to require mandatory measures for disabled end-users to be imposed on all undertakings providing electronic communications services (strengthening Article 23a of the Universal Service Directive) as opposed to only those with a universal service obligation (Article 7 of the Universal Service Directive)?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

No - see answer to Question 150.

(continue here if necessary)

In order to boost digital inclusion and reduce the digital divide, the question arises whether to extend or to focus the scope of universal service obligations to provision of very high-speed broadband networks to public areas and places of specific public interest such as for example schools, universities, libraries, education centres, digital community centres, research hubs and health care centres, provided private and other public investments will not deliver. Such places are at the forefront of the development of the digital society, enabling the development of digital skills and boosting research and education in general.

Most of these could also function as public internet access centres (PIAC), which can offer internet access to the public, on a full-time or part-time basis (ITU [definition](#)). Such centres could help to familiarise citizens who have few digital skills and competences or little exposure to online services and applications with the benefits of connectivity. Positive effects could thus be expected in building skills, interest, and demand among less digitally aware segments of the population, as well as in giving citizens access to high-capacity connectivity on an occasional or (in the case of schools in particular) on a systematic basis.

**Question 156:** Should universal service play a role in future to help realising public interest objectives (such as very high-capacity connectivity for schools, public buildings such as libraries, and university/research hubs)?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. If yes, what kind of solutions would be the most suitable (i.e. hotspots, fixed internet access)? And should such internet services in PIAC be offered free of charge to all users?

At this stage, the presumption should be that no public intervention (i.e. state or industry subsidies) will be required to fulfil such universal service objectives. However, if this is not the case, public support should be based on a clearly defined set of principles: intervention should be limited to clearly demonstrated cases where the market cannot fulfil the Universal Access Objectives, funded by the state and with safeguards in relation to competition and to avoid discriminatory treatment of specific undertakings or sectors.

(continue here if necessary)

### **c) Provision of broadband connectivity and access to Internet service to all end-users**

Access to the Internet through a broadband connection has become an essential service over which a number of specific services are being used by a majority of consumers. On average, 75% of Europeans use Internet, either via fixed or wireless means. New developing services, such as digital media content, cloud computing, Internet of Things, eHealth or eGovernment are becoming crucial for EU citizens and businesses to actively participate in the digital society. It can be reasonably expected that in future, the role of broadband as an enabler of access to services becomes even more prominent.

By 2014, basic broadband has been made available to all in the EU, when considering all major technologies (xDSL, Cable, Fibre to the Premises, WiMax, HSPA, LTE and Satellite ). Fixed and fixed-wireless terrestrial technologies covered 96.9% of EU homes in 2014. However, coverage in rural areas is substantially lower for fixed technologies (89.6%) ([See Digital Agenda Scoreboard](#)).

Broadband take-up has increased considerably in past years. 78.3% of EU households had a broadband connection in 2014, however the number of connected households in rural areas is substantially lower. Fixed broadband penetration (by households) rose to 69.9% and mobile broadband was used by 72% per 100 inhabitants.

In view of rapid deployment of 4G in recent years, and further deployment of fixed networks in parallel (in rural and sparsely populated areas facilitated by available public funding or through territorial coverage requirements in spectrum licences or national legislation), it is likely that the 30 Mbps DAE broadband target will largely be met by 2020 through a combination of fixed and mobile technologies.

However, even assuming a very broad deployment of 4G, some areas, including extremely low density areas and places with very difficult geographical conditions (such as mountain valleys, islands, or other peripheral areas) are likely to remain not covered with networks providing 30 Mbps connectivity.

**Question 157:** Do you see reasons for or against explicitly including access to a broadband network connection allowing functional Internet access within the scope of universal service at EU level?

- For including
- Against including
- both

Please explain your response, in particular what would be the possible implications for the economy and society.

Vodafone does not consider it necessary to include broadband network connection allowing functional Internet access within the scope of universal service. The primary role of the USO has been to provide a safety net where competitive forces are unlikely to meet socially desirable objectives. Since its introduction emphasis has been placed on ensuring access, availability and affordability to existing fixed infrastructure. Saved for the special needs of disabled users for which Vodafone considers that specific mechanisms continue to be necessary, the industry has been able to meet the needs of European citizens, often without recourse to universe service obligations. According to the latest data from the European Commission there is widespread availability of broadband, even in rural areas:

- o Fixed broadband coverage stands at 82.8%
- o Mobile broadband (HSPDA) stands at 88.9% with LTE coverage doubling between 2013 and 2014 to reach 27%.

Further, while Vodafone fully supports the policy goal to foster broadband coverage in rural areas, the market failure that may arise in these areas can be best addressed through other tools, such as State aid. Extending the current USO to new obligations that require investment in new infrastructure would bring significant uncertainties and is likely to reinforce the dominance of existing fixed line incumbents.

The primary focus should be to create a policy and regulatory framework that maximizes the scope for private investment by lowering the cost of deploying networks and making use of spectrum license conditions to support the attainment of coverage goals.

Where market failures exist, properly designed and implemented public subsidies scheme that focus on future-proof investment and pro-competitive models are preferable.

(continue here if necessary)

**Question 158:** If included in the universal service, how should the broadband connection be defined in a manner that would allow sufficient flexibility to cope with different Member State situations? Or should it be defined in a way that enables end-users to use certain categories of services (i) used by the majority of end-users or (ii) considered as essential for the participation in the digital economy and society?

- By requiring a minimum download/upload speed
- By enabling the use of certain services
- By speed AND service use
- Other parameters

Please explain your response.

Should broadband be included within the scope of universal service, which Vodafone does not consider necessary, the designation of the USO provider should remain optional. Further, the obligation should only enable the use of certain services. As explained above, the attainment of specific speed targets requiring investment in new infrastructure should not be the subject of USO, State aid is a more appropriate tool.

(continue here if necessary)

**Question 159:** If broadband connection were to be included in the universal service regime and defined "by services used", what would be such 'essential' minimum online Internet services? (more than one answer is possible)

- Sending/receiving E-mails
- Voice communication over the internet
- Access to information (online news; information about goods and services)
- General Web browsing
- cloud services
- E-Government
- Internet banking
- E-health
- E-learning
- E-Commerce/ online shopping
- Social Networking
- Maps and transport
- Streaming music/internet radio
- Streaming video/video on demand
- Other Multimedia
- Gaming
- Assistive tools for persons with disabilities
- Other

Please explain your response.

It should include the services required to avoid digital exclusion, such as Internet Banking, e-government, etc.

(continue here if necessary)

**Question 160:** Can it be ensured that broadband under universal service obligations is provided in a cost-effective manner causing the least market distortions, on a forward looking basis?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

The current USO system has proven inefficient and should be replaced not extended. The achievement of legitimate policy goals can be fostered by incentivizing private investment, lowering the cost of deployment, demand stimulation and the use of well-designed public funding schemes in case of market failures.

(continue here if necessary)

**Question 161:** Is the inclusion of broadband in universal service likely to have a disruptive impact on commercial broadband investment plans and usage of other policy tools to drive broadband deployment?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. If your response is positive, what could be the appropriate protective mechanisms against such crowding out effects?

It would likely have a disruptive impact on commercial broadband investment plans and usage other policy tools. The more “demanding” the new broadband USO the greater the disruptive impact would be. It would give rise to a number of adverse consequences, including competitive and investment distortions (including crowding out of private investment), market uncertainty and unpredictable financial transfers between competitors.

