

2363-0841

Body of European Regulators  
for Electronic Communications

**BEREC**

# Work Programme 2018



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Print	ISBN 978-92-95204-21-8	ISSN 2363-2631	doi:10.2858/1523	EM-AA-17-001-EN-C
PDF	ISBN 978-92-95204-20-1	ISSN 2363-0841	doi:10.2858/436216	EM-AA-17-001-EN-N



**Work  
Programme  
2018**



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○ Work Programme 2018

**TABLE  
OF  
CONTENTS**



**INTRODUCTION ..... 6**

**BACKGROUND ..... 8**

**BEREC WORK IN 2018..... 12**

1.	<b>STRATEGIC PRIORITY 1: RESPONDING TO CONNECTIVITY CHALLENGES AND TO NEW CONDITIONS FOR ACCESS TO HIGH-CAPACITY NETWORKS</b> .....	13
1.1	<b>Access to physical infrastructure in market analyses</b> .....	13
1.2	<b>Pricing for access to infrastructure and civil works</b> .....	14
1.3	<b>Geographical market definition</b> .....	15
1.4	<b>Benchmarking on technical and economic replicability assessment in the context of symmetrical access</b> .....	15
1.5	<b>Layer 2 wholesale access products/advanced bitstream offers for undertakings (market 4)</b> .....	16
1.6	<b>Update on Common Positions on markets 3a, 3b and 4</b> .....	16
2.	<b>STRATEGIC PRIORITY 2: MONITORING POTENTIAL BOTTLENECKS IN THE DISTRIBUTION OF DIGITAL SERVICES</b> .....	17
2.1	<b>Data economy</b> .....	17

2.2	Location of the network termination point .....	17
2.3	Internet of Things (IoT) indicators .....	18
3.	<b>STRATEGIC PRIORITY 3: ENABLING 5G AND PROMOTING INNOVATION IN NETWORK TECHNOLOGIES</b> .....	19
3.1	5G, IoT and security .....	19
3.2	Best practices on spectrum authorisation and award procedures with a view to considering their suitability to 5G .....	19
3.3	Infrastructure sharing .....	20
3.4	Best practices on coverage obligations with a view to considering their suitability to 5G .....	20
3.5	Carry-over and follow-up work on monitoring mobile coverage .....	21
4.	<b>STRATEGIC PRIORITY 4: FOSTERING A CONSISTENT APPROACH OF THE NET NEUTRALITY PRINCIPLES</b> .....	21
4.1	Development of a net neutrality measurement tool .....	21
4.2	Implementation of the Net Neutrality Regulation .....	22
4.3	Net neutrality – input to an evaluation .....	22
5.	<b>STRATEGIC PRIORITY 5: EXPLORING NEW WAYS TO BOOST CONSUMER EMPOWERMENT</b> .....	22
5.1	Report on the termination of contracts and switching providers .....	23
5.2	Report on best practices for ensuring equivalence of access and choice for disabled end-users .....	23
5.3	Report on contractual simplification .....	23
5.4	European benchmark of the pricing of bundles .....	24
6.	<b>BEREC OBLIGATORY WORK AND ENGAGEMENT WITH STAKEHOLDERS</b> .....	25
6.1	Inputs to the legislative proposals in the context of the review of the European Commission regulatory framework and of the e-privacy directive .....	25
6.2	Ad hoc work: inputs to the European Commission .....	25
6.3	International Roaming BEREC Benchmark Data Report .....	25
6.4	Report on Transparency and Comparability of Roaming Tariffs .....	26
6.5	Input to the European Commission on weighted average maximum mobile TRs .....	26
6.6	Termination Rates at the European level .....	26
6.7	Regulatory Accounting Report .....	26
6.8	Follow-up internal benchmarking report on non-residential market indicators .....	27
6.9	BEREC annual reports .....	28

6.10 Development of an open data platform .....	28
6.11 Stakeholders' Forum .....	28
6.12 Cooperation with the EU institutions and institutional groups .....	29
6.13 International cooperation .....	29

..... ●	<b>ABBREVIATIONS .....</b>	<b>31</b>
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..... ●	<b>ANNEX .....</b>	<b>33</b>
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Work Programme 2018

# INTRODUCTION



Body of European Regulators  
for Electronic Communications

# BEREC

The Body of European Regulators for Electronic Communications (BEREC) was established by Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 (the BEREC Regulation). According to Article 5 (4) of the BEREC Regulation, the BEREC Board of Regulators shall, after consulting interested parties, adopt the annual work programme of BEREC before the end of each year preceding that to which the work programme relates. The Board of Regulators shall transmit the annual work programme to the European Parliament, the Council and the European Commission as soon as it is adopted.

BEREC aims to ensure the independent, consistent and high-quality application of the European regulatory framework for electronic communications for the benefit of Europe and its citizens. The BEREC Work Programme 2018 is based on the BEREC Medium-Term Strategy 2018-2020 and takes the following five strategic priorities into consideration:

- responding to connectivity challenges and to new conditions for access to high-capacity networks;
- monitoring potential bottlenecks in the distribution of digital services;
- enabling 5G and promoting innovation in network technologies;
- fostering a consistent approach of the net neutrality principles;
- exploring new ways to boost consumer empowerment.

In this regard, BEREC would like to note that its three fundamental objectives – promoting competition and investment, promoting the internal market, and empowering and protecting end-users – will continue to be the relevant pillars guiding the work of BEREC for the coming three years.

The Work Programme 2018 mirrors BEREC's commitment to serve as a body for reflection, debate and advice for the European Parliament, the Council and the European Commission in the electronic communications field. Furthermore, BEREC's future aims are to play an important role in further improving the consistent application of regulatory rules, to enhance its working methodology and to engage cooperatively and effectively with stakeholders.

In line with the practice of previous years and in accordance with Article 5 of the BEREC Regulation, the BEREC Work Programme 2018 was subject to consultation. The public consultation ran from 11 October to 8 November 2017. The final BEREC Work Programme 2018 was discussed and agreed upon at the BEREC Board of Regulators meeting in Copenhagen on 7-8 December.

**Sébastien Soriano, ARCEP**  
Chair 2017



**Johannes Gungl, RTR**  
Chair 2018





Work Programme 2018

# BACKGROUND

The electronic communication market is changing rapidly in ways that pose new challenges and questions for regulators in areas such as the end-user experience, competition and investment, as well as in how the digital dividend is distributed among consumers and the different players in the digital ecosystem.

These developments were identified in the BEREC Medium-Term Strategy 2018-2020. Based on these developments, BEREC formulated five strategic priorities for the upcoming three years, which provide the basis for the BEREC Work Programme 2018. The Work Programme 2018 seeks to address current regulatory challenges and to prepare for the new challenges ahead resulting from market, technological and social developments.

