

Work Programme 2016
BEREC Board of Regulators

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Content

I.	Introduction	4
II.	Background.....	6
III.	BEREC work in 2016 – Strategic Priorities	7
A.	Promoting Competition and Investment	7
1.	Wholesale products.....	8
1.1.	Common Position on layer 2 wholesale access products	8
1.2.	Potential regulatory implications of Network Functions Virtualization (NFV) and Software-Defined Networking (SDN)	8
1.3.	Enabling Internet of Things - Dialogue with different regulatory bodies	9
1.4.	Migration to all-IP in the access network	10
1.5.	Current developments in IP interconnection markets and related issues (BEREC expert workshop in cooperation with OECD)	11
1.6.	Monitoring implementation of the BEREC revised Common Positions - 3 rd phase (Report).....	11
2.	Challenges and drivers of NGA rollout and infrastructure competition	12
3.	Oligopolies	12
3.1.	Input to the Review with regard to oligopolies (criteria of tight oligopolies, symmetric regulation etc.)	12
3.2.	BEREC input on mergers & acquisitions (input to be prepared by a consultancy)	13
4.	Input to the Review with regard to spectrum (in cooperation with RSPG).....	13
5.	Implementation of the Cost Reduction Directive	14
B.	Promoting the Internal Market.....	14
6.	Preparation of the Review	15
7.	Economic impact of OTTs/CAPs on market definition and competition	15
8.	International Roaming	16
8.1.	Input to the European Commission to the fair use of roaming services and the sustainability of the abolition of retail roaming surcharges.....	16
8.2.	Report on the wholesale roaming market	17

8.3.	Update of BEREC Guidelines on the roaming regulation.....	17
8.4.	Input to the Commission Implementing Act on weighted average MTRs	18
8.5.	Periodic International Roaming reports.....	18
8.5.1.	Benchmark Reports.....	18
8.5.2.	Transparency and Comparability of Roaming Tariffs Report	19
9.	Article 7 / 7a Cases	19
9.1.	Opinions on Phase II cases.....	19
9.2.	Qualitative review of Phase II cases (Report).....	19
10.	Input to the review of the Termination Rates Recommendation (depends on EC)	20
C.	Empowering and Protecting End-users.....	21
11.	Net Neutrality	21
11.1.	Guidelines for the implementation of Net Neutrality provisions of the TSM regulation	21
11.2.	Regulatory assessment of QoS in the context of Net Neutrality.....	22
12.	Input to the Review with regard to the revision of the Universal Service Directive	23
13.	Accessibility Workshop.....	24
D.	Quality and Efficiency	25
14.	Benchmarks	25
14.1.	Benchmarking on MTR/FTR/SMS (multiannual work line).....	25
14.2.	Regulatory Accounting in practice (multiannual work line).....	26
14.3.	Analysis of the emergence of new markets due to bundling trends	26
15.	Stakeholders' Forum	27
16.	BEREC's Annual Reports on activities and developments in the sector	28
17.	Cooperation with EU institutions/groups.....	28
18.	International Cooperation	29
	Annex – Outputs	30

I. Introduction

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. According to Article 5 (4) of this 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 Commission as soon as it is adopted.

The BEREC Work Programme for 2016 based for the purpose of reaching maximum coherence on the BEREC Strategy 2015-2017, maintains BEREC's commitment to the development of regulatory best practice amongst National Regulatory Authorities (NRAs), leading to independent, consistent, high-quality regulation of electronic communications markets contributing thereby to the further development of the internal market for the ultimate benefit of Europe and Europe's citizens. Furthermore the Work Programme 2016 mirrors BEREC's commitment to serve as a body for reflection, debate and advice for European Parliament, the Council and the Commission in the electronic communication field.

In this sense the 2016 Work Programme seeks to address current regulatory challenges and aims to prepare for the new challenges ahead resulting from market and technological developments. It takes also into account to a large extent the European political priority of the Digital Single Market aiming at better access to digital goods and services across Europe, creating the proper conditions for digital networks and innovative services to flourish and maximizing the growth potential of the digital economy. The BEREC Work Programme for 2016 has a clear focus on the upcoming review of the current legal framework for electronic communications. The Telecoms Review process is raising various regulatory issues and is requesting BEREC's input to a broad scope of topics covering a wide field of regulatory aspects.

The BEREC Work Programme 2016 was discussed and agreed at the BEREC Board of Regulators meeting in Riga on 1st and 2nd October 2015. In line with the practice of previous years and in accordance with Article 5 of the BEREC Regulation, the BEREC Work Programme was subject to consultation. The public consultation ran from 2nd to 30th October 2015 with an oral hearing at the Stakeholder Forum in Brussels on 15th October 2015. The role of public consultation is to increase transparency and to provide BEREC with valuable feedback from all relevant stakeholders.

Following the public consultation, BEREC reviewed the document, taking all relevant comments and responses into account. Submissions received during the consultation process are published on the BEREC website.

The BEREC Work Programme 2016 was adopted at the BEREC Board of Regulators meeting, held in London on 10th and 11th December 2015.

Prof. Fátima Barros, ANACOM
Chair 2015

Dr. Wilhelm Eschweiler, BNetzA
Chair 2016

II. Background

The focus of BEREC activities in 2016 will be the upcoming review of the current European Regulatory Framework for electronic communications as important part of the “Digital Single Market” (DSM) Strategy and the respective legislative proposals announced by the European Commission for 2016. Furthermore, the BEREC work 2016 is significantly influenced and determined by the outcome of the “Telecom Single Market” (TSM) Package and the various tasks dedicated to BEREC in the field of Net Neutrality and international roaming. Taking this into account, the topics of the Work Programme 2016 are strongly influenced by the ongoing legislative process around the DSM initiative and the TSM agreement of 30th June 2015 to be implemented.

