

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

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

*** 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

*** 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.

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.**

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

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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) the promotion of competition	<input 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 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.

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.

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.

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.

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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Management of scarce resources (such as numbering, spectrum access)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Authorisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Network and service security	<input 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 type="radio"/>

Please explain your responses.

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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) the promotion of competition	<input 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Management of scarce resources (such as numbering, spectrum access)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Authorisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Network and service security	<input 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 type="radio"/>

Please explain your responses.

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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Data protection and privacy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Audiovisual policy	<input type="radio"/>	<input 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 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 type="radio"/>

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

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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Management of scarce resources (such as numbering, spectrum access)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Authorisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Network and service security	<input 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 type="radio"/>

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.

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 type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Should any additional policy objective be included?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

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.

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.

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.

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.

3.3. Network access regulation

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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) The interests of the citizens of the European Union?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

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 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 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 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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

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 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 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 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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

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 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 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 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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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.

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.

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.

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 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.

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.

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?

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.

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.

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?

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).

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.

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?

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.

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.

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.

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?

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.

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.

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.

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).

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.)

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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)?

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.

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.

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.

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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Wholesale-only models	<input type="radio"/>	<input 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.

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?

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.

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).

3.4. Spectrum management and wireless connectivity

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.

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.

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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Audiovisual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Energy	<input type="radio"/>	<input 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 type="radio"/>
e) Satellite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Internet of Things / M2M	<input type="radio"/>	<input 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 type="radio"/>

Please specify or explain your response.

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.

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 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 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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Promoting the interests of the citizens of the EU?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Ensuring an effective and efficient use of spectrum?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response.

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.

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.

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.

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.

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.

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.

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 62 above)?

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

Please explain your response.

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.

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.

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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) increase the predictability and planning sought by investors?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response and provide examples of the impact.

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.	A - General Approximation	B- Partial harmonisation	C - Full harmonisation
Determination of need for selection process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Level of transparency to the market regarding the selection process and conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input 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 type="radio"/>
Objectives pursued by the selection process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The appropriateness of an ex ante competition assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The national authority which is responsible for the ex-ante competition assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The need for specific measures (spectrum caps/floors, new entrant spectrum reservation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selection timetable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Timing of advanced information to market participants.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequencies covered, packaging of lots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

Please explain your response(s).

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.

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?

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.	A - General Approximation	B- Partial harmonisation	C - Full harmonisation
Licence duration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prior notice, timing and conditions of renewal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

Refarming conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Please explain your response(s).

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.

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.

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.

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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) The development of M2M applications?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

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.

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.

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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Infrastructure sharing, including spectrum pooling	<input type="radio"/>	<input 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 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?

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.

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 type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) further support prospective spectrum users	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) maximise flexibility in spectrum management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) allow new incentivising methods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) further protect competition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) clarify compensation conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) apply <i>'use it or lose it'</i> clauses	<input type="radio"/>	<input type="radio"/>	<input 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)

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.

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.

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.

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.

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.

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.

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.

3.5. Sector-specific regulation for communications services

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.

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.

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.

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):

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?

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.).

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 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.

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.

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.

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 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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

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 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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your responses.

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.

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.

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.

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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) Transparency measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) Control of consumption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(v) Contract duration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 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 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide a brief explanation for each of your responses.

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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video telephony	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sms/text messages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e-mails provided by telecom operators	<input 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 type="radio"/>

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

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

If you disagree, is it possible and appropriate to identify the relevant addressees of each communications-specific rule provision-by-provision? Please explain your response.

Please explain your response.

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

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.

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.

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.

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.

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.

Please explain your response.

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.

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.

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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) Transparency measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) Control of consumption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(v) Contract duration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 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 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide a brief explanation for each of your responses.

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?

Please explain your response.

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?

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.

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.

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.

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)?

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.

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.

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.

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.

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.

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.

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.

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?

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.

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.

e) Scope of 'must carry' and Electronic Programme Guide provisions[1]

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

Question 143: Is there a need to adapt or change the provisions on:

	yes	no
'Must carry'	<input type="radio"/>	<input type="radio"/>
Electronic Programme Guides (EPG)	<input type="radio"/>	<input type="radio"/>

Please explain your response.

3.6. The universal service regime

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 type="radio"/>	<input type="radio"/>
b) affordability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) and accessibility of electronic communications services to all EU citizens?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response.

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.

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.

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.

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.

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.

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.

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.

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.

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?

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 type="radio"/>	<input type="radio"/>
b) comprehensive directories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) comprehensive directory enquiry services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response.

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.

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?

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.

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.

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.

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.

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?

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.

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.

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.

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 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 type="radio"/>	<input type="radio"/>

Please explain your response.

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)?

3.7. Institutional set-up and governance

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

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.

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.

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.

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).

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.

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.

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.

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.

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.

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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) spectrum management in the EU	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) end user protection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response and specify if other.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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).

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.

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.

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.

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.

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.

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 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 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 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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

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.

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.

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.