One of the five strategic priorities listed in BEREC's Medium-Term Strategy and an important focus of the Work Programme 2018 relates to '5G'. Even though the next-generation mobile networks are not likely to be operational until 2020, BEREC nevertheless wants to prepare itself proactively for the upcoming challenges in order to support the consistent deployment of 5G across the Member States. The challenges that need to be addressed range from work on standards, interoperability and new business models to network sharing, coverage and security. In line with the Work Programme 2018, BEREC will, within the scope of its competence, actively and closely follow the development of 5G.

BEREC's work next year will also focus on consumer empowerment. In line with its Medium-Term Strategy, BEREC aims to play a more active role in assessing and promoting consumer empowerment and consumer protection. In this context, in 2018, BEREC will analyse both the practice of terminating contracts and switching processes, will examine the similarities between contracts and will evaluate the potential of a single European contract information sheet.

Furthermore, BEREC will also continue to contribute to the consistent application of the net neutrality rules, for example by providing a forum for national regulatory authorities (NRAs) to exchange views and experiences on the implementation of the Net Neutrality Regulation and by developing a net neutrality measurement tool.

The review of the regulatory framework will remain another important focus of BEREC's work in 2018. BEREC will continue to provide insights and advice to the European Parliament, the Council and the European Commission.

These, and other areas that BEREC will concentrate on in 2018, will be presented and discussed in more detail in the following sections.

In addition to the list of deliverables identified in this work programme, BEREC will continue to undertake its mandatory and annually repeating work. BEREC expects to be involved continuously in Article 7/7a Phase II cases, which will be addressed by delivering relevant Opinions with the highest priority within strict statutory deadlines. BEREC will also consider possible ad hoc requests for advice from the European Union (EU) institutions (namely the European Commission, the Council and the European Parliament) and will meet these requests appropriately and on time.

As in previous years, the implementation of the Work Programme 2018 will be undertaken by Expert Working Groups (EWGs), comprising experts from NRAs who are BEREC members or observers. Each EWG addresses a number of topics, analyses

the relevant issues and prepares, inter alia, reports for discussion and adoption by the Board of Regulators. BEREC believes that this well-established 'bottom-up' approach, drawing on and informed by NRAs' on-the-ground experience of the implementation and impact of regulation at the national level, is what makes its outputs particularly relevant and valuable. The support of the BEREC Office is of key importance to the success of the BEREC Work Programme 2018. Under the guidance of its Administrative Manager, the BEREC Office provides professional and administrative support services to BEREC and its EWGs.

Finally, BEREC will continue to follow the approach whereby NRAs work together to produce Common Positions, guidelines and best practices, and will continue to engage with stakeholders in public consultations and industry forums and by making more, more easily accessible information available (e.g. by developing an open data platform).





# **BEREC WORK IN 2018**



**Work Programme 2018** ○.....



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## **1. Strategic priority 1: responding to connectivity challenges and to new conditions for access to high-capacity networks**

Very high-capacity networks have become central for end-users to enable them to enjoy the full potential of the digital ecosystem, and access to some non-replicable elements is important for promoting and protecting competition, but the variance in the deployment of high-speed networks has led to different market conditions across Europe. The BEREC Medium-Term Strategy 2018-2020 includes, as a strategic priority, the continuation of its work on identifying competition problems that may arise in different Member States as a result of high-speed networks being developed and legacy networks being phased out or when markets become mature. The intention of identifying such competition problems is to increase the awareness of how the incentives to invest evolve with changing market conditions and how this affects competition. The Work Programme 2018 therefore includes the following activities that contribute to this strategic priority.

### **1.1 Access to physical infrastructure in market analyses**

Duct and pole access have become more and more relevant in the context of increasing infrastructure competition and as a result of fixed-mobile convergence, with operators needing access to the incumbents' fixed ducts and poles to deploy high-capacity access and backhaul networks. In addition, Directive 2014/61/EU (Broadband Cost Reduction Directive (BCRD)) on measures to reduce the cost of deploying high-speed electronic communications networks (ECNs) emphasises the role of access to physical infrastructure in the deployment of new-generation networks, addressing measures (such as the sharing and re-use of existing physical infrastructure) that are expected to create conditions for more cost-efficient network deployment. Although most NRAs are including duct and pole access in their market analyses, there is no clear guidance from the current regulatory framework on the relevant market in which it should be included. Similar questions can arise regarding dark fibre-based backhauling, which may be integrated in the analysis if the EWG finds it relevant. BEREC considers it especially interesting to identify how NRAs are choosing to address access to physical infrastructure in their market analyses, to identify if there is a common approach among NRAs and to determine the European Commission's views on the approaches proposed by NRAs. The report to be prepared will provide a snapshot of how access to physical infrastructure is regulated among BEREC countries and the European Commission's views on NRAs'

decisions, and will also provide an analysis of the potential to isolate this market in order to conduct market analyses that would be methodologically robust and consistent with the regulatory framework, also taking into account the BCRD.

#### Deliverables

BEREC Report on access to physical infrastructure in market analyses

Public consultation: Yes

Adoption in Plenary 4 for public consultation

Adoption of final report in 2019 for publication

## 1.2 Pricing for access to infrastructure and civil works

The BCRD is intended to reduce the cost of high-speed broadband deployment by increasing transparency on and enabling access to existing physical infrastructure, including non-ECN infrastructure that is deployable for high-speed broadband networks; by promoting the coordination of civil works between different network operators and ECN operators; and, finally, by fostering access to existing passive in-building infrastructure.

The BCRD contains, in particular, rules regarding access to existing physical infrastructure, the coordination of civil works and access to in-building physical infrastructure. In 2017, a report was completed on the implementation of the BCRD, giving an overview of the tasks appointed to NRAs and how they were implemented (if they had already been implemented). One of the challenges identified in some Member States relates to setting the price for access to existing physical infrastructure, as laid down in Article 3 (5) of the BCRD. Since the determination of pricing terms is one of the more complex issues addressed by the BCRD, it will be studied in more detail in a follow-up report. Pricing terms might become relevant in all three areas of the BCRD (access to existing physical infrastructure, the coordination of civil works and access to passive in-building infrastructure). Potential questions arising in this context include, but are not limited to, the following:

- How should prices be determined for access to physical infrastructure (Article 3 of the BCRD), the coordination of civil works (Article 5) and access to in-building physical infrastructure (Article 9) by the dispute settlement body?
- Which cost and risk components should be considered by the dispute settlement body when determining the price regarding Article 3 or Article 5?
- How can consistency of pricing be ensured across different disputes?
- Are case-specific characteristics (e.g. differences in geographical properties or in methods used for civil works) the determining factor of individual prices or can pricing be generalised?
- How can the terminological differences regarding pricing criteria be interpreted from the viewpoint of the dispute settlement body?
- Should the differentiation between cases where the requested network operator is a public ECN operator and those where it is a non-ECN operator, as mentioned in Article 3(5), also be applied to cases under Article 5?
- How should pricing principles be implemented for an ECN operator with a non-ECN core business (e.g. an energy network operator)?
- If a non-ECN operator is requested regarding Article 3 or 5, which cost and risk components should be considered by the dispute settlement body when determining the price?