According to the BEREC Strategy 2015-2017, the Work Programme 2016 aims to continue and to develop the actions that were undertaken in 2015 in light of the three strategic pillars for BEREC’s activities: (A) promoting competition and investment, (B) promoting the internal market and (C) empowering and protecting end-users. Since BEREC is constantly working to improve its working methods and the quality and timeliness of its output, another key area of the Work Programme is part (D) quality and operational efficiency.

The implementation of the Work Programme 2016, as in previous years, will be undertaken by Expert Working Groups (EWGs), comprised of experts from the NRAs who participate in BEREC as members or observers. Each EWG is essentially a drafting team, which addresses a number of topics, analyzing the relevant issues and preparing inter alia reports for discussion and adoption by the Board of Regulators (BoR). Work streams and deliverables are presented in section 3, under the three Strategic Priorities and regarding the Quality of BEREC’s output and operational efficiency. As a cross-cutting issue the Work Programme will give particular attention to end-user interests, including those of business customers, in the relevant work streams.

In addition to the specific work streams set out in the Work Programme 2016, BEREC anticipates continuous involvement in Article 7/7a Phase II cases, which need to be addressed, delivering relevant Opinions, at highest priority and within strict statutory deadlines. BEREC will also consider possible ad hoc requests for advice from the EU institutions (European Commission, Council and European Parliament) and will complete these requests appropriately and on time.

During 2016 legislative proposals are expected linked to the review of the framework as part of the DSM initiative. Against this background, BEREC may need to revise its work priorities during the course of the year in order to ensure that the work streams remain properly

prioritized and resourced and that there will be the ability to react in an adequate way to new topics and ad-hoc requests in a timely manner.

With a view to the two-pillar approach consisting of the BoR supported by the BEREC Office, the support of the BEREC Office is of key importance for the success of the BEREC Work Programme 2016. Under the guidance of the Administrative Manager, the BEREC Office provides professional and administrative support services to BEREC and its EWGs. On the basis of a fully staffed office, the BEREC Office ensures to handle the increasing volume of work in an efficient, proactive and timely manner.

Finally, BEREC will continue to follow the approach whereby NRAs work together to elaborate Common Positions (CPs), guidelines and best practices. 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 BEREC’s outputs particularly valuable.

III. BEREC work in 2016 – Strategic Priorities

A. Promoting Competition and Investment

In light of recent market developments and with a view to the most crucial technological trends and challenges as well as convergence processes, BEREC will continue to focus on promoting competition and creating a favourable climate for investment and innovation.

This will include developments in the area of NGA and the encouragement of investment in high speed broadband infrastructure while ensuring at the same time a competitive environment and level playing field. Furthermore BEREC will put emphasis on addressing market consolidation processes, the appearance of service and network oligopolies as well as issues around spectrum.

In 2016, BEREC will focus on the review of the Regulatory Framework for electronic communications as important part of the Digital Single Market Strategy. BEREC will play an important role in providing input to the corresponding legislative proposals announced by the European Commission for 2016 and the further development and evolution of the Regulatory Framework.

1. Wholesale products

1.1. Common Position on layer 2 wholesale access products

In recent years several NRAs have imposed access to (active) layer 2 (Ethernet) wholesale access products (L2 WAPs) as a remedy on the wholesale local access market (Market 4/2007) and/or the wholesale broadband access market (Market 5/2007). In order to get a deeper insight into these products and to foster the exchange of experiences and contribute to the harmonization of regulatory instruments used in the European Union, BEREC has analyzed L2 WAPs already in place in the last two years. The BEREC Report “Common Characteristics of Layer 2 Wholesale Access Products” was adopted by the BoR at Plenary 3 2015 for publication. In 2016 BEREC will take the next step and develop this Report into a Common Position on layer 2 wholesale access products, in order to further promote the harmonized approach of best practices.

Deliverable

BEREC Common Position on layer 2 wholesale access products

Public consultation after P2/2016

Adoption in P3/2016

1.2. Potential regulatory implications of Network Functions Virtualization (NFV) and Software-Defined Networking (SDN)

In recent years the electronic communications sector (together with the IT sector) started to work very intensely on two new fundamental technological developments: Network Function Virtualization (NFV) and Software-Defined Networking (SDN). Both aim to transform the way that networks are built and operated. NFV transforms network architectures through the implementation of network functions in software that can run on a range of industry standard server hardware instead of the use of a large and increasing variety of proprietary hardware appliances which are used today in the networks of the operators. Moreover NFV transforms network operations because the software can dynamically be moved to, or instantiated in, various locations in the network as required, without the need for installation of new equipment. NFV is highly complementary to SDN and supports SDN by providing the infrastructure upon which the SDN software can be run. In the SDN architecture network intelligence and state are logically centralized (decoupling of control and data planes) and the underlying network infrastructure (based on NFV) is abstracted from the applications.

Especially with regard to the review of the EU Regulatory Framework it is important to look at technological developments that may have a fundamental impact on the electronic communications sector in the future. Therefore, BEREC will explore the potential implications of NFV and SDN on regulation. BEREC will start this exercise with an expert workshop in Q1/2016 to which Standard Development Organisations (SDO), network operators and vendors will be invited to participate (e.g. ETSI NFV, ONF, MEF) and to present their view on the regulatory implications of SDN and NFV as well as to discuss with BEREC these new technological developments from a regulatory perspective. BEREC will build on the insight gained during the workshop to summarize them in a short topic paper.

Deliverable

BEREC expert workshop on regulatory implications of NFV and SDN in Q1/2016

Short topic paper on potential regulatory implications of NFV and SDN

Adoption in P2/2016

1.3. Enabling Internet of Things - Dialogue with different regulatory bodies

BEREC is about to publish its final report on "Enabling the Internet of Things" giving BEREC's survey and assessment of the state of play on M2M services¹ with the perspective of fostering an environment that will result in sustainable competition, interoperability of electronic communications services and consumer benefits. It is aimed at presenting the most common M2M characteristics and assessing whether these services might require special treatment with regard to current and potential future regulatory issues. The report looks at preconditions for M2M services to thrive. Different authorities and entities might help in establishing these.