(continue here if necessary)

**Question 162:** Considering the disruptive effects that universal service obligations may have on the market, should other public policy tools (state aid, demand promotion measures) be used to foster broadband deployment, either as an alternative or as a complement to universal service obligations?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

As explained above, in case of market failure, the use of well-designed State aid schemes and demand stimulation policies would be more efficient to achieve specific policy objectives than the an extension of USO to broadband

(continue here if necessary)

#### **f) Financing of universal service**

Increasing broadband connectivity provides benefits not only to the electronic communications sector, but also to online service and content providers as well as users and the society as a whole, as broadband is an enabling technology that facilitates the use of a wide range of online services by citizens and businesses.

A possible inclusion of broadband services within the scope of universal service is likely to increase the cost of providing the universal service. At the same time, the inclusion of broadband would certainly expand the number and range of beneficiaries of a universal service – all providers of online content, applications and services potentially benefit from the business opportunity presented by ubiquitous very high-capacity connectivity. The same is true of individual end-users, who are increasingly "prosumers", generating large amounts of online material available to a wide audience.

Taking into account the need to close the digital divide, one question to be addressed is whether a future funding mechanism should be administered, as now, at national level, or should be administered at EU level in order to permit contributions to be distributed across Member States.

**Question 163:** What is the most appropriate and equitable way of financing the universal service, in particular in light of a possibility to include broadband into universal service scope, taking into account all those who benefit from its provision?

- public funding
- electronic communications sector
- providers of online content, applications and services
- all end-users (e.g. by an extra charge on their monthly invoice)
- a combination of public funding and industry funding
- other sectors

Please explain your response.

Given the widespread benefits of broadband and the aim to achieve public interests goals, the most appropriate and equitable way of financing universal service would be through public funding. The current system, based on contribution from the sector has led to numerous litigations and has failed to take into account other actors of the value chain.

(continue here if necessary)

**Question 164:** As regards individual contributions by relevant undertakings, how should they be calculated?

- fixed fee per contributor
- volume-based fee
- transaction-based fee
- market share
- revenue share
- other

Please explain your response.

Vodafone does not support the principle of contributions from the sector. The designation of USO operators and calculation of the net cost of USO have been protracted and litigious. However, should the current system remain in place, the use of revenue share is likely to be appropriate to calculate individual contributions.

(continue here if necessary)

**Question 165:** As regards individual contributions by relevant undertakings:

	strongly agree	agree	disagree	strongly disagree	do not know
a) Should there be any minimum/maximum contribution?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b) Should certain small market players/certain groups of end-users be excluded from contributions in order to safeguard against undue financial burden?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please explain your response.

For the reasons set out above, Vodafone does not support contributions from the sector. The funding of those obligations should come from Member States budget.

In the event that the current system is continued, then contributions should be applied to all actors of the value chain, not just telecom operators and consideration should be given to reasonable de minimis rule for small entities.

(continue here if necessary)

**Question 166:** In view of helping to close the digital divide across the EU, could a new universal service funding mechanism set at EU level and made up of contributions from across Member States be considered an appropriate tool to facilitate sharing of the costs involved?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. Does your response depend on the source of the contributions (public general budget; electronic communications sector; providers of content, applications and services; all end-users)?

Vodafone disagrees that a new EU wide universal service fund should be created consistent with its position that the scope of the USO should not be extended. Obligation of public interest should be funded by Member States budgets.

(continue here if necessary)

### 3.7. Institutional set-up and governance

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Whilst the lack of consistency in the regulatory approach taken at national level is not solely attributable to the regulatory set-up in the EU, it has become apparent over the past years, that it is – to a degree at least – the result of the institutional set-up (see Study on [How to Build a Ubiquitous EU Digital Society](#)) and the way the various institutional players (i.e. mainly the NRAs, the Body of European Regulators, i.e. BEREC, and the European Commission) interact and can influence the regulatory outcome (see Annex IV for more background).

Diverging regulatory conditions in the individual national markets can have a profound effect on cross-border trade and, thus, on the development of a Single Market in electronic communications and may significantly distort competition across the EU. Significant divergences by the individual institutional actors in the pursuit of existing regulatory principles and regarding how the objectives of the regulatory framework are implemented across the EU can create considerable obstacles to cross-border trade and market entry; Therefore, whilst consistency across the EU is not a primary goal in itself, it is necessary to address concrete obstacles arising from divergence. For example, on the fixed side, only a few operators are offering pan-European services to multi-national corporations (see Annex III for more background).

In addition, in particular the benefits of wireless innovation can only be realised if Member States and the European Commission cooperate efficiently and effectively, based on a spectrum governance framework that is aimed at ensuring economies of scale for wireless equipment and coherent spectrum usage conditions throughout the Digital Single Market for users.

#### 3.7.1. Evaluation of the current institutional set up and governance structure

The first set of questions aim at providing input for the evaluation of the functioning of the current regulatory framework.

**Question 167:** Are the current rules regarding the political independence of the NRAs, as set out following the 2009 review in Article 3(3a) of the Framework Directive, complete and clear enough and have they been effective in attaining the objective of ensuring that in the exercise of its tasks, a national regulatory authority is protected against external intervention or political pressure liable to jeopardise its independent assessment of matters coming before it?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response. If possible, please specify what improvements, if any, could be envisaged to reinforce the political independence of the NRAs

Vodafone believes that the current rules regarding the political independence of NRAs have - with a few exceptions which led to the Commission initiating infringement proceedings against some Member States - worked well in the past. However, it should be noted that mandating independent NRAs is not an end in itself. Rather, it is the independence of the regulatory process as a whole that is required. There needs to be a clear distinction between the role of governments and parliaments in setting policy and NRAs in implementing that policy through detailed regulations. There have been recent examples where the distinction between policy setting and regulation has become blurred, e.g. the UK Government taking an active role in national roaming and the European Parliament and the European Council taking an extremely detailed role in the formulation of the Telecoms Single Market Regulation. In both cases, not only are non-regulatory experts able to introduce detailed regulation, they are also able to do so without going through the same cost-benefit analysis that is incumbent upon NRAs and the European Commission.

An additional point that is worthy of note is the question of independence of government in relation to the communications industry. Some Member States still hold a significant number of shares in the incumbent operator. Consideration needs to be given as to whether the independence of governments will assist in ensuring that NRAs are able to fulfil their tasks without political interference.

(continue here if necessary)

**Question 168:** In your view, has the current EU consultation process under Article 7/7a of the Framework Directive been effective in achieving a consistent application of the EU rules for market regulation in the electronic communications sector?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

The Article 7/7a process has clearly contributed to a more harmonised and consistent application of the EU rules for market regulation in the electronic communications sector. Vodafone, however, sees a way how the current Article 7/7a process could be improved:

Single Market Relevance: The current process does not ensure that the resources of the Commission, BEREC and the NRAs are allocated to those issues of market regulation which have a clear relevance for the single market [13]. It is not necessary for the Article 7/7a process to be followed by NRAs for every single draft regulatory measure which falls within the scope of Articles 15 or 16 of the Framework Directive, or Articles 5 or 8 of the Access Directive. In this respect, the EU Merger Regulation finds a much clearer distinction between cases which should be dealt with by the European Commission and cases which should be dealt with by National Competition Authorities. In order to develop a Digital Single Market it does not seem necessary that the Commission reviews every single measure of market regulation across all 28 NRAs for all markets set out by the Commission Recommendation on Relevant Markets. Instead, the revised Regulatory Framework could set out principles which determine thresholds for determining whether a measure should be subject to the Article 7/7a process (single market relevance). The Commission could then define markets in a Recommendation as it currently does and also indicate which markets in which Member States have relevance for the single market. The market reviews and regulatory measures adopted by NRAs with regard to these markets would then still be subject to the Article 7/7a process. For the remaining markets, the Commission could retain a right to intervene ex post within a certain period in cases of non-compliance with the framework.