#### Deliverables

BEREC Report on pricing for access to infrastructure and civil works

Public consultation: Yes

Adoption in Plenary 3 for public consultation

Adoption of final report in 2019 for publication

### 1.3 Geographical market definition

The BEREC Common Position on geographic aspects of market analysis (definition and remedies) <sup>(1)</sup> was published in June 2014. After its publication, many of the NRAs applied this Common Position in the context of market definition and geographical segmentation of remedies and, in October 2014, the European Commission published a new recommendation on relevant markets. The report to be prepared is intended to provide an overview of the experiences of NRAs in applying geographical segmentation to both markets and remedies. Among other issues, the report will address the issues taken into account by NRAs in the definition of subnational markets and/or in the differentiation of remedies, as well as methodologies, tools and other relevant aspects related to geographical differences in competition. This report could feed into a future update of the BEREC Common Position on geographical segmentation.

#### Deliverables

BEREC Report on geographical market definition

Public consultation: No

Adoption in Plenary 4 for publication

### 1.4 Benchmarking on technical and economic replicability assessment in the context of symmetrical access

In 2017, BEREC produced a report on NRAs' experiences of imposing symmetrical regulation; it focused on the rationale for and scope of symmetrical access interventions and the powers that were invoked to impose symmetrical access. Since then, BEREC has produced a position paper to ensure continued NRA powers to broadly support the European Commission's proposals to retain the existing provisions on symmetrical regulation, such that they are to impose appropriate symmetrical access obligations where operators lack access to viable alternatives to non-replicable assets, and that these obligations should be complementary and coherent with the Significant Market Power (SMP) Regulation.

Central to the current regulatory framework is the concept of economic and technical replicability. Article 12(3) of the Framework Directive states that symmetrical obligations can be imposed up to the first concentration point, where 'duplication of such infrastructure would be economically inefficient or physically impracticable', thus enabling NRAs to impose appropriate access obligations when operators lack access to viable alternatives to non-replicable assets. The relevant text (Article 59 (2) of the European Electronic Communications Code (EECC)) has not yet been finalised, but is expected to be agreed in the first half of 2018; however, the concept of economic and technical replicability is expected to remain key in the new provisions.

In this context, the report to be prepared will set out NRAs' experiences of assessing technical or economic replicability when considering the imposition of symmetrical access requirements. It will include an analysis on how NRAs should determine what constitutes the appropriate point in the network where access should be provided (what is referred to as 'the first concentration point' in the current regulatory framework). The report will consider how, and under what circumstances, these tests have been applied, any issues/problems that NRAs have encountered when applying these tests, and whether or not further guidance is required from BEREC on applying these tests in the future, taking into account, where possible, the evolution of the relevant text in the EECC.

<sup>(1)</sup> [http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/regulatory\\_best\\_practices/common\\_approaches\\_positions/4439-berec-common-position-on-geographic-aspects-of-market-analysis-definition-and-remedies](http://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/common_approaches_positions/4439-berec-common-position-on-geographic-aspects-of-market-analysis-definition-and-remedies)

**Deliverables**

BEREC Report on technical and economic replicability assessment in the context of symmetrical access

Public consultation: No

Adoption in Plenary 4 for publication

**1.5 Layer 2 wholesale access products/advanced bitstream offers for undertakings (market 4)**

BEREC has analysed layer 2 wholesale access products (L2 WAP) in recent years and published a report on common characteristics of L2 WAP (BoR (15) 133) imposed as a remedy on the wholesale local access market (market 3a) and the wholesale central access market (market 3b). It also published a Common Position on L2 WAP (BoR (16) 162). According to the European Commission's recommendation on relevant product markets of 2014, the wholesale high-quality access market (market 4) includes not only leased lines (with traditional and/or alternative interfaces) but also other high-quality access products, if they fulfil certain criteria. Therefore, in recent years, several NRAs not only included high-quality access products other than leased lines (in particular advanced bitstream products) in market 4, but also imposed such products as a remedy on the SMP operator.

To gain a deeper insight into these products, to promote a consistent approach to access products and to foster knowledge transfer between NRAs, the report to be prepared will analyse L2 WAP imposed on market 4, with a focus on advanced bitstream products (not including Ethernet leased lines). Its objectives are:

- to give an overview of L2 WAP currently in place on market 4 based on experiences of NRAs;
- to analyse the extent to which L2 WAP in different countries have characteristics in common and to identify these common characteristics; and
- to analyse the main differences between L2 WAP imposed on market 4 and L2 WAP imposed on markets 3a and 3b.

**Deliverables**

BEREC Report on the L2 WAP/advanced bitstream offers for undertakings (market 4)

Public consultation: No

Adoption in Plenary 2 for publication

**1.6 Update on Common Positions on markets 3a, 3b and 4**

Based on the conclusions of the BEREC Report assessing whether or not the Common Positions on markets 3a, 3b and 4 (which was adopted in December 2017) need to be reviewed, BEREC will organise an internal workshop to further discuss these preliminary conclusions. In particular, the potential changes arising from the EECC will be discussed, along with the impact that such changes may have on the possible revision of the Common Positions. The workshop will assess if there are gaps in the current set of best practices that comprise the Common Positions and whether or not some best practices may be redundant, and it will identify any best practices that require further clarification.

**Deliverables**

Internal Expert Workshop, September/October 2018

## 2. Strategic priority 2: monitoring potential bottlenecks in the distribution of digital services

Against a back-drop where the internet continues to change the ways in which digital services are delivered and consumed, where more actors are becoming involved in the digital value chain and where interaction between service and network providers is changing, the second strategic priority of the BEREC Medium-Term Strategy 2018-2020 is to evaluate and analyse how the various digital markets evolve over the coming three years – looking particularly at how market power is distributed and the existence of potential bottlenecks in competition and how these bottlenecks can best be addressed. For this strategic priority, BEREC will carry out the following projects.

### 2.1 Data economy

The role of data is becoming increasingly important in most sectors of the economy. The telecommunications sector is no exception, especially given its growing number of interactions with other sectors that form the core of data economy (online telecommunication platforms, audio-visual content providers, etc.). Taking this into account, BEREC considers that it is important to study the potential implications of data economy on the telecommunications sector.

After a global analysis of the impact that this trend may have on competition (in particular in terms of barriers to entry), the prospective report will focus in particular on how this trend might affect the regulation imposed by NRAs currently or in the future.

