

Stakeholder consultation on the review of the BEREC Medium-Term Strategy for 2018-2020

In 2017 BEREC is set to review its current Medium-Term Strategy (MTS) to make sure that its work stays relevant in relation to major developments in the digital ecosystem. The BEREC MTS has the function of guiding BEREC's work in the medium term and it serves as the blueprint for BEREC's annual work programmes. The MTS was last updated in 2014, establishing three over-arching strategic objectives that follow from the policy objectives and regulatory principles that BEREC members apply in accordance with Article 8 in the Framework Directive;

1. promoting competition and investment,
2. promoting the internal market
3. and empowering and protecting end-users.

In this year's update of the MTS, BEREC will seek to establish a strategy for the period 2018-2020 and invite stakeholders to take an active role in this process.

To this end, BEREC is seeking input from stakeholders at the earliest stage possible on how BEREC work is perceived and on which market developments will be important for BEREC to consider in its MTS for the period 2018-2020. In Section 1 of this consultation, BEREC seeks open input on what market and technological developments could influence the new strategy, while also seeking answers to questions on more specific areas, such as end-user quality, competitive dynamics in digital markets and evolution of networks. In Section 2 BEREC is seeking answers to questions relating to how BEREC works with its current objectives and how stakeholder engagements could be improved.

BEREC enters this process maintaining its commitment to the three over-arching strategic objectives of the current MTS, which still remain relevant.

BEREC recognizes that the MTS for 2018-2020 will be drafted in a period of regulatory evolution. The ongoing Framework Review is still at an early stage, which makes it difficult to relate to. As a consequence, BEREC will pursue its work with the MTS independently of the Review, looking first to major market developments and stakeholder input as a source for updating its strategy.

After collecting stakeholder input, the current strategy will be updated and submitted for public consultation in June; the final version is expected to be adopted in October 2017. BEREC welcomes your views on what the next BEREC MTS 2018-2020 should look like.

Question: Do you have any comments on the elements presented above?

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 2017 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. In 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.*

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

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

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

Sigfox answer

As stated in the BEREC Report on "Enabling the Internet of Things", IoT services create a complex value chain where the relationship between connectivity providers and end-users is changed ("*the connectivity providers are losing the direct relationship with the end-user (typical B2C model), which becomes, instead, in many cases the prerogative of the IoT user*") in comparison to traditional electronic communications services (voice and broadband).

Therefore, Sigfox believes that the following pillars, which are closely related to each of the issues listed above, should be reached to maximise the IoT adoption and take-up by all the IoT market players, then providing the best end-user experience.

A. Connectivity

Building digital infrastructure

- Promote efficient and low cost use of shared spectrum to allow for economy of scale, e.g. license-exempted, technology neutral, and harmonisation at global level.
- Promote harmonization of spectrum bands based on license-exempted regime at European and global level. The 915 – 925 MHz band is of particular interest, it would complement the global 2.4 GHz and 5 GHz bands which have supported for years the success of Wi-Fi connectivity and its unprecedented value for end-users experience and the digital society.
- Encourage regulators to foster the deployment of innovative solutions such as LPWAN dedicated to low throughput services and massive IoT market.

B. Innovation

Enabling innovative environments and harnessing the benefits of new technologies

- Encourage interoperable and complementary technologies at application level to support innovation, in particular for IoT development.

C. Trust

Promoting security and resilience through ICT

- Promote responsible design practices and collaborative approaches.
- Encourage security-by-design and privacy-by-design practices to maintain user's trust in technology.
- Empower players to address security issues close to where they occur, instead of centralising responsibility amongst a few.

D. Capacity Building

Promoting inclusiveness and enhancing expertise

- Develop public private partnership and sponsorship for supporting start-up development carrying innovative services.
- Promote the development of the IoT in vertical sectors, industry to gain efficiency and support growth opportunities.
- Foster in the European Union the digital transition for small and medium companies through incentive public policies.
- Develop observatory, database and e-governance practices to ease the access to economic figures, legal information and enable e-administration procedures.

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.

BEREC studied in particular the emergence of oligopolies, and OTT services.