Footnote [13]: We hereby do explicitly not refer to the notion of a measure affecting trade between Member States as included in Art. 7 (3) lit b) of the EU Framework Directive.

(continue here if necessary)

**Question 169:** To what extent has BEREC efficiently achieved its main objective, i.e. contributing to the development and better functioning of the internal market for electronic communications networks and services by aiming to ensure a consistent application of the EU regulatory framework for electronic communications?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

Vodafone is of the opinion that BEREC has significantly contributed to the development and better functioning of the internal market for electronic communications networks and services since it was established in 2010. BEREC's work has proven considerably valuable in the opinions BEREC has delivered under the Article 7/7a notification procedure, as well as through its work on matters of pan-European relevance such as roaming, net neutrality or M2M communications. This is not least through BEREC's ability to involve specialists from the NRAs and use their expertise in regulation through the Expert Working Groups. BEREC has also provided valuable expert input to the European institutions in various legislative procedures of the recent past. Overall, BEREC has played a significant role in contributing to further harmonisation of EU telecommunications law.

However, to some extent Vodafone the criticism voiced by some that BEREC's current institutional set-up results in it opting for greater flexibility or the lowest common denominator instead on focusing on a harmonised approach for the single market [14], in particular on more controversial issues where interests of Member States diverge and NRAs cannot agree. This sometimes leads to BEREC Positions and Guidelines which are descriptive accounts of the work of NRAs or a "menu of options", and not a collective commitment by the members of BEREC to take specific policy decisions or to pursue joint priorities.

It should be pointed out that this outcome is not surprising as it is established in the EU regulatory framework for electronic communications: Regulation No. 1211/2009 establishing BEREC requires the organisation to pursue the same objectives as those of the NRAs (Art. 1 (3)). It should also be recognised that the BEREC Board of Regulators (BoR) consist of the Heads of the NRAs and that the BEREC chair is

elected on an annual basis from the BoR members. This set-up is unlikely to help BEREC to focus more on building a single market. Therefore it is no surprise that a study for the Commission on the evaluation of BEREC published outlined that BEREC, as a single entity, should be more focused on missions that concern the single market: harmonisation of the internal market and empowerment of EU consumers [15].

In particular with a view to BEREC gaining additional responsibilities as a result of the review there are some improvements to be considered:

- Improving the governance structure of BEREC by appointing board members for four years, introducing majority voting for current business matters and establishing a Director appointed by the board.
- A more adequate funding of BEREC given that in 2013, BEREC was the smallest EU agency, with an EU budget contribution of only EUR 3 768 696 and 16 authorised posts under the EU budget in 2013.
- The location of the BEREC office should be reassessed.

In addition to the above, Vodafone welcomes the efforts proposed by BEREC in increasing transparency and involvement of interested stakeholders in the decision making process. This has been reached via greater use of public consultations and the publication of all documents on its website in a timely manner. However, Vodafone believes that BEREC's effectiveness and transparency could be improved further by adopting a number of initiatives, in most cases by revising the internal rules of procedure:

- Two-stage consultation process for most important issues. The first stage will involve a short document with key principles and open ended questions. The second stage will ask for interested parties' comments on a document where the draft position of BEREC is fully detailed. BEREC should also ensure that it clearly states where and why it does not follow the comments made by stakeholders on substantive issues.
- Longer consultation periods on key policy matters as the current maximum period of 20 working days is often not enough. This will also guarantee higher quality responses.

Our vision for the role of BEREC vis-à-vis the other European institutions is explained in more detail in our response to question 176.

Footnote [14]: See Study for the EP, How to build an ubiquitous EU Digital Society, 2013, p. 74; Study on the Evaluation of BEREC and the BEREC Office, Study prepared for DG Connect, 2012, p. 7.

Footnote [15]: Study on the Evaluation of BEREC and the BEREC Office, Study prepared for DG Connect, 2012, p. 155.

(continue here if necessary)

**Question 170:** To what extent have the current rules on resolving disputes between undertakings by the NRAs, as set out in Articles 20 and 21 of the Framework Directive, been efficient in their outcome?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

Vodafone is not aware of any particular problems in regards to the dispute resolution procedure set out by the Framework Directive.

(continue here if necessary)

**Question 171:** In your view, to what extent is there a sufficient degree of coherence in the application of the regulatory framework by the various institutional players (NRAs, BEREC, the European Commission) to ensure the fulfilment of the policy objectives established in Article 8 of the Framework Directive?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response (in doing so, please set out in which areas increased consistency would bring improved outcomes and would help fostering the single market for electronic communications).

Vodafone believes that the current framework has by and large helped the institutions involved in applying it to achieve a good degree of coherence. This applies in particular to all areas covered by the market regulation process and the area of roaming and (so far) net neutrality. Less coherent outcomes can be seen in areas where there is little oversight from the EU institutions (Commission, BEREC) and/or which are not harmonised in the same way as other areas, such as universal service, consumer protection, and spectrum regulation. We have already commented on the specific questions dealing with these areas to explain where we see a need for increased consistency.

(continue here if necessary)

**Question 172:** In your opinion, would a common EU approach (i.e. a more prescriptive EU framework which would further foster regulatory harmonization) add value in addressing the differences in the regulatory approach chosen by NRAs for individual markets in similar circumstances?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response. When doing so please set out what you consider to be the main variables, whether there are any justifications for such differences, where you see areas with less consistency and how you consider the EU governance process may influence the outcome.

Vodafone sees a number of areas where a common EU approach would foster regulatory harmonisation. These areas are in particular spectrum, consumer protection (including net neutrality), the standardisation of regulated access products to fixed networks, and to a certain extent also numbering. We explain how we believe an increased harmonisation can be achieved in our answers to the questions specifically addressed at spectrum, consumer protection, fixed access and numbering.

(continue here if necessary)

**Question 173:** Do you consider that there are areas, in which the current requirement to undergo an EU consultation process pursuant to Article 7 of the Framework Directive does no longer add value with regards to furthering the Single Market for electronic communications?

- yes
- no
- do not know

Please explain your response.

Vodafone believes that regulatory measures applied to markets where no changes are expected in the foreseeable future could be exempted from the obligation to carry out the Article 7 procedure. This would decrease the regulatory burden for market participants, NRAs and the Commission. The markets which could qualify for such an exemption seem to be the markets for wholesale mobile call termination and for wholesale fixed call termination (Markets 1 and 2 of the Commission's 2014 Recommendation on Relevant Markets). These markets have been regulated for many years and few divergences in regulatory approaches of NRAs have occurred as the Commission itself has demonstrated in its 2015 Implementation Report [16]. It should also be noted that these markets will have reached an even greater degree of maturity when the revised regulatory framework will have to be transposed by Member States.