Given that data economy is a wide-ranging topic covering different technologies and business models and that a variety of stakeholders are involved, BEREC plans to develop a series of activities aimed at specifying the issues that need to be addressed. First, a 'heads workshop' in Plenary 2, with key relevant stakeholders involved in data economy in relation to the telecommunications sector, will be organised. Second, the relevant EWG will organise seminars with other organisations, such as the Organisation for Economic Co-operation and Development (OECD), which has worked extensively in this area. The objective will be to identify the issues related to the transition towards a data-driven economy in Europe that might have to be taken into account by NRAs in the future.

Based on that initial feedback, BEREC will also organise a public consultation to collect different views on this topic and will publish a final report in 2019.

#### Deliverables

Internal Heads Workshop in Plenary 2

Seminars with stakeholders in the second half of 2018

Open public consultation after Plenary 3

Adoption of consultation report in Plenary 4 for publication

Adoption of BEREC Report on data economy in Plenary 2 of 2019 for publication

### 2.2 Location of the network termination point

The definition of the location of the network termination point has an impact on the freedom of end-users to choose the equipment used at their customer premises. For example, in the case of an internet access service, this definition decides whether end-users have the possibility to use their own router or if they have to use the router provided by the internet access service provider. The reason is that the network termination point represents a boundary for regulatory purposes between the regulatory framework for ECNs and electronic communication services and the regulation of telecommunication terminal equipment. It is the NRA which has the responsibility to define the location of the network termination point according to the current regulatory framework (Universal Service Directive, recital 6), and this is also foreseen in the European Commission's proposal for an EECC (recital 19). The European Commission's proposal for a new BEREC regulation includes that BEREC shall issue guidelines on common approaches to identifying the network termination point in different network topologies (Article 2(1e)).

The goal of this project is to foster knowledge transfer between NRAs and to gain a deeper insight into the definitions of the location of the (fixed and mobile) network termination point used by NRAs in Europe. This is helpful not only for NRAs, but also for BEREC if it gains the abovementioned competences in the future.

The objectives of the project are as follows. First, it aims to give an overview of the different definitions of the location of the network termination point used by NRAs in Europe. Second, it aims to identify both the main approaches used by NRAs and the main criteria that had an impact on their definition of the location of the network termination point. The analysis will include how the different stakeholders (e.g. network operators, equipment manufacturers, consumers) were involved in NRAs' decisions, as well as their positions and the arguments they brought forward regarding the location of the network termination point. The project will take into account the activities of the European Conference of Postal and Telecommunications Administrations (CEPT) in relation to the topic 'the location of the network termination point'.

#### Deliverables

BEREC Report on the location of the network termination point

Public consultation: No

Adoption in Plenary 3 for publication

### 2.3 Internet of Things (IoT) indicators

According to a 2015 study by the European Commission, fewer than 1% of objects are currently connected to the internet. Nevertheless, the number of IoT connections within the EU is estimated to increase from approximately 1.8 million in 2013 to almost 6 billion in 2020. International organisations such as the OECD and the International Telecommunication Union (ITU) have already initiated discussions on monitoring IoT. BEREC's work on the topic so far has focused on enabling IoT. Therefore, BEREC plans to assess the potential to monitor the development of IoT in Europe. This project will also take into account the activities of the OECD.

As the number of internet-enabled devices, and consequently the requirement for network resources, increases, the importance of this sector needs to be reflected in the work of BEREC. The work of this report will be to assess the type of measurement of IoT that NRAs are already conducting on the supply side and/or on the demand side, and to assess if there is, at this stage, any common set of IoT-related indicators that BEREC could regularly collect in the coming years (possibly from 2019 onwards) to provide a realistic statistical overview of the IoT landscape.

The first task will be to formulate a survey for NRAs on what data is collected from the supply-side and/or the demand-side with respect to IoT. This questionnaire will look at the availability of data, examples of survey data collected by NRAs, the reasons for gathering data, and the difficulties encountered in sourcing information through surveys.

Given the fact that IoT is a relatively contemporary concept, there may not be a significant amount of supply-side data available; however, the report will discuss the legal powers that NRAs do or do not have with respect to gathering information on IoT from service providers. In addition, given the work that the European Commission is doing on the area of IoT, it will be worth considering, through the questionnaire to NRAs, NRAs' views on whether or not IoT indicators should be benchmarked and, if so, the services, under the broad umbrella of IoT, that should be considered. Given the extensive interest in IoT, and based on its engagement with stakeholders, BEREC understands that it is not only the number of devices in use that is of interest, but also the potential categorisation of IoT devices, including whether such devices are static or move regularly within domestic markets or across borders, etc. questions to consider include:

- What types of data that measure IoT are necessary and of most interest to NRAs?
- What definition(s) of IoT devices should be used?
- What is the best way to measure IoT network traffic?

### Deliverables

BEREC Report on IoT indicators

Public consultation: Yes

Adoption in Plenary 3 for public consultation

Adoption of final report in Plenary 4 for publication

## 3. Strategic priority 3: enabling 5G and promoting innovation in network technologies

BEREC has made 5G a strategic priority in its Medium-Term Strategy 2018-2020, with the aim of enabling European-scale solutions that may help reap the benefits of early and coherent implementation of 5G in terms of innovation, productivity and growth in the internal market. BEREC, within the scope of its competence in 2018, will actively and closely follow the development of 5G, will work in close cooperation with the Radio Spectrum Policy Group (RSPG) to contribute to the removal of potential hurdles to a smooth and quick implementation of 5G in the Member States, and will support consistent 5G deployment across the Member States.

### 3.1 5G, IoT and security

While 5G technologies are under development, European countries are preparing to make new frequencies available for the roll-out of such technologies. The development of IoT, one of the cases foreseen for 5G, has multiplied the number of devices that are connected to the internet via fixed and wireless networks. Some of these devices, which may implement technologies other than mobile, may not meet the necessary level of security and, consequently, may become an internal threat to internet providers and to users themselves.

The same difficulties may arise with the development of 5G, and BEREC is seeking to strengthen the awareness of its members about network security. To this end, in 2018, BEREC will organise a workshop on 5G, IoT and security that will bring experts from BEREC together. The EU Agency for Network and Information Security (ENISA), relevant standardisation organisations and other relevant organisations, such as the RSPG, will attend.

The objectives of the workshop will be to outline the security issues related to IoT and to 5G, to consider the proportionality between the level of security and the development of new services, and to highlight the potential differences between 4G and 5G with regard to security challenges.

### Deliverables

Internal joint BEREC–ENISA workshop on 5G, IoT and security

Timing: Plenary 1

### 3.2 Best practices on spectrum authorisation and award procedures with a view to considering their suitability to 5G

As 5G technologies are being developed, European countries are considering the granting, amendment or renewal of frequency licences that could accommodate these technologies.

