GSMA comments on the
Review of the BEREC Medium-Term Strategy 2018-2020 (BoR (17) 38)
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About the GSMA

The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with almost 300 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai, Mobile World Congress Americas and the Mobile 360 Series conferences.

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Introduction

The GSMA welcomes the opportunity to submit its comments on the review of the BEREC Medium-Term Strategy for 2018-2020. Please note that the answers provided to the questions below might be further elaborated in future GSMA responses to the forthcoming BEREC annual work programmes.

Section 1 - Market and Technological Developments

In this section, BEREC is seeking input on which market and technological developments should be considered in the Medium Term Strategy. These developments are classified in four categories; the end-user experience, competitive dynamics in the digital ecosystem, evolution of networks and overarching questions.

A. The end-user experience

Society is increasingly reliant on communications networks for a growing range of services and activities. Access to high quality electronic communications services is a prerequisite for maximising the benefits of an inclusive digital society.
The end-user experience depends on a range of parameters, including, inter alia:

- ***Performance of the networks****. Quality of service is, and has always been, of the utmost interest to BEREC and will be the subject of further work in 20171 which will contribute to a common understanding of connectivity in the Union.*
- ***Devices.*** *These can play a gate-keeper role regarding access to certain digital contents and services; they also have an impact on qualitative aspects of the end-user experience*
- ***Factors influencing the take-up of technologies and digital services****. BEREC and NRAs continue to study factors which may restrict or impact on the end-user digital experiences and to research activities which may help combat digital exclusion and help to ensure that all citizens are connected and experience the benefits of digital innovations and the digital market.2In this vein, assessing the digital experience from a consumer perspective by ensuring better and more granular information for people and businesses on the availability, speed, quality and pricing of services will play a part in improving people's ability to engage with the market and switch providers.*
- ***Data protection, privacy and network security.*** *These are essential to a well-functioning digital society. While this set of issues is not necessarily within the scope of BEREC or most of its constituent NRAs, BEREC is aware that they are increasingly important aspects of the end-user experience.*
- ***Consumer protection****. The protection of consumers, for example around issues such as billing, affordability and switching, is essential to the effective functioning of a digital society*

1) **Of the issues listed above, which do you consider to be the most important in shaping the end-user experience?** *Please explain your answer in detail.*

Each of the issues listed above are relevant and complement one another. Most of these areas are relevant beyond the telecoms sector and should not be considered in an isolated way, but in the broader context as perceived by consumers.

In general, consumer protection is one of the most important issues for the end-user experience. The use of digital applications, of which the most used are provided by OTTs, will continue to rapidly grow in the future and it is important that consumers are protected in terms of transparent information and terms of conditions of the used application independently of the provider of the application on a level playing field basis. However, it should in this regard be considered balancing the amount of information relayed to customers against avoiding information overload.

Data protection, privacy and network security are other important aspects that could impact on the growth and innovation of applications towards a digital society and a level playing field among all the players is fundamental.

Incentives and subsidies for the take-up of technologies and digital services could help the global ecosystem improvement.

2) How can the interests of digitally disengaged citizens be best protected?

Any public policy needs to strike the right balance between ensuring reasonable safeguards for all citizens while also assuming that citizens want to take responsibility. For example, obligations that enable citizens to make an informed choice lower the need for public policy actions.

For young children engagement in digital skills often start at home and continue at the school while the more elderly generation and those who are simply not interested in technology may risk falling behind and experience some degree of exclusion. Here, Member States should promote the digital inclusion mainly in terms of digital skills and the availability of digital services .

3) What can be done by BEREC to improve the end-user experience by providing more and easier-to-use information?

Information and transparency are crucial factors to increase trust in digital services. This applies beyond telecoms' services.

Information does not become better if there is too much of it. It is rather the opposite, since too much information is not read at all and distract the end-user from the truly important information. Therefore, information requirements should be simplified and made more consumer friendly, refraining from adding more details and forms of communication.