The Commission could decide on which markets still warrant an Article 7 procedure in its Recommendation on Relevant Markets. Instead of making regulatory measures dealing with such 'mature' markets subject to the Article 7 procedure, the Commission could retain a right to intervene in cases where it feels that NRA draft decisions are endangering the goals set out by Article 8 Framework Directive [17] .

Vodafone also believes that the Article 7 procedure should be restricted to markets which are perceived to have relevance for the single market. We have elaborated on this approach in our answer to question 168.

Footnote [16]: SWD(2015) 126 final, Implementation of the EU regulatory framework for electronic communication - 2015, p. 11.

Footnote [17]: Here it should be noted that the Framework already foresees for exemptions from the notification requirements in Art. 7 (3) .

(continue here if necessary)

**Question 174:** To what extent has the Radio Spectrum Policy Group (RSPG) efficiently achieved its role of assisting and advising the Commission on radio spectrum policy issues, on coordination of policy approaches, on the preparation of RSPPs and on harmonised conditions with regard to the availability and efficient use of spectrum?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response and provide areas for improvement as appropriate.

Vodafone believes that the RSPG has fulfilled its role of assisting and advising the Commission on spectrum policy in the best possible way.

(continue here if necessary)

**Question 175:** To what extent has the current governance for spectrum efficiently and effectively contributed to the provision of electronic communication services across the EU?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

Please refer to the answer to question 212.

(continue here if necessary)

### 3.7.2. Overall institutional set-up and the role of BEREC

#### a) The role of BEREC and its set-up

The EU regulatory framework has been designed with flexibility in mind in order to allow national regulatory authorities to take account of national circumstances. However, the Commission has repeatedly pointed out (in particular, the Commission Staff Working Document "[A Digital Single Market Strategy for Europe - Analysis and Evidence](#)" of 6 May 2015) that many differences in the national regulatory approaches cannot be sufficiently explained by varying national circumstances.

The Body of European Regulators for Electronic Communications (BEREC) was established by [Regulation \(EC\) No 1211/2009](#), as part of the review of the telecoms framework. According to its mandate, BEREC shall contribute to the development and better functioning of the internal market for electronic communications networks and services. It should do so by aiming to ensure a consistent application of the EU regulatory framework.

The experience so far suggests that the procedural and institutional set-up currently in place appears to be ill equipped to ensure a more consistent approach in similar circumstances. In particular, with regards to imposing remedies, the balance between achieving harmonisation in a flexible framework appears to be tilted in favour of flexibility neglecting needs for consistency.

For example, whilst remedies are imposed on operators by NRAs at the national level, the Commission and BEREC almost exclusively input through non-binding instruments in order to attempt to achieve EU-wide regulatory consistency on this level. In the past, this "soft law" approach has led to significant differences in some areas, clearly proving to be an obstacle for the development of a Single Market.

The question arises whether BEREC has achieved and, in its current two-tier governance structure, can achieve its main objective of ensuring consistency amongst its members in the application of best practice telecoms regulation. BEREC, as one of the key stakeholders at European level, has been faced with some criticism. According to the study on "[How to Build a Ubiquitous EU Digital Society](#)", in its current governance structure, BEREC is primarily motivated by a desire for self-determination, and that it delivers verdicts based on a 'lowest common denominator', or prioritises flexibility over consistency in the Single Market.

Besides, in July 2012, the European Parliament, the Council and the European Commission endorsed a Joint Statement on decentralised agencies, which included a range of principles within the so-called Common Approach. The Common Approach aims at making EU agencies more coherent, effective and accountable and addresses a number of key issues: the role and position of the agencies in the EU's institutional landscape, the creation, structure and operation of these agencies, funding, budgetary, supervision and management issues, etc. The Common Approach is meant to serve as political blueprint for guiding both the establishment and review of EU agencies.

**Question 176:** Do you consider that the current institutional set-up at EU level should be revised in order better to ensure legal certainty and accountability?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. In doing so, please consider the Common Approach on decentralised agencies and indicate whether in your view there are examples of institutional arrangements in other sectors which could serve as a model for the electronic communications sector.

Please express also your views as to how to ensure that BEREC has greater medium-term strategic direction and can devise positions which pursue the common EU interest, going beyond a lowest common denominator approach.

Vodafone is of the view that the current institutional set-up for the regulation of the electronic communications sector merits a thorough review with a view to achieving the following:

- A clearer division of power between the different institutions involved in regulatory procedures at EU and national level to avoid situations where many institutions deal with the same issues.
- Making sure that the institution taking a decision is accountable for the decision, not only politically but also legally.
- A greater degree of harmonisation in the application of the framework by strengthening the role of BEREC (see below).
- A high level of transparency in decision making, including the involvement of stakeholders in decisions which are of relevance to them.

We believe that the Joint Statement from the European Parliament, the European Commission and the Council on decentralised agencies forms a good basis for achieving these goals.

At a practical level, we believe this is best achieved by strengthening the role of BEREC. As noted in the response to question 169, one of the criticisms of BEREC has been its inability to deliver clear and unequivocal guidance where interests of NRAs diverge. In order to deal with this, BEREC should become more independent from the NRAs (who can still have a supervisory role) and the BEREC guidance should have the same standing as Commission Recommendations, which NRAs are required to take utmost account of. This expanded institution would be responsible for all matters of technical regulation, and ensuring harmonisation across Member States. This body would also deal with Article 7/7a procedures.

The European Commission would still be responsible for legally binding decisions as well as initiating infringement proceedings against Member States that do not adequately implement the framework.

(continue here if necessary)

**Question 177:** Do you consider that establishing an EU Agency with regulatory decision-making powers within a clear framework of rules could positively contribute to achieving regulatory harmonisation in the EU telecoms single market in any of the following areas:

	strongly agree	agree	disagree	strongly disagree	do not know
a) market regulation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) spectrum management in the EU	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) end user protection	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) other	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response and specify if other.

Vodafone believes that market regulation, spectrum management, end-user protection and also the area of numbering require a more harmonised approach which should also be reflected in the institutional set-up. Refer to the answer to question 176.

(continue here if necessary)

**Question 178:** Should BEREC be given more executive tasks or binding powers in specific areas, for example numbering or addressing?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. In particular, please specify the tasks or powers you would consider appropriate to confer on BEREC.

Assuming a change in the current institutional set-up and the structure of BEREC, BEREC should be given the following tasks in regards to numbering and addressing:

- Management of pan-European numbering plans and the granting of rights of use of all pan-European numbering resources (refer to the answer to question 139)
- Pan-European authorisation for M2M
- Standardisation of regulated access products for fixed networks
- Roaming and net neutrality
- Consumer regulation

(continue here if necessary)

**Question 179:** As regards the enforcement of EU communications sector-specific end-user rights, should the enforcement of EU communications sector-specific end-user rights at national level fall within the core competence of the independent national regulatory authorities for communications?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone believes that the future framework should ensure that the enforcement of EU communications sector-specific end-user rights at national level is solely dealt with by the NRAs. While we strongly believe that many of the current rules could (see answer to question 108) be addressed by horizontal consumer protection rules, there will still be a need to determine which member state body enforces the remaining sector-specific rules.