As set out in the report they include assuring adequate resources for M2M services such as spectrum, numbers, IP addresses and other identifiers, an EU Electronic Communications Framework fit for M2M services and the fact that consumer acceptance of M2M services will depend on transparency, privacy, data security, interoperability of services devices and platforms.

While technical management of IP addresses comes under the responsibilities of ICANN (in co-operation with RIPE NCC), the allocation of spectrum and E.164 numbers lies within the remit of national authorities of the electronic communications sector. With

¹ In this Report BEREC uses the terms M2M and IoT as synonyms.

regard to areas like privacy, data security and standardization NRAs' competences vary. Some have only limited or no competences at all. However, NRAs could cooperate with the respective competent authorities and with other stakeholders in industry, in order to create awareness and foster an innovation-friendly, as well as consumer-friendly, environment.

BEREC will build on the report by entering into a dialogue with those entities (e.g. CEPT, RSPG, ENISA, the Article 29 Working Party and national data protection authorities, as well as with standardisation bodies).

Deliverable

BEREC workshop on Enabling the Internet of Things – Dialogue with different regulatory bodies in Q3/2016

1.4. Migration to all-IP in the access network

In recent years several operators (fixed and mobile) in EU Member States started to migrate their networks to Next Generation Networks (NGN) or all-IP networks. A main driver for this is the fundamental change in the traffic, previously dominated by voice traffic but now dominated by data traffic. Previously the voice telephony networks were optimised for voice (i.e. circuit switching and the use of TDM) and to some extent data was also carried over these networks. Now the networks are optimised for data traffic (i.e. packet switching and IP) and voice is increasingly also transported over these networks.

BEREC has already studied aspects of this migration towards NGN or all-IP networks in previous years. For example, a BEREC Report on case studies of IP-based interconnection for voice services in the European Union was adopted by the BoR at Plenary 4 2015 for publication. In 2016, BEREC will focus on a further aspect of the migration towards NGN or all-IP networks, i.e. the migration from current access technologies (POTS, ISDN) to IP-based access networks (VoIP). This study will examine the state of the migration process in different countries, its impacts on wholesale access products (including non-residential products), the extent to which NRAs were involved in this process, whether particular forms of regulation are or were necessary and several other issues.

Deliverable

BEREC Report on migration to all-IP in the access network
Adoption in P4/2016

1.5. Current developments in IP interconnection markets and related issues (BEREC expert workshop in cooperation with OECD)

IP-Interconnection (e.g. Peering and Transit Conditions, Routing Policies, Colocation and Caching Policies of operators) is relevant both in the debate on Net Neutrality and with regard to the role of OTT players. However, information on IP-Interconnection is often neither publicly available nor within the remit of NRAs. BEREC will exchange available information. An expert workshop in cooperation with the OECD on the role of IP-interconnection in these debates will be held. The timing is chosen around the December OECD CISP working party meeting to ensure participation of the FCC and other OECD member states.

Deliverable

3 rd BEREC/OECD expert workshop on IP-interconnection in Q4/2016

1.6. Monitoring implementation of the BEREC revised Common Positions - 3rd phase (Report)

In 2014 and 2015 BEREC carried out a monitoring exercise to assess how NRAs have implemented the revised CPs relating to Markets 3a, 3b and 4. Through this ongoing monitoring exercise, BEREC aims to gain a detailed understanding of which regulatory approaches work best for different national circumstances, with a view to refining best practices, and furthermore to gain insight into its own harmonisation efforts.

This monitoring exercise is being carried out over a three year period (2014, 2015 and 2016) to allow for a full cycle of market reviews to be carried out by all NRAs. During 2016 BEREC will carry out the third and final CP monitoring survey and will produce a final report for Plenary 4, 2016. In the second half of 2016, the CP monitoring team (in collaboration with the NGN EWG), will also consider the extent to which any CPs might need to be reviewed in light of the findings of the monitoring exercise, recent developments and any proposals emerging from the EC Framework Review.

Deliverable

Report setting out the Phase 3 broadband CP monitoring results and conclusions emerging from all three CP monitoring exercises
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Adoption in P4/2016

2. Challenges and drivers of NGA rollout and infrastructure competition

The 2015 work stream will be finalized. With the increasing demand for broadband (residential and non-residential) investment in high-speed broadband infrastructure needs to be encouraged, while preserving a competitive environment. This will encompass a benchmark of NGA wholesale markets regulation and competition effects including an analytical benchmark of NGA roll out in each country (type of access and type of obligations, number of actors, local authority and/or local utilities interventions, incumbent operator's role, number of homes passed and number of users) as well as an analysis of the economic literature on the relationship between regulation investment and competition. This topic is at the core of the debates around the Review and DSM.

Deliverable

BEREC Report on challenges and drivers of NGA roll out and infrastructure competition

Public consultation after P2/2016

Adoption in P3/2016

3. Oligopolies

3.1. Input to the Review with regard to oligopolies (criteria of tight oligopolies, symmetric regulation etc.)

The European telecommunication markets have witnessed several developments, such as the increased uptake of bundled services and a trend towards consolidation of the markets via mergers and acquisitions, which can result in oligopolistic market characteristics. It is generally recognised that oligopolistic communications markets face a risk of evolving in a non-competitive manner. For this reason BEREC prepared the Report on oligopoly analysis and regulation in order to assess whether the current regulatory toolkit and/or its practical application are adequate to tackle markets that have oligopolistic characteristics or bottlenecks. In June 2015 BEREC launched a consultation on the Report. The BEREC Report was adopted at the 4th Plenary 2015.