The design of the selection procedures for frequency licences and the conditions attached to these licences may have consequences on the structure of national mobile markets (by either enhancing or limiting competition).

NRAs could therefore benefit from an exchange on best practices with regard to the market-shaping aspects of frequency licence granting, amendment or renewal. These aspects concern, inter alia, the size of spectrum lots, conditionalities between lots, spectrum caps and floors, the geographical scope, attached conditions (such as provision of

certain services), the selection criteria and the possible combination of bands (multiband and awards).

BEREC will produce a report giving an overview of the current practices with regard to market-shaping aspects. In doing so, BEREC will consider the work already done by RSPG on the subject and exchange with RSPG on the report. In addition, the ongoing work within the Communications Committee (COCOM) should also be taken into account.

#### Deliverables

BEREC Report on best practices on spectrum authorisation and award procedures with a view to considering their suitability to 5G

Public consultation: No

Adoption in Plenary 3 for publication

### 3.3 Infrastructure sharing

In promoting infrastructure sharing, NRAs have been trying to achieve a good balance between enhancing competition through infrastructure roll-out and limiting the cost and impact of the roll-out on existing mobile networks.

The future roll-out of 5G networks may multiply the number of base stations with the use of small cells and of higher frequency bands than those of existing networks. Consequently, NRAs may need to look at the existing arrangements on infrastructure sharing in their countries.

To this end, NRAs would benefit from having a panel of existing infrastructure-sharing situations. BEREC will therefore describe in a report the different existing sharing models (passive infrastructure, frequency infrastructure, etc.) and, for each of them, the geographical areas in which they are applied, the technology (2G, 3G, 4G) that is used and the legal framework that enables it, as well as the use made of the arrangements.

On the basis of the outcome of this report, BEREC's plan is to assess the continuation of this work with the aim of drafting a Common Position.

#### Deliverables

BEREC Report on infrastructure sharing

Adoption in Plenary 2 for publication

Common Position on infrastructure sharing

Public consultation: Yes

Adoption in Plenary 4 for public consultation

Adoption of final Common Position in 2019 for publication

### 3.4 Best practices on coverage obligations with a view to considering their suitability to 5G

In addition to the market-shaping aspects of the award procedures described above, NRAs may have to elaborate the coverage obligations that will be attached to the future frequency licences, in particular in the bands where 5G technologies will be rolled out.

In doing so, NRAs may wish to focus on the coverage of areas that are identified in the joint BEREC-RSPG report on facilitating mobile connectivity in 'challenge areas', in particular for indoor coverage and transportation ways.

The objective of this workstream will be to collect existing coverage obligations in relation to each challenge area and, if possible, to identify best practices in such coverage obligations and to elaborate recommendations that might be helpful when taking into account 5G technologies. The result of the workstream will be compiled in a report, and BEREC will exchange with RSPG on the report.

### Deliverables

BEREC Report on best practices on coverage obligations with a view to considering their suitability to 5G

Public consultation: No

Adoption in Plenary 4 for publication

### 3.5 Carry-over and follow-up work on monitoring mobile coverage

In 2017, BEREC published a preliminary report in view of a Common Position on monitoring mobile coverage, facilitating a common understanding and fostering a consistent approach on how mobile coverage information can be made available and understandable among NRAs and to the public throughout Europe.

In 2018, further development on this workstream would allow the range of current NRA practices to be assessed in more detail and would provide a clearer picture of the current state of mobile coverage in Europe. In particular, BEREC would explore in depth how NRAs set the metrics that define their mobile coverage and how their coverage maps are designed.

The work would benefit from input from RSPG and could also take into account the European Commission's broadband-mapping initiative.

### Deliverables

Common Position on monitoring mobile coverage

Public consultation: Yes

Adoption in Plenary 2 for public consultation

## 4. Strategic priority 4: fostering a consistent approach of the net neutrality principles

The fourth strategic priority of the BEREC Medium-Term Strategy 2018-2020 is to foster a consistent approach of the net neutrality principles. Besides the deliverables described below, BEREC will act as a forum that supports NRAs in applying the Net Neutrality Regulation in a consistent way throughout Europe. BEREC will continue its work on looking at how net neutrality is affected by changes in markets and new technologies and on encouraging NRAs to share their experiences on the practical implementation of the Net Neutrality Regulation and the BEREC guidelines.

### 4.1 Development of a net neutrality measurement tool

BEREC decided, in October 2017, to develop a common opt-in net neutrality measurement tool. In this work, BEREC shall support the BEREC Office in the management of the development process of the measurement tool specified in the 2017 BEREC Report providing practical guidance regarding the technical implementation of a net neutrality monitoring system. BEREC shall support the preparation of tender documents by the BEREC Office and consequently supervise the tendering process, and eventually supervise the development project of the net neutrality measurement tool, consisting of three elements: open source software, a reference system and a BEREC portal, to be set up by the contractors. The supervision shall include technical aspects in line with the 2017 net neutrality regulatory assessment methodology report.

### Deliverables

Tender specification for the development of a net neutrality measurement tool

Public consultation: No

Tender by Q1 2018, award by Q2 2018, supervision of implementation Q3 2018-Q3 2019

## 4.2 Implementation of the Net Neutrality Regulation

In this workstream, BEREC will monitor the implementation of the net neutrality provisions. In addition, BEREC will receive the annual national net neutrality reports and answers to an internal questionnaire in order to develop an annual European-level net neutrality report. Moreover, a forum will be set up to (informally) discuss national cases and questions relating to the consistent application of the Net Neutrality Regulation, also covering cases of zero-rating. This workstream should build on the experiences from BEREC's 2017 net neutrality workstreams.

### Deliverables

BEREC Report on the implementation of the Net Neutrality Regulation

Public consultation: No

Adoption in Plenary 3 for publication

## 4.3 Net neutrality – input to an evaluation

The Telecom Single Market (TSM) Regulation, in particular Articles 3, 4, 5 and 6 (the net neutrality provisions), shall be reviewed and the European Commission shall submit a report to the European Parliament and the Council by 30 April 2019, accompanied, if necessary, by appropriate proposals with a view to amending the TSM Regulation.

BEREC will provide an Opinion for the European Commission in which it will evaluate the experiences with the TSM Regulation and the BEREC guidelines. For this Opinion, BEREC will also address upcoming new technologies (such as 5G) and services (specialised services, IoT/machine-to-machine (M2M) services, etc.) and their relationship to the Net Neutrality Regulation.

For the workstream, a phase of dialogue with stakeholders will be conducted via an open consultation in the first half of 2018. In Plenary 3, the results of the consultation and the NRAs' findings will be discussed in a heads workshop. An Opinion will be drafted based on this workshop in Plenary 4.

