Microsoft answer to the BEREC consultations on
the BEREC Strategy for 2021-2025 and the Outline BEREC Work Program 2021

Microsoft thanks BEREC for organizing a consultation on the BEREC strategy for the coming 5 year as well as on the BEREC work program for 2021. Through the present submission, Microsoft wishes to contribute to both consultations.

I.   Strategy 2021-2025

Introductory remarks

Microsoft very much shares BEREC's assessment of the key trends and evolutions that it foresees for the next 5 years, such as the evolution towards a Gigabit society, the take-up and deployment of 5G and other types of VHCN, the growing importance of data and AI in business models, etc. We also believe that the digital economy will be the dominant driver of Europe's growth in the years to come. Particularly, 5G and other next-generation networks will form the basis of new digitization capabilities, create new markets, and grow economies. Regions that rapidly deploy 5G are set to benefit from the economic windfall through substantial job creation and leadership in technology innovation. The Coronavirus crisis has even further underscored the importance of connectivity and its role in economic continuity and resilience. Numerous businesses and schools have transferred operations online, testing the limits of existing infrastructure.

We further agree with BEREC that these developments entail policy and regulatory issues that require focus and follow-up, such as spectrum and connectivity policy, the need to develop appropriate cybersecurity frameworks (cfr. the follow-up of the EU Toolbox for 5G Security) as well as the importance of embracing green technologies and accounting for the climate impact of the ICT sector. In all of these areas, it is obvious that BEREC will play a central role and can usefully deploy its expertise about the telecommunications sector and connectivity in general.

Therefore, Microsoft looks very much forward to co-operating and engaging with BEREC and is keen to bring useful expertise particularly in the newer policy areas like 'AI & ethics' (based on Microsoft's overall engagement in this area), cybersecurity (based on our expertise in physical security for data centers and networking infrastructure, logical security embedded in systems and processes, and strong track record in hosting critical systems), or the environmental impact of ICT (referring e.g. to our recent engagement to make Microsoft carbon-negative by 2030).

That being said, Microsoft believes that a number of regulatory topics are underexposed in the BEREC strategy, as further explained in the sections hereafter.   Generally, it appears to us that BEREC underestimates somewhat the key role that it can - and should - play as catalysator to achieve and boost digital transformation throughout the European Union, for example by **promoting clear, predictable and harmonized rules** in the area of telecommunications that will ultimately impact European digital services and applications. Also, we believe that BEREC ought to spend more focus on how it can contribute to the development of the **digital single market**, which is one of the explicit regulatory objectives of the EECC.

Strategic Priority 1 : Promoting full connectivity

As mentioned in the preceding section, Microsoft could not agree more with BEREC on the need to promote full connectivity, notably through the encouragement of secure, competitive and reliable high capacity networks, e.g. 5G.

We recognize that policy-makers and regulators who aim to attain that goal have to balance sometimes competing goals around releasing more spectrum for wireless broadband, promoting competition and innovation, and raising revenues for government treasuries. The question is indeed what spectrum policies will best balance the interests of all stakeholders, accelerate deployment of lower-cost connectivity, and stimulate innovation.

In that respect, Microsoft believes that more attention should be spent by regulators on striking the right balance between licensed and license-exempt access across a variety of the spectrum bands.

Available spectrum resources are being constrained in many markets and broadband access remains unavailable and/or unaffordable for several billion people around the world. While encouraging mobile operators to extend network coverage to more customers, policy makers also need to promote alternative technologies, business models, and regulatory approaches that would enable network operators to extend broadband services to underserved and unserved communities.

Cloud providers such as Microsoft deliver services to our customers over both Wi-Fi connections which leverage unlicensed spectrum as well as over mobile wireless connections and wireline connections. However, we see that today, more data is delivered via Wi-Fi connections than via mobile connections and we expect this trend to continue due to performance, cost, and convenience. In addition, mobile operators also use unlicensed spectrum bands: Wi-Fi, and Wi-Fi offload in particular, form an important part of a mobile operator's mobile data consumption plan.

We therefore truly believe that accelerating the release of additional spectrum for unlicensed use is not only key to stimulating more competition in the access markets to the benefit of consumers and businesses but also to encourage a faster take-up and roll-out of innovative digital technologies and applications by end customers. In other words, a balanced spectrum strategy will be beneficial for all.

One specific area of concern is to ensure that existing legacy users do not encroach on unlicensed spectrum bands in a manner which structurally affects other users of unlicensed spectrum by failing to deploy appropriate coexistence mechanisms when sharing the band. New technology deployment for unlicensed spectrum based services works best when it is not hindered by unnecessary constraints or unwarranted scare-mongering, often around the threat of interference issues. Indeed, many of today's unlicensed spectrum technologies are the foundation for new products and services, and stimulate innovation precisely because they are more flexible and face minimal restrictions.