Beyond horizontal law, providers of ECS provide more detailed information and have to publish information on their contracts. However, better information is no sector-specific challenge, as this topic is equally relevant across most services. Therefore, any approach to work on better information – that allow to focus on key info and which is presented in a convenient way – should be regulated on a horizontal basis, and based on self- or co-regulation. BEREC should support such a horizontal approach, taking into account various, often voluntary, good practices of operators across the Member States.

4) Are there any other significant trends/developments that BEREC should consider in relation to the end-user experience?

With regards to monitoring of Internet Access Services, a clear distinction needs to be drawn between the end-user experience and contractual compliance. End-user experience is broader and includes factors beyond the operator's responsibility. For example, the IAS provider has no influence on the question as to whether end-users' devices or home infrastructure negatively impacts the experience related to speed.

B. Competitive dynamics in the digital ecosystem

Digital transformation creates new challenges and opportunities for electronic communications providers. Changing technological solutions, investment requirements and end-user needs require both transformations in the business models and enhanced cooperation across the established electronic communication market boundaries.
BEREC has been studying the evolution of the digital ecosystem3 to gain a better understanding of the challenges and opportunities developing for competition and innovation, but also for the regulator's capacity to tackle those situations.
Important issues in this field include, inter alia:
- *Increasing **market consolidation** and **cross-sector mergers***
- *Tendency towards **oligopolistic markets***
- *Emergence of **less homogenous competitive conditions***
- *Appearance of **new entrants***
- ***Cooperation** between ECS operators (e.g. network and spectrum sharing)*
- ***Interaction between ECS operators and other sectors** (i.e. between ECS operators and device manufacturers, content providers, the automotive industry, etc.)*
- ***Coopetition** (competition and cooperation) between ECS and OTT providers*
- *Introduction of the **e-SIM** which might change the competitive landscape in the mobile industry*
- *Ongoing popularity of **bundled services** which might increasingly take the form of services which combine not only communication and audio-visual services but other types of services as well and which may lead to the emergence of new business models and value chains*

1) What aspects of the issues listed above do you believe to be most important?

In our view, the most important issues of those listed above are the following:

Tendency towards oligopolistic markets
- Telecom markets including mobile markets are typically characterised by oligopoly structures and there should not be a presumption that oligopolistic structures are welfare reducing and require ex-ante regulation (oligopolies often support positive economic welfare outcomes and have clearly been beneficial to customers across Europe over the past 15 years). In the absence of evidence of market failure and given the current SMP framework to address these issues, this work cannot realistically be a priority for BEREC's Medium-Term Strategy.

Coopetition / Competition between Telecoms and OTTs

- The competitive constraints coming from OTTs need to be evaluated and assessed more thoroughly and completely based on a **more economic approach**. The goal should be to adequately, duly, and accurately reflect market realities.

- More precisely, considerations and **concepts of substitution and closeness relationships** between services offered by telecoms and OTTs need to be operationalized to examine the respective competitive interactions. For this, an **explicit demand / end user perspective** needs to be taken. This will overall contribute to accounting for market realities reflecting the substitution patterns from the consumers' point of view.

- In addition to the concepts of substitution and closeness of competition, more practical relevance needs to be given to **the downstream / retail level**. This follows from the fact that the competitive situation at the retail level **ultimately determines** whether market power at the upstream or intermediate (i.e., wholesale) level can be transferred via, e.g., higher prices, to end users. If not- i.e. competition at the retail level is effective so that end users are offered the respective services at competitive prices levels - than the level of market power at all overlying levels is irrelevant, as it is **fully countervailed** by retail competition to the benefit of end users.

- Further, the relevant **ecosystem needs to be recalibrated and extended** to take duly account of the importance of OTTs. The traditional vertical chain / ecosystem, which almost exclusively ECSs / Telecoms were operating in, is now mainly characterized by OTT services which account for a large share of the entire monetization at the retail level.

Introduction of eSIM

- It is important to ensure that with the introduction of the eSIM OTTs and other app providers, that do not invest in frequencies and infrastructure, **do not free-ride on the operators' efforts and investments**.