Most Member States have already tasked their NRAs with the enforcement of these rules. But in some Member States other national or even regional authorities have sole or shared competences in enforcement of sector-specific consumer rules (Italy, Spain, Ireland, Poland, Denmark, Malta, Estonia, Latvia).

In Vodafone's view, where sector-specific consumer rules remain in place after the review and where European institutions are not in charge of enforcing them, there are several reasons why these competencies should be brought together and handed to the NRAs. First of all, NRAs have gathered a vast knowledge of the industry and its specifics in the past years, which allows them to make informed decisions also on consumer issues. Second, in particular, with the increased powers gained by NRAs through the recently adopted Telecoms Single Market Regulation (see Article 5 of that Regulation) in dealing with matters such as net neutrality, the lines between what is consumer regulation and what is other regulation get blurred. Last, such an approach would ensure consistency and greater certainty in regards to the decision making in all matters dealt with by the regulatory framework.

(continue here if necessary)

**Question 180:** As regards the enforcement of EU communications sector-specific end-user rights, should other national authorities (also) be competent for the enforcement of EU communications sector-specific end-user rights?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and specify which authorities and for which provisions.

As explained in our answer to question 179 above, Vodafone thinks that only the NRAs should be the competent authority for the enforcement of EU communications sector-specific end-user rights, except in cases where European institutions are entrusted with this task.

(continue here if necessary)

**Question 181:** As regards the enforcement of EU communications sector-specific end-user rights, does the degree of harmonisation of the EU communications sector-specific end-user rights (maximum/minimum harmonisation) play a role in your reply to the previous questions?

- yes, it is the most important factor
- yes, it is one of several factors considered
- no

Please explain your response.

Vodafone is of the opinion that the degree of harmonisation should play a role in determining which national authority should be enforcing EU communications sector-specific end-user rights. A full harmonisation of the Framework's consumer rules - which we prefer (see answers to question 106 onwards above) - may increase the need for a consistent application of the rules across Europe. This requires coordination amongst the respective competent authorities. Otherwise, the benefits of harmonising the rules as a building block for the creation of a Digital Single Market will be wholly or partly at risk. NRAs are already used to coordinated approaches in all fields of regulation through BEREC. Leaving the application of consumer rules to other national authorities will cause inefficiencies through lengthy procedures needed to reconcile regulatory policies. This is why Vodafone thinks that further harmonisation necessitates that the NRAs are enforcing the EU communications sector-specific end-user rights.

(continue here if necessary)

**Question 182:** As regards the enforcement of EU communications sector-specific end-user rights, should the authority or authorities in charge of enforcement of EU communications sector-specific end-user rights at national level be able to cooperate among themselves to enforce EU communications sector-specific end-user rights cross-border in the EU (e.g. when consumers and providers are located in two different Member States, or when the same practices are encountered in several Member States)?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone believes that there is a need for this sort of coordination, today, as well as in the future.

(continue here if necessary)

**Question 183:** Have you identified any provision related to BEREC and the BEREC Office which in your opinion should be revised in terms of i) set-up (structure, composition, etc.), ii) mandate (objectives, roles, tasks, evaluation, etc.), iii) deliverables (powers, type of acts, content, timely delivery, etc.) and iv) functioning (procedures, working methods, internal rules, etc.)?

- yes
- no
- do not know

Please explain your response.

Please see our answer to question 169.

(continue here if necessary)

**Question 184:** Have you identified any provision in the regulatory framework (including the BEREC Regulation), which in your opinion should be revised in order to ensure that individual NRAs more systematically follow BEREC's opinions and guidance?

- yes
- no
- do not know

Please explain your response. If your answer is yes, please specify which provisions would benefit from a revision.

Should the European institutions decide to grant BEREC more responsibilities in regards to the regulation of the electronic communications sector, this would also require legally ensuring that individual NRAs follow BEREC's opinions and guidance just in the same way as they - to some extent - have to follow Decisions or Recommendations from the Commission.

(continue here if necessary)

#### **b) NRAs' independence, powers and accountability**

The 2009 review of the regulatory framework aimed at strengthening the independence of the national regulatory authorities. In addition to independence from the regulated companies, safeguards aiming at ensuring political independence of the regulatory authorities were introduced.

**Question 185:** Have you identified any provision in the regulatory framework, which in your opinion should be revised as regards NRAs' independence and powers?

- yes
- no
- do not know

Please explain your response.

Not to a great extent, although as explained in our answer to question 169, the independence of NRAs could be further improved by addressing the extent to which Member States retain ownership of some of the incumbents' shares.

(continue here if necessary)

**Question 186:** Should the NRAs have a role in mapping areas of investment deficit, or infrastructure presence (including for State Aid purposes)?

- yes
- no
- do not know

Please explain your response.

Should the European institutions decide that so-called challenge areas (please see our answers to questions 56-63) warrant special regulatory treatment, it seems advisable to grant NRA's the role of mapping these areas. The same is true for infrastructure presence although Vodafone would already expect NRAs to become the (national) competent body to perform the functions of the so-called single information point under the 2014 Cost Reduction Directive.

(continue here if necessary)

**Question 187:** Should the provisions established in Article 3 of the Framework Directive be revised in order to adequately ensure that NRAs enjoy budgetary autonomy and adequate human and financial resources to carry out the tasks assigned to them?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

(continue here if necessary)

**Question 188:** Do the current rules on the accountability of the NRAs (i.e. Article 3(3a) of the Framework Directive on "supervision in accordance with national constitutional law" and Article 4 on the exercise of effective judicial control) strike the right balance between independence and accountability of NRAs?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response, and develop, if applicable, in which direction should this balance be altered, such as for example, by prescribing in more detail the scope of judicial review (minimum, maximum control), or how can the NRA accountability be reinforced while guaranteeing independence.

Vodafone is of the opinion that the current rules in Article 3 and Article 4 Framework Directive strike the right balance between independence and accountability of NRAs. With a view to Article 47 of the EU Charter of Fundamental Rights we specifically oppose any change in the current rules on judicial review to further limit the rights of users and undertakings to appeal the decisions of NRAs.

(continue here if necessary)

According to the EU Guidelines for the application of state aid rules in relation to the rapid deployment of broadband networks (January 2013), NRAs should have certain responsibilities with regard to the implementation of state aid decisions in the broadband markets. The Guidelines urge Member States to reserve an important role for the NRAs in the design and assessment of national projects. For instance, NRAs should be consulted as regards the identification of target areas, on access price and conditions and resolution of disputes. It calls on Member States to create appropriate legal bases for such involvement.

**Question 189:** Taking into account the current EU Guidelines on state aid, should any provision of the current regulatory framework for electronic communications be revised in order to improve the outcome of these processes?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone believes that the regulatory framework should ensure that NRAs are consulted as regards the identification of target areas, on access price and conditions and resolution of disputes in regards to State aid for broadband networks.

(continue here if necessary)

### **c) Market regulation: EU regulatory consultation process and harmonisation of regulatory conditions**

There are two particular areas, market regulation and the management of scarce resources, in relation to which it is particularly appropriate to assess whether an increased consistency could contribute to further integration en route to a true Single Market. With regard to both areas, there may be various sub-themes, which could benefit more broadly from an institutional set-up that was geared more thoroughly towards ensuring consistency. For example, issues surrounding the independence and funding of NRAs, the constitutional set-up of BEREC, the design of the EU consolidation process under Article 7, the conditions applicable pursuant to the general authorisation regime or the rights of use for radio frequencies, the Commission's powers to adopt harmonisation measures under Article 19, standardisation, rights of way, numbering, spectrum management, naming and addressing to name but a few.