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? *Please explain your answer in detail*

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

Sigfox answer

Sigfox would like to emphasize that regarding IoT market competition:

- Regulators should ensure that the existing competition rules are applied and there is fair competition on the merits (i.e. new entrants remain able to innovate in the IoT market)
- Allow interoperability at the application level to enable complementary solutions to rise

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? *Please explain your answer in detail*

Sigfox answer

- Regarding the network convergence or the numbering issues, Sigfox strongly believes that:
 - o IoT interoperability remains one of the greatest challenges for the IoT industry and it is holding back the technology industry from achieving the true potential of mass IoT deployments. By achieving true interoperability between applications, sensors and the network, the technology open-ups the possibility for the development of new applications and value creation
 - o The interoperability between different IoT services should be envisioned through the application layer thanks to new technology developments (NFV, SDN, ...)
 - o In a multiple technology solutions ecosystem, mandatory numbering is not relevant in all cases, in particular when interoperability is ensured by IP numbering
- Regarding spectrum issues, Sigfox considers that existing regulations are suitable for the IoT development in the EU and highlights that as mentioned by EU expert bodies (RSPG, CEPT), IoT relies on different regulatory regimes for accessing spectrum resources. In this context, license-exempt regimes are recognized as an IoT enabler and should be preserved and expanded as appropriate.
- Regarding the access to civil infrastructure, regulators should ensure fair and non-discriminatory access for all stakeholders, including new entrants.
- Regarding the emergence of new business models and regulatory challenges, it is worth to highlight that Sigfox's technology and business model is disruptive to incumbent stakeholders. The highly advanced radio access technology and the simplicity of its cloud-based architecture make Sigfox's network 5G-by-design while offering complementarity to cellular technologies, such as EC-GSM (2G) and NB-IoT (4G/5G).

2) Are there any other significant trends/developments that BEREC should consider in relation to evolution of networks?

D. Over-arching Questions

1) Are there any market or technological trends that have not been addressed above? *Please explain your answer in detail.*

Sigfox answer

Among solutions already mentioned for IoT/M2M services, Sigfox is of the opinion that LPWAN, and more specifically those deployed under unlicensed regime, will play a key role for the expansion of massive IoT market and related use cases.

2) Over the next three years, which market or technological trends do you anticipate having the most significant impact on the ECS markets? *Please explain your answer in detail.*

Sigfox answer

Amongst others, massive IoT addressed by various complementary technologies will have a significant impact on the industry (Industry 4.0 in particular).

3) Do NRAs and BEREC have the appropriate tools to deal with anticipated market changes and associated regulatory challenges over the next three years? *Please explain your answer in detail, and, if possible, outline potential solutions.*

Sigfox answer

Existing legal and regulatory frameworks are appropriate for the emergence and take-up of the IoT market. Sigfox encourages soft-harmonised approach to share good practices between Member states and national regulators.

4) In which ways can technological and market developments impact upon promotion of the single market?

Sigfox answer

Single market will benefit from new business models linked to IoT expansion. For instance, Sigfox is present in 17 European countries (among its global footprint over 32 countries) with a unified service for low throughput applications.

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

The core function of BEREC according to Art. 1.3 of the BEREC Regulation is to contribute to the development and better functioning of the internal market by aiming to ensure a consistent application of the EU regulatory framework.

The article furthermore states that in all its activities, BEREC shall pursue the same objectives as those of the National Regulatory Authorities (NRAs), as set out in Article 8 of the Framework Directive.

In this context, BEREC supports the European institutions and works with the NRAs in a number of different ways (some examples listed below)

- Implementing the EU regulatory framework's mandates (e.g. Net neutrality⁶ and Roaming⁷) and aiming to give early advice to all NRAs on how related issues should be treated.
- Working on defining common sets of data required throughout Europe in order to allow comparisons and common approaches – E.g. OTT indicators are a BEREC-EUROSTAT cooperation, common approaches to QoS measurement etc.
- Examining and studying at an early stage certain technological developments which may impact the markets or existing regulation and trying to find common perspectives of how this should be treated (eg. network function virtualisation, software defined networks etc.)
- Cooperating with other European institutions depending on the subject (RSPG, EDPS, etc) and adjusting its approach to reflect changes in business models, technology and the value chain.

Questions:

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

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.

Questions:

- 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?
- 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?
- 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?