### Deliverables

BEREC consultation paper on the evaluation of the Net Neutrality Regulation 1

Public consultation: Yes

Adoption in Plenary 1 for public consultation

BEREC Opinion on the evaluation of the Net Neutrality Regulation

Adoption in Plenary 4 for publication

## 5. Strategic priority 5: exploring new ways to boost consumer empowerment

By focusing on increasing consumer empowerment and engagement, BEREC aims to ensure that consumers have the necessary information and tools to make informed choices and engage effectively with the market. In the past, BEREC has focused on 'market-shaping' activities that encourage investment and that promote competition and connectivity. BEREC, in its Medium-Term Strategy 2018-2020, aims to complement this work by more actively assessing and promoting consumer empowerment and consumer protection in the coming three years.

In 2018, BEREC will contribute to this strategic priority by analysing switching processes by looking at contracts and evaluating a single European contract information sheet.

### 5.1 Report on the termination of contracts and switching providers

This report will analyse the different aspects that affect switching providers, considering number portability procedures but also identifying other matters that facilitate or hinder switching. There will be a particular focus on bundles (e.g. the different legal frameworks of the elements included in a bundle, such as electronic communication and audio-visual bundles, and switching between heterogeneous bundles) and the practicalities in switching between internet products. This workstream will cover notice periods, data portability (e.g. user profiles), the treatment of failures in the process, technical developments (e.g. e-SIM), early termination compensations, contract durations, loss of service during the switching process, etc.

As regards the termination of contracts, after or during the initial commitment period, BEREC will examine the potential obligations of end-users in relation to the termination of such contracts, in terms of financial compensations regarding special offers or receiving terminal equipment. In preparing this report, BEREC will engage with relevant stakeholders, including consumer advocate groups, to best capture the various norms and practices related to the termination of contracts and switching providers across Member States.

#### Deliverables

BEREC Report on the termination of contracts and switching providers

Public consultation: Yes

Adoption in Plenary 4 for public consultation

Adoption of the final report in 2019 for publication

### 5.2 Report on best practices for ensuring equivalence of access and choice for disabled end-users

One of BEREC's strategic priorities is to empower and protect end-users. Under this principle, BEREC recognises the need to take account of the interests of vulnerable consumers, including those with disabilities. In this context, BEREC envisages taking a fresh look at the provision of electronic communications services for disabled end-users across Europe, in particular focusing on best practices to promote equivalent access and choice.

In line with the previous workshops held by BEREC and the report on equivalent access and choice for disabled end-users, and as a step forward, BEREC will produce a report on the best practices of measures and initiatives that have been carried out in this context by the relevant stakeholders (NRAs, both fixed and mobile equipment manufacturers, providers of electronic communication services, application and content providers, consumer associations and associations representing disabled end-users).

#### Deliverables

BEREC Report on best practices for ensuring equivalence of access and choice for disabled end-users

Public consultation: No

Adoption in Plenary 1 for publication

### 5.3 Report on contractual simplification

In today's electronic communication markets, contracts between providers and end-users take different forms and cover different categories of information. It is important that such contracts provide clear and relevant information, helping end-users to take informed and appropriate decisions when acquiring electronic communication services. With end-users being at the centre of its actions, BEREC has consistently addressed these issues in its work programmes of previous years, including in reports related to

transparent and comparable tariffs, switching, contract information, the termination of contracts, equivalence of access, etc. Continuing work in this direction, BEREC will provide a benchmark report that will collate information on practices and initiatives in Member States to determine the key information elements for contracts between consumers and providers of publicly available electronic communication services. The aim will be to assist consumers in better understanding the terms of their contracts.

The work planned could constitute the basis for developing a 'single' European contract information sheet and should serve as an important input to this work.

#### **Deliverables**

BEREC Report on contractual simplification including a single European contract information sheet

Public consultation: Yes

Adoption in Plenary 3 for public consultation

Adoption of final report in Plenary 4 for publication

#### **5.4 European benchmark of the pricing of bundles**

In the context of convergence and an increasing number of fixed–mobile mergers, markets are evolving towards convergent products. Following this trend, in more and more countries, the most competitive prices are set for triple, quadruple and quintuple bundles, with fixed voice usually included in fixed broadband services.

Therefore, stand-alone benchmarking cannot reflect the actual prices faced by customers in a convergent world and the price for stand-alone services is no longer a good proxy for how prices are evolving. A benchmark to collect data on the prices of the different products typically consumed in a household is needed.

This benchmark would allow a realistic comparison to be conducted of the expenses for telecommunication services faced by consumers. The benchmark would utilise empirical evidence to allow price checking, should the arguments raised by operators for much cheaper bundle prices actually hold. A methodology based on household consumption would provide a realistic snapshot of prices for telecommunication services across the EU, as it would allow offers in countries where services are typically unbundled to be compared with those in countries where they are typically bundled.

The European Commission has conducted two separate broadband internet access cost (BIAC) studies, with two clear methodologies: one for fixed broadband and some fixed bundle types and a second for mobile services only. BEREC will cooperate with the European Commission by providing guidelines on how to merge the two methodologies to compare retail bundle prices, including convergent bundles and prices for typical household consumption. The European Commission BIAC and mobile broadband retail price studies will be considered in this analysis.

#### **Deliverables**

BEREC Report on the European benchmark of the pricing of bundles (phase 1)

Public consultation: No

Adoption in Plenary 3 for publication

## 6. BEREC obligatory work and engagement with stakeholders

### Review of the regulatory framework

#### 6.1 Inputs to the legislative proposals in the context of the review of the European Commission regulatory framework and of the e-privacy directive

The review of the regulatory framework remains a key priority in the Work Programme 2018, as there will be ongoing discussions on the review of the framework next year. BEREC is carrying out investigations on additional themes and, in 2018, intends to continue to monitor the ongoing legislative process and the relevant positions progressively consolidating at the European Parliament and the Council. BEREC may also be required to provide its expert input to the EU institutions on the subjects at stake.

##### Deliverables

Inputs to the legislative proposals

#### 6.2 Ad hoc work: inputs to the European Commission

The European Commission is working on the review of the Termination Rates (TRs) Recommendation (2009/396/EC), the SMP Guidelines and the weighted average cost of capital calculation. BEREC will continue to participate actively in this process and provide its inputs and opinion. The deliverables will be adapted depending on the process finally chosen and followed by the European Commission. In addition, according to the Roaming Regulation, the European Commission must provide, by the end of 2018, an interim report summarising the effects of the abolition of retail roaming surcharges. BEREC, as in previous years, will provide its input to the European Commission.