Concerning market regulation, one area, in relation to which a more consistent approach is particularly important, is the choice and design of access remedies. Unfortunately, it is especially in this area where there is the most notable divergence across the EU. Whilst competition still predominantly takes place at the national level, EU-wide consistency in designing access remedies is increasingly considered important, in particular by pan-European operators, in order to create a level playing field so as to provide opportunities for entry and competition across national markets whilst ensuring efficient investments and innovation, all in order to ensure the best outcomes for consumers and citizens in terms of product offerings, price, choice and value across an EU-wide Single Market. In addition to access remedies, fragmentation of other regulatory conditions (e.g. authorisation conditions) may also represent an obstacle to market entry and cross-border provision of services. The negative impact a fragmentation of conditions has on the provision of connectivity services has been widely reported by the BEREC consultation on the cross-border obstacles to business services and by various studies.

**Question 190:** Do you think that the current roles and responsibilities of the individual actors in the consultation process, in particular BEREC and the Commission, should be amended?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone is of the opinion that the current roles and responsibilities in the consultation process are by and large well attributed. However, we think that the future framework should recognise the need for a more harmonised approach and the existence of current pan-European telecommunications services and future developments towards a telecoms single market. At the same time as there is a need to move more regulatory competences to the European level, there remains an important and clear role - also with a view to the principle of subsidiarity - for regulation at national level, mainly through the NRAs. As explained in our answer to question 168, Vodafone also sees a need for limiting the Article 7/7a process to the regulation of markets with relevance for the single market. We also think that BEREC's role should be strengthened (see answers to questions 169 and 184). The consultation process may need to be adapted to reflect these changes (e.g. BEREC gaining sole responsibility in the process), but we would generally see a need to maintain the current consultation process.

(continue here if necessary)

**Question 191:** Do you consider that there are any ways in which the current EU consultation process could be streamlined in order to reduce the burden for all actors involved?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response (When doing so please set out what you consider to be the most burdensome parts of the current EU consultation process for the stakeholders involved and how the burden could be reduced).

In relation to BEREC, please see response to Q 169.

In relation to the Commission, currently, the consultation process is very slow from first consultation to implementation. In order to address a rapidly changing commercial environment, the end to end process should be quicker and more streamlined, without sacrificing quality or stakeholder dialogue.

Additionally, we also strongly support the Commission's aim to have further EU integration and increased consistency in order to achieve a true Single Market. In order to achieve these objectives, we would recommend the following:

1. Continuous dialogue among policy makers and industry players.
2. More transparent, robust impact assessments
3. More transparency on how contributions to public consultation with industry players are taken on board.
4. Joined up and holistic approach between the different areas of the Commission to avoid overlap and contradictory requirements

(continue here if necessary)

**Question 192:** Are there any current conditions attached to the general authorisation for the provision of electronic communications services and networks (as listed in the Annex of the Authorisation Directive and/or specified at national level) which should be revised in order not to hinder the cross-border provision of electronic communications services and networks?

- yes  
 no  
 do not know

Please justify your response by indicating, if applicable, which kind of services are most affected.

As set out in our response, different requirements should apply to generic best efforts communications service and to managed voice services, which may also require a different approach in relation to the authorisation requirements. A light touch notification procedure should be possible for ECS providers who do not provide a managed voice service to which the following conditions may apply

1. Financial contributions to the funding of universal service in conformity with Directive 2002/22/EC (Universal Service Directive).
2. Administrative charges
3. Personal data and privacy protection specific to the electronic communications sector in conformity with Directive 2002/58/EC of the European Parliament and of the Council (Directive on privacy and electronic communications) (\* )
4. Restrictions in relation to the transmission of illegal and harmful content
5. Information to be provided under a notification procedure.
6. Enabling of legal interception by competent national authorities
7. Terms of use for communications from public authorities to the general public for warning the public of imminent threats and for mitigating the consequences of major catastrophes.
8. Terms of use during major disasters or national emergencies to ensure communications between emergency services and authorities.

In addition, the following changes should be considered:

1. At present, administrative charges vary considerably across Member States which could be a barrier to cross border services. Charges should be limited to what is really strictly necessary.
2. Requirements in relation to consumer protection (specifically contracting, transparency and dispute resolution) and accessibility should be removed and addressed via horizontal consumer regulation.
3. Requirements more generally in relation to Universal Services Obligations will need to be updated following the review of these obligations.
4. Obligation to provide a service or to use a type of technology for which the rights of use for the frequency has been granted, including, where appropriate, coverage and quality requirements - technical neutrality on frequency bands will reduce administrative burdens and will help to achieve economies of scale in Europe.
5. Any commitments which the undertaking obtaining the usage right has made in the course of a competitive or comparative selection procedure - This potential obligation is too broad to be kept in the annex and potentially will drive divergences across the EU, hindering the provision of cross border services and networks.
6. Any commitments which the undertaking obtaining the usage right has made in the course of a competitive or comparative selection procedure - This potential obligation is too broad to be kept in the annex and potentially will drive divergences across the EU, hindering the provision of cross border services and networks

(continue here if necessary)

**Question 193:** According to the national provisions as well as your experience, should national notification requirements under the general authorisation regime be revised in order to allow that they are fulfilled in practice by operators non-established in the country of provision of the service?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response if possible by indicating also which kind of obstacles, if any, occur.

National notification requirements should be streamlined and significantly reduced as set out above. The aim should be to ensure that the notification process is harmonised where possible. In some situations, as set out in Q 139, a European authorisation may be appropriate.

(continue here if necessary)

**Question 194:** Under the general authorisation regime, an undertaking which intends to provide electronic communications networks and or services may be required to submit a notification whose content is limited to what is necessary for the identification of the provider. Based on your experience, would it generate added value if notification requirements were standardised at EU level (in a standard template) and if the notification on such a standard template was centralised at BEREC or equivalent level, without this being a prerequisite for commencement of activity?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

A standardised template could be helpful for an ECS provider who provides services to more than one member state. In some situations, as set out in Q 139, a European authorisation may be appropriate which would warrant a standardised process at EU level. However, a centralised process in regards to all authorisations is unlikely to be helpful and could result in increased bureaucracy and cost, given that the majority of authorisations will still be managed at a national level.

(continue here if necessary)

**Question 195:** To what extent have you experienced changes of financial and competitive conditions attached to rights of use having a significant impact on the structure of the market and/or the financial sustainability of the provision of services?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response by indicating, if applicable, specific examples of changes of market conditions and of related impacts.

The rights of use, especially for spectrum, have been used as a way to shape the market and organize the competition (circumventing the process of market analysis in some countries) either by reserving some specific resources to new players at preferential conditions and/or by imposing specific obligations for instance for MVNO access. In addition, the allocation of spectrum resources is also a budgetary tool for MS; meaning the timing and financial conditions attached to allocation or license renewal are not always in the best interest of the sector.

(continue here if necessary)

**Question 196:** Are there regulatory obligations (including general conditions attached to the general authorisation or to rights of use as well as specific obligations imposed on operators) that would benefit from technical harmonisation at EU level, in order to reduce red tape in general, costs of cross-border provision and more generally to exploit economies of scale?