- This would **dis-incentivize** operators and, more generally, all market players to **invest in connectivity and quality** of services which is detrimental for end users and innovation.

Cooperation between ECS operators (Network Sharing)

- Mobile coverage is primarily the outcome of infrastructure competition. However, already today, voluntary network sharing is an important tool to induce and to realize deployment projects in order **to meet capacity / demand requirements**.

- Generally, commercially agreed network sharing brings about benefits, such as **improved service quality and innovation** to the market, which contributes to consumers' welfare. Precisely, network sharing allows for faster roll out of new technologies, such as the roll out of 3G coverage in 2010 or LTE technology that is being implemented now, as well as for enhancing current services, including mobile broadband Internet experience, mainly in respect of increased service quality and broader high quality coverage in areas not yet (fully) covered. Network sharing also plays an important role regarding technologies that are slowly becoming obsolete,

i.e. for 3G and 2G. It allows the sharing operators to concentrate on exploring new technological possibilities and solutions in LTE/4G and still be able to provide advanced services to its customers on the same or even better level of service on the obsolete networks without having to devote these legacy networks to the same amount of personal, financial, commercial and other resources, thus without any negative effect on the customer.

- In a **5G world**, network sharing will remain very **relevant**, as more "things" will be connected and will have the ability to communicate leading to an array of new use cases and products. Meeting the corresponding capacity and connectivity requirements presents a challenging task that needs to be tackled by operators.

- To ensure timely and successful deployment of 5G and the possibility to reap all the benefits that go along with the new services and use cases, network sharing will become even a more important means. Network sharing should always remain a business decision of mobile operators. However, it needs to be **encouraged and facilitated to meet the demand and technical requirements**. Otherwise, **the demand and technical requirements** will not be met, so that quality enhancements, new business cases, and innovations will be discouraged and choked off, which is detrimental for end users and the entire European economy.

Emergence of less homogeneous competitive conditions

- The emergence of less homogenous competitive conditions requires a segmentation of remedies across the national territory and a shift from SMP regulation to symmetric regulation only focused on non-replicable network elements. Commercial agreements between operators are important and have to be taken into account by NRAs, as proposed by the EC in the draft Directive for the EECC.

- Homogeneous competitive conditions must be ensured, not only within the sector but also cross-sector, considering the convergence of services in the digital market.

2) **Are there any other significant trends/developments that BEREC should consider in relation to the digital ecosystem?**

In our view, it is crucial to consider the following trends when analysing the digital ecosystem:

New business models that are not price but data driven escape the scrutiny of price based indicators (zero-rated services)

- In the digital economy a vast amount of business models are based on the growth of traffic and subscriber base and creating maximum value with data from the user, e.g. online search or social networks, by offering zero-price services (at least, on one "side" of the market). In the analysis of such zero-priced services and products, price-based indicators such as the SSNIP-test or the GUPPI analysis fail. Therefore, the competitive assessment needs to adapt the current focus on price levels to a broader consumer choice/social welfare in general by accounting for all "sides" of the respective multi-sided platforms / markets. On top of that, non-price competition parameters, e.g., quality or privacy, could be used for defining relevant markets and performing competitive assessments.

Role of data accumulation and analytics being an essential cornerstone of the digital economy needs more attention

- Big data plays an important role in the digital ecosystem. Data serves as input for data analytics, advertisement services, for creating new/improving existing digital services in bundles, artificial intelligence (AI)/machine learning and also for the resale of personal data to third parties as data brokers. In general, data enables and fuels an array of business models that shape the digital ecosystem.

- In this new data-driven economy data have exponentially multiplied and have turned into a very valuable asset. The use of data can be a source of efficiencies (operational efficiencies) and innovation or, if not properly developed, it can also raise privacy and competition issues.

- One the one hand, data could be part of a consumer welfare standard, just as price and quality are, especially if we consider that users are paying with their data (in case of zero-price services). One example here could be data protection as quality restriction, as pointed out in the Microsoft/LinkedIn decision.