Subject to this consultation and in particular the assessment of the need and scope for adapting the Regulatory Framework to address non-competitive oligopolies further work might be required.

Deliverable

Follow-up Report on Oligopoly Analysis and Regulation

Timing tbd

3.2. BEREC input on mergers & acquisitions (input to be prepared by a consultancy)

The above mentioned trend towards consolidation via merger acquisitions operations implies changes in the market structure and dynamics for competition in the short and long term, both at European and national levels. Understanding of the main trends and implications derived from these mergers & acquisition operations is a key issue for European NRAs. A comprehensive view on the evolving market structure derived from mergers & acquisitions will be especially useful to take informed decisions regarding guidance for NRAs on ex-ante regulation as well as to interact with relevant EU institutions and stakeholders.

The report will specifically pay attention to how these mergers & acquisitions have impacted the market structure, particularly, the development of prices for consumers, in 3 Member States with recent mobile-mobile mergers.

The report aims to cover: (i) data providing information about which changes in market structures and market developments have been detected in these countries, (ii) a description of the mergers & acquisitions operations, (iii) the effect the merger had on consumer prices using the methodology developed by ACM, RTR and EC (published Nov. 2015) and (iiii) implications of mergers for investments, if sufficient data on investments can be acquired.

Deliverable

Post-mergers & acquisitions market developments fact finding report

The report is planned to be finalized by P1/2017
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4. Input to the Review with regard to spectrum (in cooperation with RSPG)

Spectrum is a key input for mobile (broadband) services and as such also for the upcoming Framework Review. Its availability is crucial to entrants into the mobile markets and for the future development of (mobile) broadband access in Europe. BEREC could contribute by providing, where useful in cooperation with the RSPG, an important input to the Framework Review based on BEREC's market knowledge and expertise. BEREC could in particular

provide information and expertise about market developments and competition issues as well as an overview about best practices

Deliverable

BEREC Report or input to the review process on spectrum

Timing tbd

5. Implementation of the Cost Reduction Directive

The Directive on measures to reduce the cost of deploying high-speed electronic communications networks ([2014/61/EU](#)) aims at facilitating and incentivising the roll-out of high-speed electronic communications networks by reducing its cost. It includes measures aimed at increasing the sharing and re-use of existing physical infrastructure, which is expected to create conditions for a more cost efficient network deployment.

As the Cost Reduction Directive will become applicable by 1st July 2016, BEREC will play a role in this area, in support of the implementation of the Directive and helping enable cross sector cooperation for broadband and smart grid deployment. A workshop is envisaged in order to exchange information and experience so far on the state of play of implementation and might contribute to the development of best practices with a view to the enforcement of quality and of compliance with in-building physical infrastructures' obligations (to be "broadband-ready"). The workshop intends to highlight the lessons learnt so far in the implementation process, the challenges member states are facing and it might stimulate cooperation further among Member States. Speakers of the workshops will be representatives of NRAs and stakeholders.

Deliverable

BEREC Workshop on the implementation of the Cost Reduction Directive in Q2/2016

B. Promoting the Internal Market

BEREC will be actively involved in the preparation and coordination of input to the legislative proposals provided by the European Commission in 2016 with regard to the Review of the Regulatory Framework for electronic communications. As part of the Digital Single Market Strategy the Telecoms review process will be of crucial importance and at the heart of enabling the completion of the Digital Single Market. Depending on ad-hoc requests and emerging issues, BEREC will play a key role in advising the European Commission as well

as the European Parliament and the Council by providing regulatory knowledge based on the practical experiences of the NRAs.

BEREC will also give emphasis to International Roaming as well as Net Neutrality and all tasks that have been conferred to BEREC as follow up to the agreement on the Telecom Single Market Package in 2015.

Finally, BEREC will continue to provide consistent and profound reasoned Opinions on Article 7/7a Phase II cases.

6. Preparation of the Review

The European Commission has announced the publication of the proposal for the Review of the electronic communications legislative framework by 2016. At the end of 2015, BEREC will have provided its input to the REFIT of the current framework as well as an Opinion on its review. In 2016 BEREC will do further work on a range of different topics interrelated to the upcoming review such as OTTs/CAPs, oligopolies, spectrum, universal service etc. BEREC will provide various documents on these topics as indicated in this Work Programme and serving as further input to the legislative proposals.

Furthermore BEREC will closely monitor the process for the preparation of the Commission's legislative proposals and will analyze it; then BEREC will follow the legislative process. During the preparation phase as well as during the legislative process BEREC is ready and willing to deliver ad hoc input to specific issues depending on the request of the EU institutions and/or newly emerging needs.

Deliverables

Opinions, reports, position papers, technical background analyses (depending on specific requests of the EU Institutions and on specific needs emerging during the preparation of the legislative proposals by the Commission and during the legislative process)

Timing tbd (depending on the external requests/BoR input)

7. Economic impact of OTTs/CAPs on market definition and competition

In 2015 BEREC elaborated a report on OTTs/CAPs assessing potential changes in the ICT value chain and the possible evolution of digital markets in the Internet ecosystem. A consultation was launched in October 2015. The ongoing work stream will be finalized in early 2016.

As OTTs/CAPs are “hot” topics for 2016 and the Framework Review, in 2016 BEREC will further look at their impact on market definition and competition, including looking at the definition/characteristics of OTT/CAPs, substitutability, SMP approach, methodological frame, possible adjustments in the areas of data protection and data security, interoperability etc.

Deliverable

BEREC Input papers on OTT-related issues (scope of rules, economic impact)

Adoption in P4/2016

8. International Roaming

The 2016 work plan in the field of International Roaming foresees not only the continuation of the monitoring exercises (Benchmark Report and Report on Transparency and Comparability of Roaming Tariffs) but will also include the implementation of the obligations set out in the Telecom Single Market (TSM) Regulation as it concerns the amendments of the current Roaming III Regulation. On 28th July 2015 the Commission formally requested BEREC to provide input to the review of the wholesale roaming market and planned to formally consult BEREC in the first semester of 2016 on the draft implementing acts on fair use policy (FUP) and sustainability of the abolition of retail roaming surcharges.