- yes
- no
- do not know

Please explain your response by indicating, if applicable, also which kind of regulatory obligations and/or services would benefit most from such harmonisation and, if available, any quantification of these benefits.

There are no major benefits on harmonizing the EU general authorization regime. Nevertheless, harmonizing at EU level rights of use related to spectrum could have positive impact. Vodafone believes that harmonisation of spectrum management in regards to assignment conditions and procedural aspect is necessary and should be achieved by granting the Commission the necessary powers to issue binding guidance vis-à-vis the national competent authorities. There is a greater chance of realizing a single market if there is greater consistency across Member States in spectrum assignment procedures and conditions, supporting a coherent investment approach across the Union.

(continue here if necessary)

### 3.7.3. Efficient and effective Spectrum Governance in a Digital Single Market

With regard to the management of radio spectrum, as one of the most important scarce resources for the digital economy, the existing governance structures focus on the harmonisation of basic technical parameters, because the benefits of wireless innovation rely on the making available on the market and putting into service in the Union of radio equipment (governed by Directives 1999/5/EC and 2014/53/EU) and the use of such equipment throughout the Digital Single Market based on common allocation of spectrum by Member States and the technical harmonisation of the usage parameters under the Radio Spectrum Decision 676/2002/EC. However, with the exception of spectrum made available on a licence-exempt basis via a general authorisation (e.g. Wi-Fi, or other short range devices) spectrum users may not benefit from harmonised usage conditions, based on sufficient consistency of the timing of effective assignment or of associated conditions.

It is therefore necessary to investigate whether the current governance model in this area falls short of ensuring consistent assignment conditions throughout the Union as well as whether the current processes to making harmonise spectrum available throughout the Digital Single Market present a potential barrier for home-grown wireless innovation to reach the market in Europe. A common approach to best practices in spectrum management and governance would reduce the administrative burden at national level and at the same time increase the predictability sought by investors, while taking into account the principles of subsidiarity and proportionality and national ownership of the relevant assets.

Maximising spectrum-based economic benefits via economies of scale means more revenue for Member States – directly in fees and indirectly by increased added economic value; revenues, which would remain exclusively with Member States. A common and transparent fast-track procedure for undertaking technical compatibility and sharing studies might equally reduce the administrative burden at national level, and at the same time would also reduce the resources needed for stakeholders to gain access to spectrum for new applications or technologies.

**a) Evaluation of the functioning of the current regulatory regime and processes.**

**Question 197:** To what extent is the current applicable regime to define technical harmonisation parameters based on Commission Mandates to CEPT:

	significantly	moderately	little	not at all	do not know
a) Satisfactorily transparent in regard to the way the necessary technical studies are conducted?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Efficient and timely in responding to technology developments and/or market demand?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Effective in terms of providing legal certainty to operators throughout the EU?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Successful to spur the benefits of wireless innovation in the EU?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response.

While the current process is time-consuming, it is transparent and takes into the account the views of all stakeholders - it would therefore seem to be the best of the options possible.

(continue here if necessary)

**Question 198:** How significant for your organisation are the resources needed to follow and contribute to the CEPT procedures in response to a Commission Mandate?

- very high
- high
- moderate
- do not know

Please explain your response, including how satisfactory you find the CEPT process in general from your organisation's point of view.

We are satisfied with the current CEPT process and our ability to participate with very moderate staffing resources.

(continue here if necessary)

**Question 199:** For SMEs, how do you view the current CEPT technical spectrum harmonisation process ? (several answers possible)

- efficient
- supportive of SME innovations
- a comparative advantage for the EU
- supportive to disruptive or innovative applications
- opaque
- cumbersome
- difficult to access for SMEs
- unsupportive to disruptive or innovative applications

Please explain your response and provide suggestions for improvement if any.

We are satisfied the current process is appropriate for SMEs.

(continue here if necessary)

**Question 200:** Are specific measures necessary to ensure access of small and medium sized enterprises to harmonised spectrum?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

We are satisfied the current process is appropriate for SMEs - the prize of pan-European licensed spectrum justifies the investment of time required (while licence-exempt spectrum provides an alternative option for SMEs).

(continue here if necessary)

**Question 201:** Given the current upstream involvement of CEPT, ETSI and other stakeholders in the preparation of technical studies for future spectrum harmonisation measures, to what extent is it possible to protect commercial secrets of an innovative wireless application, when aiming at harmonised spectrum access in the EU?

- significantly
- moderately
- little
- not at all
- do not know

Please explain your response.

There should not be a problem with protecting commercial secrets, unless the studies are doing more than just technical work.

(continue here if necessary)

**Question 202:** Do you see a need to accelerate or streamline the Radio Spectrum Committee/CEPT process, with a view to coping with rapid market and technological changes and improving "time to market" for wireless innovations in the EU?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response. If yes, please provide suggestions.

Streamlining would be welcomed, but quality needs to be maintained, to avoid premature outcomes or lead to "dead-end" wireless services (e.g. Ultrawideband). There is a national role for genuine innovation as well.

(continue here if necessary)

#### **b) Modernised Spectrum Governance for a Digital Single Market**

**Question 203:** In order to serve the future wireless connectivity needs of the EU, would a common EU approach to governing spectrum access as a strategic resource in the Digital Single Market be necessary, while taking into account the principles of subsidiarity and proportionality and the character of spectrum as a national asset?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

A more coordinated approach would be to the benefit of Europe and the Member States, although a balance is needed given the national importance of spectrum.

(continue here if necessary)

**Question 204:** Do you see the need for more transparency in the preparatory steps before the Commission takes binding technical harmonisation decisions to ensure legal certainty for spectrum access in the EU, i.e before and after the Commission issues a Mandate to CEPT?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

More specifically, RSC proceedings should be less opaque, and there should be greater participation by NRAs.

(continue here if necessary)

**Question 205:** Do you agree that a common and transparent fast-track procedure for undertaking technical compatibility and sharing studies would be a benefit for both administrations and stakeholders?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Fast-track compatibility studies would only be useful as long as they don't result in reduced transparency.

(continue here if necessary)

**Question 206:** Would you see the benefits of supporting the current contribution-driven process with the services of independent full-time technical experts that could be called upon to perform technical studies as input to preparatory steps needed before the Commission can take binding technical harmonisation decisions?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Independent experts may contribute but they should not replace the existing work done within CEPT.

(continue here if necessary)

**Question 207:** Given the overall lack of vacant spectrum and the increasing need for all users to use spectrum efficiently, do you agree that NRA's responsible for spectrum management should monitor the actual usage of bands listed in their inventory of existing use?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Consistent spectrum pricing for all users, together with trading, should go most of the way to addressing under-used spectrum frequencies, but monitoring may be useful to highlight potential trading opportunities and inform interested parties.

(continue here if necessary)

**Question 208:** Can the Radio Spectrum Decision process, including the preparatory steps in CEPT, be accelerated and/or simplified, with a view to cope with the rapid market and technological changes?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Yes, but the time saving needs to be within the Committee process.

(continue here if necessary)

**Question 209:** Should Member States take a common approach when designing spectrum assignment procedures and conditions, with the aim to deliver the required regulatory predictability and consistency in the internal market while reflecting local market specificities?

- yes
- no
- do not know

if yes, how?