- On the other hand, as a valuable asset, data can provide for a competitive advantage under certain circumstances. There are no strong barriers for the access to data, but the market position of certain players (controlling several sources of data, the processing technology, etc.), together with specific features of these markets (such as network effects, customisation, bundling and convergence, etc.), can constitute a source of market power to those players.

- Existing conducts - such as targeted advertising/offers, bundling, tying, or more generally, customisation - can be exacerbated due to the new tools provided by data analytics and current technology. The pro-competitive and anticompetitive effects of those conducts need to be considered.

C. Evolution of networks

Much of BEREC's work focuses on the rapid changes in networks, and the associated challenges to NRAs working to monitor and regulate the market. While the current ECS ecosystem focuses primarily on how people connect, the next wave of innovation is anticipated to be in relation to connected "things". Important issues in terms of evolution of networks include, inter alia:

- ***Network convergence** between fixed and mobile technologies4*
- *The expansion of **IoT and M2M services** and the potential impact of this on numbering, spectrum use, roaming, licensing etc.*
- ***Investment in high speed networks** to ensure capacity for bandwidth-heavy services5*
- ***Fixed wireless technologies** as a potential alternative to certain fixed NGA networks*
- *Importance of **access to civil infrastructure** in the context of network deployment*
- ***5G deployment** and the emergence of associated new business models and regulatory challenges*
- *Technological changes which have the potential to impact on regulation. These include new ways to handle network resources such as **Software Designed Networking (SDN)** and **Network Function Virtualization (NFV)**, and the potential evolution of **networks generated and operated by the end-users** themselves (e.g. mesh networks, free licenses, spectrum sharing).*

1) What aspects of the issues listed above do you believe to be most important?

We would like to highlight the following three issues related to evolution of networks:

Investment in high-speed networks.

The European Commission has crafted a vision of the Gigabit society, accompanied by ambitious targets to improve Europe's broadband infrastructure. According to a BCG estimate, this infrastructure upgrade would cost €660 billion, representing 25 years of investment at the current pace. These investments will have to be funded in large part by the private sector. A time frame of 25 years is not in line with the Gigabit Society objectives set by the European Commission. Accelerating the investment pace will be a significant challenge because willingness to pay substantially more for higher broadband speeds is limited and the returns on investment in the European telecom industry have been low over the past years.

5G deployment

With 5G deployment customers will benefit from more bandwidth, better quality and lower latency. However, deployment of a 5G radio access network in Europe will cost €200bn (BCG estimate). Another €100bn investment will be required for proximity data centers enabling low latencies. As the business case for 5G networks looks fragile, ensuring investment in 5G will be a challenge in Europe and elsewhere. Therefore, competing mobile infrastructures must remain excluded from ex-ante regulation. Also with the introduction and development of 5G services, a review of the adequacy of the existing Open Internet Regulation and associated BEREC guidelines will be required.

2) Are there any other significant trends/developments that BEREC should consider in relation to evolution of networks?
BEREC should consider the following:
- The use of the networks enabled by NFV, SDN and 5G slicing, fostering new business opportunities and satisfying future end-user needs. However new technologies, such as SDN, NFV or new innovative interfaces or services should not be included in the scope of the sector specific regulation, such as the European Electronic Communications Code.
- The increasing use of Big Data elaboration by ECS providers.

D. Over-arching Questions

1) **Are there any market or technological trends that have not been addressed above?**
   Generally, multi-sided platforms, that often go along with zero-price services, need to be better understood, as they are often associated with strong tendencies toward (cemented) high market concentration. This follows from the facts that (*a*) they increasingly compete with traditional telco operators and (*b*) they are often associated with competitive concerns Thereby, a holistic view explicitly needs to be taken on. That is, demand-side characteristics (network effects, switching costs, asymmetric information) and supply-side characteristics (product policy. For example, bundling and tying, economies of scale and scope, aggravating effects stemming from self-learning algorithms / Artificial Intelligence (AI), multi-product characteristics by online platforms,

etc.) need to be duly and accurately accounted for to obtain an adequate and fully-fledged competitive assessment.