8.1. Input to the European Commission to the fair use of roaming services and the sustainability of the abolition of retail roaming surcharges

According to Article 6b ter of the Roaming IV Regulation, the European Commission, after having consulted BEREC, shall adopt detailed rules on the application of the FUP, on the methodology for assessing the sustainability of the abolition of retail roaming surcharges, and on the notification to be submitted by a roaming provider for the purposes of that assessment by 15th December 2016. For this purpose BEREC will provide input to the Commission’s request expected during the first semester of 2016.

Deliverable

BEREC Input to the Commission to the fair use of roaming services and the sustainability of the abolition of retail roaming surcharges

Adoption in P2/2016

8.2. Report on the wholesale roaming market

According to Article 19 of Roaming III Regulation as amended by the TSM Regulation, the Commission shall review the wholesale roaming market with a view to assessing measures necessary to enable the abolition of retail roaming surcharges by 15th June 2017. In the letter sent by the Commission on 28th July 2015, BEREC has been asked to provide an extensive list of necessary information and data by the end of 2015 on different aspects of the wholesale market which has been considered as relevant for the elaboration of the mentioned report. This data was already submitted to the EC in 2015.

As for the previous review of the roaming regulation, BEREC will assess the wholesale roaming market and plans to publish its views on this issue after the 1st Plenary 2016.

BEREC will also contribute to the Commission's public consultation on the Roaming Regulation 531/2012 as amended by Regulation 2015/2120 started on 26th November 2015.

Deliverable

BEREC Report on the wholesale roaming market

Adoption in P1/2016

8.3. Update of BEREC Guidelines on the roaming regulation

The BEREC Guidelines on Articles 4 and 5, the BEREC Guidelines on Article 3 and the BEREC Guidelines on the Roaming III Regulation excluding Articles 3, 4 and 5 need to be updated. Given the number of questions concerning the implementation of the new measures also during the transitional period, the update of the General Guidelines should be approved during the first Plenary to contribute to a harmonized implementation of Art 6d of the Roaming III Regulation as amended by the TSM Regulation (EU 2015/2120). As there is no time pressure, the other two sets of guidelines will be updated according to the Roaming IV Regulation in the second half of 2016.

Deliverables

BEREC Guidelines on the application of the Roaming III Regulation as amended by the TSM Regulation (excluding Articles 3, 4 and 5 on wholesale access and separate sale of services)

Adoption in P1/2016

BEREC Guidelines on the application of Article 3 - Wholesale Roaming Access - of the Roaming III Regulation as amended by the TSM Regulation

Adoption in P4/2016

BEREC Guidelines on the application of Articles 4 and 5 - Separate Sale of Roaming Services – of the Roaming III Regulation as amended by the TSM Regulation

Adoption in P4/2016

8.4. Input to the Commission Implementing Act on weighted average MTRs

According to Art 6c, the Commission has to review the Implementing Acts setting out the weighted average of maximum mobile termination rates across the EU every year in accordance with the same procedure. This and the letter from the Commission from 28th July 2015 imply that BEREC needs to give input to the Commission on this matter once a year.

Deliverable

BEREC Input to the European Commission regarding the implementing acts setting out the weighted average of maximum mobile termination rates across the Union

Adoption by e-clearance after P3/2016

8.5. Periodic International Roaming reports

8.5.1. Benchmark Reports

In accordance with Article 19 paragraph 4 of the Roaming III Regulation as amended by the TSM Regulation, BEREC shall regularly collect data from NRAs on the development of retail and wholesale charges for voice, SMS and data roaming services. This data has to be notified to the Commission at least twice a year.

On the basis of collected data, BEREC shall also report regularly on the evolution of pricing and consumption patterns in the Member States both for domestic and roaming services and the evolution of actual wholesale roaming rates for unbalanced traffic between roaming providers.

Taking this into account, BEREC will adapt the data collection template considering the new provisions and 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 level for both domestic and roaming services, and

producing two benchmark reports covering the periods April 2015 - September 2015 (16th Benchmark Report) and October 2015 - March 2016 (17th Benchmark Report).

Deliverables

16th and 17th International Roaming BEREC Benchmark Data Report
Adoption in P1/2016 and P3/2016

8.5.2. Transparency and Comparability of Roaming Tariffs Report

Also in accordance with Article 19 paragraph 4 of the Roaming III Regulation as amended by the TSM 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 3rd report on transparency and comparability of Roaming tariffs, which seeks to identify issues that need addressing, in particular with respect to consumer choice and the availability of adequate information to make that choice possible.

Deliverable

BEREC Report on transparency and comparability of International Roaming tariffs
Adoption in P4/2016

9. Article 7 / 7a Cases

9.1. Opinions on Phase II cases

BEREC anticipates continuous involvement in Article 7/7a Phase II cases, entailing examination and the delivery of relevant opinions within strict deadlines while maintaining the highest levels of quality.

9.2. Qualitative review of Phase II cases (Report)

In 2014 BEREC undertook an analysis of Article 7/7a Phase II cases aimed at gaining a better understanding of both the procedural and substantive aspects of these cases and at informing the prospective review of BEREC CPs.

Previously, with the help of the BEREC Office, a high level categorisation of Article 7/7a Phase II cases had been carried out. In 2015 the REM EWG developed this further into a more comprehensive database of Phase II cases that stipulated the main elements of the cases, in particular the arguments of the Commission, the reasoning of BEREC Opinions,

and the final outcome of the process. The EWG will continue to add new Phase II cases to this database as and when they arise.

The aim is that the database can be consulted by BEREC members both for referencing a particular case and to analyse key themes among the cases over time.