##### Deliverables

Ad hoc inputs

### Roaming

#### 6.3 International Roaming BEREC Benchmark Data Report

In accordance with Article 19 of the Roaming Regulation, BEREC shall regularly collect data from NRAs on the development of retail and wholesale charges for voice, SMS and data roaming services. These data must be provided to the European Commission at least twice a year. On the basis of the collected data, BEREC shall also regularly report on the evolution of pricing and consumption patterns in the Member States, both for domestic and for roaming services; on the evolution of actual wholesale roaming rates for balanced and unbalanced traffic between roaming providers; and on the relationship between retail prices, wholesale charges and wholesale costs for roaming services. BEREC shall assess how closely those elements relate to each other.

BEREC will continue to monitor the functioning of the Roaming Regulation and provider compliance, compiling information on trends in traffic volumes and pricing at retail and wholesale levels for both domestic and roaming services, finally producing two benchmark reports covering the periods April-September 2017 (20th Benchmark Data Report) and October 2017-March 2018 (21st Benchmark Data Report).

##### Deliverables

20th International Roaming BEREC Benchmark Data Report

Adoption in Plenary 1 for publication

21st International Roaming BEREC Benchmark Data Report

Adoption in Plenary 3 for publication

#### 6.4 Report on Transparency and Comparability of Roaming Tariffs

In accordance with Article 19 of the Roaming Regulation, BEREC will collect information from NRAs on the transparency and comparability of different roaming tariffs offered by operators to their customers. The information gathered from NRAs and operators will be used to prepare the sixth Report on Transparency and Comparability of Roaming Tariffs, which seeks to identify issues that need to be addressed, in particular with respect to new 'Roam-like-at-Home' offers, the implementation of Fair Use Policies and the application of roaming surcharges to ensure operators' sustainability.

##### Deliverables

Sixth Report on Transparency and Comparability of Roaming Tariffs

Public consultation: No

Adoption in Plenary 4 for publication

#### 6.5 Input to the European Commission on weighted average maximum mobile TRs

According to Article 6e(2) of the Roaming Regulation, as amended by Regulation 2015/2120, the European Commission must review the implementing acts setting out the weighted average of maximum mobile TRs every year in accordance with the same procedure. BEREC must give input to the European Commission on this matter once a year.

##### Deliverables

Input to the European Commission on weighted average maximum mobile TRs

Adoption by Electronic Clearance in October 2018

### Quality and efficiency (benchmarking)

#### 6.6 Termination Rates at the European level

In 2018, BEREC will continue to produce semi-annual benchmarks on mobile and fixed termination rates, as well as on SMS. By collecting TR data from BEREC members and observers, BEREC aims to monitor the development of TRs and the cost model/methodology adopted for the calculation of TRs. These benchmarks have reached a satisfactory level of maturity and have proved to be extremely useful, not just for monitoring consistency but also in the regulatory process.

##### Deliverables

BEREC Report on TRs at the European level

Public consultation: No

Adoption in Plenary 2 and Plenary 4 for publication

#### 6.7 Regulatory Accounting Report

The Regulatory Accounting Report will be updated again in 2018 with data collected from NRAs, with the intention of assessing the degree of consistency in regulatory accounting across the EU and identifying differences among Member States that may have arisen as a result of different implementation of the same regulatory approach.

In 2018, emphasis will continue to be given to consistency in regulatory accounting with respect to key access products (e.g. fibre) and BEREC will seek to increase the detail of and in-depth analysis in the methods covered to identify commonalities and reasons for differences. The report aims at investigating more in depth how far further alignment among Member States could be achievable starting from the conclusions of the latest report, as well as covering the motivation behind NRAs' choices of regulatory accounting

and costing methodologies, linking both to find patterns (maybe in the form of a matrix). The analysis will also aim at distinguishing whether differences in the results are due to differences in the application of the method or are an expression of differences in the value of parameters due to national circumstances.

Moreover, BEREC will continue to collect data on the methodology and input parameters used to calculate the rate of return on capital employed and look into the impact of both on the result.

Furthermore, the report will also include an overview of the costing methodologies applied, with a view to the Commission Recommendation on consistent non-discrimination obligations and costing methodologies (2013/466/EU) of 11 September 2013.

The overview with regard to the actual implementation of the TRs Recommendation (2009/396/EC) of 7 May 2009 and the costing methods applied for the purpose of determining TRs will be continued. Currently, the European Commission is reviewing the TRs Recommendation, which may lead to an adjustment of the Regulatory Accounting Report in the future.

#### **Deliverables**

Regulatory Accounting Report

Public consultation: No

Adoption in Plenary 4 for publication

### **6.8 Follow-up internal benchmarking report on non-residential market indicators**

In 2017, BEREC was tasked with proposing a set of indicators on the non-residential telecommunications market to the European Commission, for inclusion in the questionnaires used for the Digital Scoreboard for the purpose of benchmarking. Through engagement and dialogue with the European Commission, BEREC proposed a set of eight indicators that were geared towards reflecting the non-residential market. This set of indicators should be useful for measuring the initiatives set out in the European Commission's Gigabit Society in the coming years.

One of BEREC's early motivations for this project was to try to estimate the size (for example the financial value) of the non-residential market in Europe. This motivation and ambition still stands.

Given this, the report also proposed a second phase of work, whereby BEREC would conduct its own benchmarking exercise, separate from the European Commission's exercise, but the data collection will be timewise aligned. This benchmarking exercise will focus on what might be considered more traditional indicators for estimating the current non-residential market, as more NRAs are currently collecting data on some of these traditional indicators than are collecting data on the more forward-looking indicators proposed by the European Commission. The 2017 report set out eight additional indicators for BEREC to consider for benchmarking:

- total number of non-residential fixed telephone subscriptions;
- total number of leased lines and VPN-IP access;
- total fixed minutes of calls;
- total revenues from fixed services (telephone, broadband, leased lines, VPN-IP);
- total number of non-residential SIM cards (including M2M);
- total number of active non-residential 4G users;
- total non-residential mobile minutes of calls;
- total number of non-residential SMSs/MMSs sent.

It is envisaged that the output of this project would be an internal report based on the actual data-gathering exercise from NRAs, creating a benchmark for each of the indicators listed above across the EU Member States. One caveat with this internal report is that BEREC cannot oblige NRAs that are not collecting data on these indicators to begin collecting such data. The benchmarking will be based on a best-efforts approach.

**Deliverables**

Internal benchmarking report on non-residential market indicators

Public consultation: No

Adoption in Plenary 2 for internal use

**Communication and cooperation**

BEREC in its Medium-Term Strategy 2018-2020 commits itself to continue to engage cooperatively and effectively with stakeholders and enhance its cooperation with the EU institutions and international forums. The following activities are contributing to reach this goal.

**6.9 BEREC annual reports**

According to Article 5(5) and Article 3(1)(n) of the BEREC Regulation, BEREC is required to present an annual report of its activities every year and an annual report on developments in the electronic communications sector. BEREC will continue to publish these two reports together as Part A and Part B of a single document.