2) **Over the next three years, which market or technological trends do you anticipate having the most significant impact on the ECS markets?**

> OTT digital services will be more and more substitutable of traditional communication services. The level playing field between OTT and Telcos is therefore paramount.

Section 2 - How BEREC works and engages with stakeholders

In this section of the consultation we are seeking input on the way BEREC works to support the implementation of the regulatory objectives in the framework and on how BEREC consults with stakeholders during this process.

A. BEREC´s work with the regulatory objectives

1) Do you have a concrete example where better coordination/harmonisation between NRAs would be or has been particularly beneficial for your activity, either directly or indirectly?

Having clear guidelines on the implementation of rules is beneficial as it reduces regulatory uncertainty and the risk of incurring fines. In our view, better coordination/harmonisation between NRAs could be achieved in the following areas:

Internet of Things (IoT)

It is important that new regulatory initiatives, such as the proposal to allow the extraterritorial use of national number ranges for M2M, do not inadvertently become unduly restrictive, bureaucratic and a de-facto barrier to the Digital Single Market. According to current proposal of the European Electronic Communication Code Directive, the allowance of extraterritorial use of national numbering ranges for M2M is not explicitly linked to the creation of **new** national number ranges. This is very important, as NRAs are currently free to decide whether they create specific M2M numbering ranges or allow extraterritorial use of existing national number ranges for M2M use cases. This flexibility should not be restricted – as it depends very much on details of national numbering plan design, which national M2M-numbering solution fits best.
Given the pace of IoT product development, it is also vitally important that regulation is not applied in a disproportionate or inconsistent way to innovative IoT services at national level before the market has had a chance to develop. BEREC has an important role to play in facilitating consistent, harmonised best practices in this regard.

2) How do you consider that BEREC could further contribute to the development of a Digital Single Market (e.g best practice dissemination)?

Numbering
Although the discussion on the Framework Review is still ongoing, it is foreseeable that it will contain new harmonization measures to enable the important development of

M2M/IoT. As far as these harmonization measures apply to the field of numbering (e.g. the allowance of extraterritorial use of national numbers), BEREC could further contribute to the development of a Digital Single Market by ensuring that no unnecessary administrative burden and complexity is added at national level for market participants, as this would hinder market development.

B. Towards a BEREC stakeholder engagement strategy

BEREC currently engages with stakeholders (including the EU institutions) in a wide variety of ways, such as thematic workshops, public consultations, public debriefings, the annual BEREC Stakeholder Forum and through press releases and information on its web page, twitter and YouTube channels.

1) **Which of the above described practices can be used in order to increase BEREC's transparency and accountability? Are there any additional proposals for BEREC to increase its transparency and accountability?**

The above-listed communication channels are both adequate and important to assure transparency and accountability.

2) **Do you consider that BEREC's current engagement with stakeholders provides the opportunity to engage in the work of BEREC at the right time and at the right level? Are there any particular areas where you believe BEREC could improve or do things differently?**

Stakeholders' views should be taken into account during the whole process, public consultations should always be promoted (sometimes overlooked for timing issues) and reports should always be made public. BEREC should justify the reasons for not accepting stakeholders suggestions.

The stakeholder consultation process related, e.g. to the BEREC Net Neutrality Guidelines last year could have been conducted in a more open and cooperative mode. For future consultations, this would imply a more intense participation of stakeholders from the beginning of Expert Working Group proceeding and not only at the very end. We strongly believe that a more sound result could have been accomplished by adequately reflecting not only technical and economic boundaries, but also reaching a more balanced reflection of interests concerned.

3) How can BEREC improve its communication to stakeholders and to the public? More specifically, which instrument(s) (press releases, public debriefings, information on the website, etc.) do you consider to be particularly useful and why? Do you have any proposals for new channels of engagement or for the improvement of the existing ones?

All of the above-listed instruments are useful. However, a more evidence based work and results following a more economic approach could be produced – wherever possible and feasible. That would generally contribute to conveying more sound and robust information which should be objective and transparent. Irrespective of the communication channel that would present a way forward and further underpin the substance of the conveyed information.