To gain insight on the procedural aspects of Phase II proceedings, BEREC complemented the database analysis of cases with a survey of rapporteurs and experts of previous Phase II cases. The intent of the survey was to explore the functioning of the Article 7/7a process.

The report with the findings of the analysis was presented and adopted at Plenary 4 in 2015. Based on the report BEREC will decide on the next steps, in particular whether it is appropriate to host a high level workshop in 2016 or alternatively a technical workshop on this matter.

In any case BEREC will continue to track new cases and to produce an update to the report in a similar vein to this year's report, i.e. based on questioning rapporteurs and drafters on procedural aspects of the Article 7/7a process.

Deliverables

High Level Workshop (timing tbd) or Technical Team Workshop (timing tbd), internal
Update of the report (timing tbd), internal

10. Input to the review of the Termination Rates Recommendation (depends on EC)

On 7th May 2009, the Commission adopted its Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, aiming at coherent regulation in termination markets across the EU, in order to promote efficiency, sustainable competition and maximise consumer benefits in terms of price and service offerings. The Recommendation had to be applied by EU NRAs by 31th December 2012.

The Recommendation was intended to be “reviewed not later than four years after the date of application”, which implies before the end of 2016. BEREC is planning to prepare input to the European Commission for the process of reviewing the Recommendation, and collaborate in this process.

Deliverable

<p>Input to the Commission in its process of reviewing the Termination Rates Recommendation (tbc / depending on the process setup by Commission)</p>
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<p>Adoption tbd</p>

C. Empowering and Protecting End-users

The empowerment and protection of end-users, including the promotion of end-user choice, accessibility and affordability, will remain at the heart of BERECs activities.

One of the main areas of interest remains in this respect the safeguarding of an open Internet. Stemming from the TSM agreement, BEREC has the task to develop guidelines for the implementation of the obligations of NRAs related to the supervision, enforcement and transparency measures for ensuring an open Internet access. Therefore, BEREC will especially ensure a common approach to Net Neutrality rules.

In addition to this BEREC will have a close look and get actively involved in the announced revision process of the Universal Service Directive as part of the Review of the Regulatory Framework giving priority to user protection.

11. Net Neutrality**11.1. Guidelines for the implementation of Net Neutrality provisions of the TSM regulation**

The TSM Regulation (EU 2015/2120) includes a duty in Article 5(3) for BEREC to lay down guidelines for the implementation of the obligations of NRAs related to the supervision, enforcement and transparency measures for ensuring open Internet access. These guidelines should contribute to the consistent application of the Regulation, and be produced after consulting stakeholders and in close cooperation with the European Commission. The guidelines shall be adopted no later than nine months after the Regulation enters into force. BEREC will draw on existing BEREC Net Neutrality publications to develop these guidelines.

Deliverables

<p>BEREC Guidelines on Regulators' Implementation of European Net Neutrality rules</p>
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<p>Public consultation on draft Guidelines after P2/2016</p>
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Publication until 30 th August 2016
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11.2. Regulatory assessment of QoS in the context of Net Neutrality

When regulators are supervising developments in the electronic communications market in general, as well as the practices of Internet service providers (ISPs) in particular, insight into quality of the services offered on the market is essential.

Article 22(3) of the Universal Service Directive enables the regulator to “prevent degradation of service”.

Furthermore, the recent TSM Regulation requires regulators to closely monitor and ensure compliance with the provisions on Net Neutrality of the Regulation 2015/2120.

This work stream will – depending on the outcome of the NN QoS Feasibility study – develop a Net Neutrality quality of service (NN QoS) regulatory assessment toolkit for NRAs by building on previous BEREC guidance on monitoring methods and recommending legal considerations to be taken into account when addressing issues of Net Neutrality and traffic management. As proposed in the BEREC NN QoS Guidelines, the monitoring methods will encompass both Internet access service (IAS) as a whole, as well as individual applications using IAS.

The former covers measurement of IAS performance characteristics (download and upload speed, latency etc.) actually enjoyed by end-users, while the latter investigates ISPs’ traffic management practices.

Accuracy and comparability of measurement results will be emphasised. The methodology will also specify how to assess the IAS measurement results when considering nominal speed and performance of specialised services, and comparing different IAS offers and different ISPs, while taking into account market development and technological evolution. The toolkit will also cover monitoring methods for detecting quality differentiation of individual application and the use of traffic management investigations will also be covered. The NN QoS assessment toolkit will thereby describe regulatory best practices on IAS quality and Net Neutrality monitoring.

Subject to a decision by the BoR the work stream will also build on the findings from the 2014 BEREC NN QoS Monitoring Report and 2015 BEREC NN QoS Feasibility Study, which describe a possible future opt-in quality monitoring system, where individual regulators can participate on a voluntary basis. BEREC’s work beginning in the second

half of 2016 would consist of specifying the system requirements and describing a framework for NRAs to collaborate in the opt-in system.

It is important that quality monitoring is considered trustworthy among stakeholders, in particular within an evolving policy area as Net Neutrality, and a harmonised approach broadly supported by regulators could contribute to this.

The collaborative functionality proposal would include enhanced features such as cross-border performance measurements and multi-country monitoring data analysis. The common system could also function as a platform for collaboration between regulators and facilitate development and testing of new monitoring methods and measurement tools which can be gradually phased in by individual participating regulators. The 2015 BEREC NN QoS Feasibility Study will be the basis for the BoR to take a decision on whether to move forward to specifying an opt-in quality monitoring system (with a separate decision on whether to establish it to be taken in 2017).