Whereas the annual report on BEREC activities focuses on the outcome of the work of its EWGs and ad hoc teams based on the work programme, the annual report on developments in the electronic communications sector summarises BEREC's views on the past year and its perspectives on future developments and challenges in the sector.

**Deliverables**

BEREC Annual Reports 2017

Public consultation: No

Adoption in Plenary 2 for publication

**6.10 Development of an open data platform**

BEREC collects various data from NRAs and operators, which are currently published in several reports (Report on TRs at the European level, International Roaming BEREC Benchmark Data Report, etc.). As these reports are published only as PDFs, it is quite difficult for external bodies to analyse and further process the data where necessary. Therefore, this project aims to offer stakeholders the non-confidential data on the BEREC website in an easily accessible, functional and usable format ('open data').

The first task will be to assess which of the data collected are relevant (non-confidential) and which data BEREC may wish to make public. Additional steps will include tendering for a consultant to develop the platform, which will require the creation of tender specifications.

**Deliverables**

Internal Report on feasibility and potential next steps

Adoption in Plenary 1

**6.11 Stakeholders' Forum**

Building upon the very positive experiences BEREC has made in previous years, the sixth Stakeholders' Forum will continue to provide a platform for strategic dialogue, which will permit participation by all members and key stakeholders and ultimately increase transparency.

The feedback received through the forum will be an important complement to the written inputs received through public consultations and other discussions, and will provide reflections on key developments and future challenges for the sector.

## Deliverables

BEREC Stakeholders' Forum in Q4 2018

### 6.12 Cooperation with the EU institutions and institutional groups

BEREC will continue to engage with the European Commission, the Council and the European Parliament, providing advice and opinions on draft decisions, recommendations and guidelines, and responding to any questions related to electronic communications that fall within the scope of its competence. In 2018, the continuation of this fruitful cooperation with the EU institutions will be of crucial importance for a successful review of the legal framework of the electronic communications sector and a successful Digital Single Market Strategy.

In addition to carrying out its advisory duty for the EU institutions, in 2018 BEREC will also promote thematic exchanges with other European regulatory cooperation platforms and bodies, operating in both adjacent and more different economic sectors, such as RSPG, ENISA, ERGA <sup>(2)</sup>, ERGP <sup>(3)</sup> and the European Competition Network. Furthermore, BEREC will intensify its cooperation with the OECD.

Based on the European Commission's eventual legislative proposals, BEREC will identify specific lines of cooperation with the relevant EU regulatory platforms.

### 6.13 International cooperation

Each year, it becomes ever more necessary for BEREC to engage in a dialogue with NRAs based outside the EU, as well as with international regulatory networks, policy makers and institutions involved in electronic communications matters.

The increasing volume of electronic communications flowing in and out of the EU and the globalisation of the communication industry (just as with other industries) means that policies, legislation and regulations have to be seen from beyond just the European perspective, taking into account the global perspective. BEREC will need to closely follow international trends in technology and changing business models, so that it retains the capacity to address challenges swiftly and effectively as they arise.

In addition, regions outside EU regulators' networks have been expressing great interest in the European regulatory approach.

In 2018, BEREC will continue to develop and strengthen its contact with international regulatory authorities and organisations, such as the FCC <sup>(4)</sup> and ITU, and with regional regulatory networks (such as EMERG <sup>(5)</sup>, EaPeReg <sup>(6)</sup> and Regulate <sup>(7)</sup>), in accordance with the BEREC Regulation and in cooperation with the EU external action services.

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<sup>(2)</sup> European Regulators Group for Audiovisual Media Services.

<sup>(3)</sup> European Regulators Group for Postal Services.

<sup>(4)</sup> Federal Communications Commission (USA).

<sup>(5)</sup> Euro-Mediterranean Regulators Group.

<sup>(6)</sup> Eastern Partnership Electronic Communications Regulators Network.

<sup>(7)</sup> Latin American Forum of Telecommunications Regulators.



# ABBREVIATIONS

BCRD	Broadband Cost Reduction Directive
BEREC	Body of European Regulators for Electronic Communications
BIAC	Broadband internet access cost
BoR	Board of Regulators
EaPeReg	Eastern Partnership Electronic Communications Regulators Network
ECN	Electronic Communication Network
ECS	Electronic Communication Services
EECC	European Electronic Communications Code
EMERG	Euro-Mediterranean Regulators Group
ENISA	European Union Agency for Network and Information Security
EP	European Parliament
EWG	Expert Working Group
FD	Framework Directive
IoT	Internet of Things
ITU	International Telecommunication Union
L2 WAP	Layer 2 wholesale access products
M2M	Machine to Machine
NRA	National Regulatory Authority
NN	Net neutrality
OECD	Organisation for Economic Co-operation and Development
QoS	Quality of Service
Regulatel	Latin American Forum of Telecommunications Regulators
RSPG	Radio Spectrum Policy Group
SMP	Significant Market Power
TCPI	Technical and Commercial Practices Investigation
TR	Termination Rate
USD	Universal Service Directive



# ANNEX

## Reports

BEREC Report on access to physical infrastructure in market analyses

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BEREC Report on pricing for access to infrastructure and civil works

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BEREC Report on geographical market definition

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BEREC Report on technical and economic replicability assessment in the context of symmetrical access

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BEREC Report on the L2 WAP/advanced bitstream offers for undertakings (market 4)

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BEREC Report on data economy

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BEREC Report on the location of the network termination point

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BEREC Report on IoT indicators

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BEREC Report on best practices on spectrum authorisation and award procedures with a view to considering their suitability for 5G

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Report on infrastructure sharing

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BEREC Report on best practices on coverage obligations with a view to considering their suitability for 5G

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BEREC Report on the implementation of the Net Neutrality Regulation

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BEREC Report on the termination of contracts and switching providers

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BEREC Report on best practices for ensuring equivalence of access and choice for disabled end-users

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BEREC Report on contractual simplification including a single European contract information sheet

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BEREC Report on the European benchmark of the pricing of bundles

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20th International Roaming BEREC Benchmark Data Report

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21st International Roaming BEREC Benchmark Data Report

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Sixth Report on Transparency and Comparability of Roaming Tariffs

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BEREC Report on TRs at the European level

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Regulatory Accounting Report

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BEREC Annual Reports 2017

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**Other documents**

Common Position on infrastructure sharing

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Common Position on monitoring mobile coverage

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Tender specification for the development of a net neutrality measurement tool

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Input to the European Commission on weighted average maximum mobile TRs

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**Workshops**

Seminars with stakeholders on data economy

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BEREC Stakeholders' Forum

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Body of European Regulators  
for Electronic Communications

**BEREC**

# Work Programme 2018



Publications Office