- On the basis of EU-level guidance (e.g. Commission recommendations, Commission implementing decisions, RSPG Guidelines, BEREC common positions, other)
- On the basis of peer-review discussions (e.g. between Member States authorities or NRAs grouped at EU level)
- Other

Please explain your response and provide examples.

There is a greater chance of realizing a single market if there is greater consistency across Member States in spectrum assignment procedures and conditions, that would support a coherent investment approach across the Union. The collective of NRAs have, between them, sufficient examples and evidence of good practice which can be shared on a peer-review basis to achieve greater alignment.

(continue here if necessary)

**Question 210:** What would be the most important features of an EU-level body, which could support and develop in particular peer-review based guidance on assignment procedures and conditions, in order to promote network coverage and wireless connectivity in the Digital Single Market?

- based on EU advisory group entrusted with some implementing competences (e.g. RSPG enhanced)
- based on EU-level governance procedures and financed by the Union budget (e.g. like the BEREC office)
- based on EU-level cooperation of national competent authorities (e.g. like BEREC)
- based on intergovernmental cooperation of national competent authorities inside and/or also outside the EU (e.g. like CEPT)
- other

Please explain your response and provide examples. Hybrid responses are also possible.

Vodafone believes that the EU should exhibit all of these characteristics above, i.e.: incorporating implementing competencies (as RSPG); under EU governance procedures and EU level co-operation (as BEREC); while taking bringing together authorities within and outside Europe (as CEPT).

(continue here if necessary)

**Question 211:** Do you see the need for binding guidance on certain aspects of assignment procedures and conditions to increase regulatory predictability and legal certainty for spectrum rights holders?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

There is currently too little harmonisation in assignment procedures and conditions, and stronger guidance is required to discourage departures from best practice. Licence conditions must encourage investment.

(continue here if necessary)

**Question 212:** In view to the harmonisation or coordination of assignment conditions and/or procedural aspects, would you consider appropriate that the Commission exercise its power under Article 19 of the Framework Directive to issue recommendations?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

If agree, what would be the most appropriate EU level body to advise the Commission in this area, any of the existing ones (BEREC, RSPG, COCOM) or others newly created?

- RSPG
- BEREC
- COCOM
- Other

Please explain your response.

Vodafone believes that harmonisation of spectrum management in regards to assignment conditions and procedural aspect can only be achieved by granting the Commission the necessary powers to issue binding guidance vis-à-vis the national competent authorities. Recommendations which national authorities have to take utmost account of, can be a means to achieve this, although we have seen that not all recommendations of the Commission under Art. 19 Framework Directive have been followed to the required extent by NRAs. The Commission should also - under certain conditions (i.e. if a recommendation fails to achieve the desired level of harmonisation) - be able to issue decisions. An enhanced RSPG would be the most appropriate body to advise the Commission on any measures it intends to take.

(continue here if necessary)

**Question 213:** Do you consider that regarding certain key assignment parameters, a mechanism similar to that set by Article 4 of the Radio Spectrum Decision should be available, whereby common rules would be set in implementing measures by the Commission assisted by a committee of Member States representatives?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

Please see answer to question 212 above. Vodafone believes that its inevitable that any further harmonisation of spectrum policy at EU level is accompanied by rules making sure that the Member States and the national competent authorities are involved in any future decision making process at EU level. A mechanism similar to the one set out by Article 4 of the Radio Spectrum Decision could be one way to achieve this goal.

(continue here if necessary)

**Question 214:** Should such powers also cover the question whether the assignment of a given band should be conducted on a national, regional or EU-wide basis?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response.

Vodafone believes that the future framework should allow for licences covering multiple Member States or even pan-European licences (see answer to question 83). If spectrum is assigned on a regional or EU-wide basis, this would naturally require certain powers at EU-level.

(continue here if necessary)

**Question 215:** Do you consider that, in addition to general EU-level guidance or rules on assignment, individual national authorities would benefit from consultations with the Commission and with their peers on all aspects of spectrum assignment procedures being prepared by them, and that this would favour the development of more efficient and convergent spectrum assignment proceedings across the EU?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

If you agree, when would be the best moment for such consultations?

- in advance of the public consultation
- in parallel to the public consultation
- shortly before launch of the procedure

Please explain your response.

(continue here if necessary)

**Question 216:** Given the potential cross-border implications of spectrum refarming decisions in Member States, do you consider that the outcomes of cross-border coordination efforts between Member States, such as those facilitated via the "good office" service of the Radio Spectrum Policy Group, should guarantee equitable access to harmonised radio spectrum among the relevant Member States and can be enforceable under Union law?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and provide examples.

(continue here if necessary)

### c) Scope for co- and self-regulation

When reviewing the regulatory framework for electronic communications, it is important to examine whether there are areas which could benefit from self-regulation and co-regulation (see [Principles for better self-regulation and co-regulation](#)).

**Question 217:** Do you see a need to establish a greater role for co-regulation and self-regulation in areas of the current regulatory framework?

- strongly agree
- agree
- disagree
- strongly disagree
- do not know

Please explain your response and indicate the areas concerned.

Where regulatory requirements provide a minimum level of requirements, there may not be any incentive to innovate in delivering new solutions or services, whereas self-regulation allows industry to innovate and/or differentiate its solutions. A current example is in Child Online Protection where companies deliver parental tools and information and awareness campaigns to meet customer needs in a more dynamic way than regulation can achieve. See: [www.ictcoalition.eu](http://www.ictcoalition.eu) and [www.vodafone.com/bestrongonline](http://www.vodafone.com/bestrongonline).

Another example is the self-regulatory approach which has been taken by the UK regarding the Open Internet and traffic management since 2011, where there is a Code of Practice on the Open Internet and on Traffic Management Transparency. A recent WIK report for the Broadband Stakeholder Group (<http://www.wik.org/fileadmin/Studien/2015/WIK-Review-of-the-Open-Internet-Codes-November-15.pdf>) identified that the Codes are not only compliant with the new regulation on the Open Internet; they have outperformed the Regulation as regards consumer information and increased transparency for all stakeholders. They have also enabled a quicker, more responsive approach which has been welcomed by Ofcom, who have agreed with WIK's analysis that the Codes have been effective in delivering full internet access products that allow end-users to access all legal content and services on the internet, preventing any discrimination and ensuring transparency and competition.

(continue here if necessary)

**Question 218:** Do you have any further comments or suggestions on the future scope and/or content of possible rules in the sector? Please explain your response.

Annex 1: Questions with footnotes, graphs and tables will be provided separately.

(continue here if necessary)

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## Useful links

DAE glossary (<https://ec.europa.eu/digital-agenda/en/glossary>)

Connectivity needs consultation

(<https://ec.europa.eu/digital-agenda/en/news/public-consultation-needs-internet-speed-and-quality-beyond-20>)

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## Background Documents

Annex I (/eusurvey/files/67c9df42-f4d6-4b7a-b9a7-c8f00fd49eff)

Annex II (/eusurvey/files/48b06e67-e76d-4171-bc2c-58fb2bd5804c)

Annex III (/eusurvey/files/4c8ef988-6e2c-4f3b-bf4d-e1d8294c39f4)

Annex IV (/eusurvey/files/3381b4f9-30a7-4ed9-8753-df791d50f326)

background%20document.pdf (/eusurvey/files/182117c3-c974-4e7e-9782-09ea77f77cdc)

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