Deliverables

Description of the framework for NRAs to collaborate in an opt-in quality monitoring system

Adoption in P1/2017 (subject to a BoR decision)

Overall system requirement specification for the opt-in quality monitoring system

Adoption in P2/2017 (subject to a BoR decision)

BEREC regulatory toolkit for NN QoS assessment

Adoption in P1/2018

12. Input to the Review with regard to the revision of the Universal Service Directive

The Universal Service Directive calls on the European Commission to review the scope of the Universal Service every three years in the light of social, economic and technological developments.

The European Commission started working on the next review in 2014 and BEREC will continue to work closely with the European Commission on Universal Service providing input as required, including a formal opinion on any report or proposal issued by the European Commission.

The scope of the BEREC Opinion is to provide BEREC views regarding issues associated with the review of the scope of Universal Service that might usually fall under the competencies of a relevant number of NRAs. The purpose of the document is to contribute towards better European Commission's public policies regarding the review of the scope of Universal Service, which will ultimately guarantee an adequate "safety net" to European citizens.

The details of the work stream will be subject to re-evaluation according to the Commission plans regarding the review of the Universal Service. As the planned revision of the Universal Service Directive will form an integral part of the upcoming Framework Review, BEREC will deliver an input to relevant questions whether the current US framework needs to be updated and if so how/to which extent this should be recommended.

Deliverables

Input paper on Universal Service (serving as input to the Framework Review)

Timing tbd (depends on Commission plans regarding the review of the Universal Service Directive)

13. Accessibility Workshop

Article 23a (1) of the Citizens' Right Directive aims to ensure that end-users with disabilities, estimated at 16% of the European population, may fully participate in and benefit from technological advances and developments in electronic communications that are available to other end-users. The challenges faced by disabled citizens in access to education, jobs, health and cultural goods are immense. The provisions of the aforementioned Article 23a (1) allow Member States to enable NRAs to specify requirements to be met by undertakings providing electronic communications services to ensure that disabled end-users have equivalent access to and choice of undertakings and services that are available to the majority of end-users. Therefore, Article 23a provides a mechanism to apply relevant obligations to all electronic service providers. Also, according to recital 41 of the Universal Service Directive, "Member States should take specific measures to ensure that emergency services, including "112", are equally accessible to disabled end-users, in particular deaf, hearing-impaired, speech-impaired and deaf-blind users. This could involve the provision of special terminal devices for hearing-impaired users, text relay services, or other specific equipment."

In 2015 BEREC hold a workshop discussing what has been done so far to improve accessibility for disabled citizens and what are the main challenges faced by disabled users

accessing the electronic communication services. In 2016 BEREC will organize a follow-up Accessibility Workshop which will be focused on best practices regarding what can be done to encourage equivalent access and choice.

Deliverable

BEREC Workshop on equivalent access and choice for disabled end-users

External Workshop in Q3/2016

D. Quality and Efficiency

BEREC will follow the approach that outputs of work inter alia in the format of reports, CPs or opinions are delivered in an effective and timely manner and proof to be of the highest quality.

Against this background BEREC is committing itself to continuous work to improve the quality and consistency of individual NRA decisions and to stimulate engagement and effective cooperation.

Consequently, BEREC will continue its benchmarking and reporting exercises on topics such as MTR, FTR and SMS to provide robust factual input for decision making processes and to interested third parties on the most recent developments and trends.

On top of this, BEREC will host another Stakeholders' Forum to ensure a continuation of the open dialogue between BEREC and its members as well as with the stakeholders while at the same time increasing the transparency of the work undertaken by BEREC.

Last but not least, BEREC will continue its engagement with the EU institutions/groups as well as its international cooperation to provide platforms for a valuable exchange of experience and different views.

14. Benchmarks

14.1. Benchmarking on MTR/FTR/SMS (multiannual work line)

In 2015 BEREC will continue to produce benchmarks on mobile and fixed termination rates as well as on SMS. These benchmarks have reached a satisfactory level of maturity and have proved invaluable, not just for monitoring consistency but also in the regulatory process.

Deliverables

MTR, FTR, SMS Benchmark Report Adoption in P2/2016 and P4/2016

14.2. Regulatory Accounting in practice (multiannual work line)

BEREC will repeat this annual exercise in 2016, with the intention, as in previous years, to assess the degree to which there is consistency in regulatory accounting across the EU and to identify differences among Member States which may have arisen as a result of different implementations of the same regulatory accounting approach.

BEREC will continue to collect data on the methodology and input parameters used to calculate the rate of return on capital employed.

In 2016, emphasis will continue to be given to consistency in regulatory accounting with respect to key access products and will seek to increase the detail and the in-depth analysis of the methods covered to identify communalities and reasons for differences. The report aims at investigating more in depth how far further alignment among Member States could be achievable, as well as covering the motivation behind NRAs choices of the regulatory accounting and costing methodologies linking both to find patterns (maybe in a form of a matrix).

BEREC will also include an overview of the costing methodologies applied with a view to the Recommendation on Consistent Non-Discrimination Obligations and Costing Methodologies (2013/466/EU).

Deliverable

BEREC Report on Regulatory Accounting in practice Adoption in P3/2016
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14.3. Analysis of the emergence of new markets due to bundling trends

BEREC will elaborate a document focusing on the following issues:

(i) Issue of transparency for (residential and non-residential) end-users. Bundles include numerous services that are interdependent according to their prices. The variety of services and possible combinations often result in very complex conditions of the contracts. This could be misleading for end-users. More over combinations of services

that are of end-users' interest may be very unconventional and hard to compare with offers from other operators. This could be harmful for competition. Therefore it is purposeful to analyse methodologies of bundles composition.

(ii) Possible definition of methodologies which allow for revenue sharing between the services included in the bundles revenue sharing is a key to bundles. Understanding of the methodologies which allow revenue sharing can help to identify added value of a bundle. This may be an important piece of information for end-users who would consider including another service in the bundle. It is also significant for the regulator to recognize how operators gain competition advantages due to bundles compositions.

(iii) Possible impact on competition arising from the provision of bundles at retail level and the individualized provision of the underlying wholesale services. It may also be worthwhile to have a look at non-regulated services (for instance OTTs) in bundles and any possible regulatory challenges. This work stream might cover specific issues that feed into the revision of the framework.

Deliverable

BEREC Report of the emergence of new markets due to bundling trends

Adoption in P3/2016

15. Stakeholders' Forum

Building upon the very positive experiences BEREC has made with its past three events, the 4th Stakeholders' Forum to be held in 2016 will continue to manifest the open dialogue between BEREC and its members on the one hand and the key stakeholders on the other hand, but also among themselves.

Undoubtedly, in 2016 the focus will be on the review of the relevant legal framework for the rapidly evolving telecommunications sector. The Stakeholders' Forum will provide a platform for a transparent exchange of ideas, concepts and also challenges between all parties involved.

Deliverable

Stakeholder Forum in Q4/2016

16. BEREC's Annual Reports on activities and developments in the sector

Every year BEREC publishes an Annual Report of its activities and an Annual Report on developments in the electronic communications sector. With these Annual Reports BEREC complies with the obligations stipulated in Article 5.5 and Article 3.1 (n) of the BEREC Regulation. 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 expert working groups and ad-hoc teams based on the Work Programme, the Annual Report on developments in the electronic communications sector summarizes BEREC's view on the past year as well as a perspective of future developments and challenges in the sector.

Deliverable

Annual Reports 2015
Adoption in P2/2016

17. Cooperation with EU institutions/groups

BEREC has always had a fruitful cooperation with all EU institutions (Commission, Council and EP). In 2016 the continuation of this fruitful cooperation with the EU institutions will be a key factor and of crucial importance for a successful review of the legal framework of the electronic communications sector.

Against this background BEREC will continue to provide its expert view by means of advice and opinions on draft decisions, recommendations and guidelines by the European Commission, but also on any other issues within the scope of BEREC's competence that might arise.

In addition, BEREC will also be in close contact with the Council and the European Parliament to exchange ideas and to share the experience which NRAs have made in regulating the sector.

Finally, BEREC will ensure a continuous (ad-hoc) dialogue with other European bodies and groups such as ENISA, ERGP, ERGA, ERP and the ECN with a particular view to interfaces regarding the Framework Review.

18. International Cooperation

Acknowledging the increasing importance of international cooperation on common issues such as inter alia Net Neutrality and M2M communication/Internet of Things, BEREC will continue within the limits of the mandate active international exchange of views.

This will include, in line with the BEREC Regulation, cooperation with international regulatory authorities such as the FCC as well as regional regulatory networks (EMERG, Regulatel and EaPeReg). As mentioned in the Joint 4-lateral Summit Declaration of 2nd July 2015 the participants committed themselves to undertake all efforts with a view of keeping this high level regulatory dialogue through future joint summits. If this is confirmed, BEREC would join such a 4-lateral summit in 2016.

Furthermore, BEREC will envisage an increased involvement with international institutions involved in the field of electronic communications such as the OECD and the ITU.

Annex – Outputs

Reports

- BEREC Report on migration to all-IP in the access network
- Report setting out the Phase 3 broadband CP monitoring results and conclusions emerging from all three CP monitoring exercises
- BEREC Report on challenges and Drivers of NGA roll out and infrastructure competition
- Follow-up Report on Oligopoly Analysis and Regulation
- Post-mergers & acquisitions market developments fact-finding report
- BEREC Report or input to the review process on spectrum
- BEREC Report on the wholesale roaming market
- 16th and 17th International Roaming BEREC Benchmark Data Report
- BEREC Report on transparency and comparability of International Roaming tariffs
- Update of BEREC Report on the qualitative review of Phase II cases
- BEREC Benchmark Report on MTR, FTR, SMS
- BEREC Report on Regulatory Accounting in practice
- BEREC Report of the emergence of new markets due to bundling trends
- BEREC's Annual Reports on activities and developments in the sector

Other Documents

- BEREC Common Position on layer 2 wholesale access products
- BEREC Topic paper on potential regulatory implications of NFV and SDN
- BEREC Opinions, position papers, technical background analyses etc. in the context of the Review of the Regulatory Framework
- BEREC Input papers on OTT-related issues (scope of rules, economic impact)
- BEREC Input to the Commission to the fair use of roaming services and the sustainability of the abolition of retail roaming surcharges
- BEREC Guidelines on the application of the Roaming III Regulation as amended by the TSM Regulation (excluding Articles 3, 4 and 5 on wholesale access and separate sale of services)
- BEREC Guidelines on the application of Article 3 - Wholesale Roaming Access - of the Roaming III Regulation as amended by the TSM Regulation
- BEREC Guidelines on the application of Articles 4 and 5 - Separate Sale of Roaming Services – of the Roaming III Regulation as amended by the TSM Regulation

- BEREC Input to the European Commission regarding the implementing acts setting out the weighted average of maximum mobile termination rates across the Union
- BEREC Input to the European Commission in its process of reviewing the Termination Rates Recommendation
- BEREC Guidelines on Regulators' Implementation of European Net Neutrality rules
- Description of the framework for NRAs to collaborate in an opt-in quality monitoring system (2017)
- Overall system requirement specification for the opt-in quality monitoring system (2017)
- BEREC regulatory toolkit for NN QoS assessment (2018)
- BEREC Input paper on Universal Service

Workshops / Other Meetings

- BEREC Expert Workshop on regulatory implications of NFV and SDN
- BEREC Workshop on Enabling the Internet of Things – Dialogue with different regulatory bodies
- 3rd BEREC/OECD Expert Workshop on IP-interconnection
- BEREC Workshop on the implementation of the Cost Reduction Directive
- High Level or Technical Team Workshop on the qualitative review of Phase II cases
- BEREC Workshop on equivalent access and choice for disabled end-users
- Stakeholder Forum