The discussions that are currently ongoing in the EU about the harmonization of the 6GHz band for Radio Local Area Networks are an illustration of the importance of unlicensed spectrum and how the

harmonization of this band will play a key role in boosting the digital innovations that will come with the roll-out of VHCN such as 5G. It is crucial not to incur further delays in the harmonization – and thus the use – of the 6GHz band for Wi-Fi. Chipsets will be available this year that will allow the spectrum to exploit the next generation Wi-Fi6 standard, which will further enhance and complement the 5G driven digital innovation. In the US, the FCC is set to increase the amount unlicensed Wi-FI spectrum available for next generation applications by 5 times. It is important that Europe moves quickly in the same direction so that we can be part of the development of the new software and services that will take advantage of this innovation globally.

While we understand that the specificities 6GHz file might go beyond the scope of the broad strategic priorities for BEREC, we do wish to insist on the importance of **striking the right balance between allocating licensed and license-exempt spectrum**, and this in order to achieve digital transformation to the benefit of EU businesses and consumers. Microsoft believes that BEREC is well placed to convey this message and therefore ought to include this goal among its strategic priority 1.

Strategic Priority 2 : Supporting sustainable and open digital markets

In its draft strategy outline, BEREC proposes to support sustainable and open digital markets mainly by (i) ensuring and monitoring consistent application of the Open Internet Regulation and (ii) offering its expertise on ex ante regulation in the context of the proposed EU regulation on digital platforms. Microsoft is a bit perplexed by the scarcity of the proposed actions and believes that BEREC can do much, much more to encourage flourishing digital markets throughout Europe.   Also, we think that BEREC has already today a great toolkit of measures at this disposal that it can efficiently use to boost digital transformation rather than having recourse to new digital platform measures which are currently outside of its remit.

First of all, the IOT and 5G driven innovations, boosted by the central role of data and developments in artificial intelligence, will to a very large extent be international applications that move seamlessly over national borders.   Especially in the B2B sphere, we see that traditionally local operators such as Telia or Proximus are increasingly offering sophisticated IOT solution to companies operating at European scale or even in other national markets than the historical home markets of the telecommunications operator. The successive Roaming Regulations have further facilitated the provision of such cross-border solutions.

The problem is however that the implementation of the existing telecommunications framework, but also of the EECC, is still way too fragmented to allow the telecommunications and digital players to fully grasp the potential of these new cross-border IOT opportunities and markets. Local telecommunications operators who wish to offer 5G based innovative solution to international B2B customers who operate from, say, the port of Gothenburg or Antwerp, need to take into account (slightly) different national telecommunications rules with regard to end-user protection, security outages, privacy, data retention, etc. This fragmentation is obviously not beneficiary to the take-up and roll-out of innovative digital services (see in this respect e.g. Vodafone's IOT regulatory paper of June 2019).

Therefore, we are truly convinced that if **BEREC takes the need for digital transformation seriously, it should much more clearly assume its role as catalysator for Europe's digital potential, notably by striving towards enhanced harmonization of the implementation of the EU telecommunications regulations wherever possible**. In this respect, we are of the view that the BEREC strategy paper clearly fails to set out a roadmap to contribute to the achievement of the digital single market – which is after all one of the four explicit regulatory goals under the EECC. Also, while the successful implementation of the EECC is now briefly mentioned in the introduction of the strategic priorities, Microsoft believes that it should be expressly included as one of the cornerstones of the achievement of sustainable and digital markets, and that BEREC should assume a far greater role in ensuring a harmonized implementation of these rules throughout Europe.

Such harmonization is also relevant for another reason, which is the enlarged scope of the EECC after December 2020, when OTT applications and particularly NI-ICS will be brought under the scope of the national telecommunications regulations. It goes without saying that many of the NI-ICS providers operate at a European-wide or even global scale and that the current national telecommunications frameworks are ill-fit to deal with these new services. In our observations on BEREC's outline for its 2021 work program, we provide detailed comments and examples that illustrate these problems with regard to the application of article 40 of the EECC. Such difficulties will also arise in other areas of the telecommunications regulations, such as end-user protection or law enforcement requirements.

Microsoft truly believes that it is in the interest of both the regulatory bodies, providers and ultimately the end-users, that BEREC helps the NRA to look at these issues with a refreshed look and acknowledges the **need for enhanced harmonization and increased cross-border co-operation with regard to NI-ICS**. Other instances like ENISA have already recognized the importance thereof. We are therefore honestly surprised that this reflection is entirely absent from both BEREC's 2021-2025 strategy and its 2021 work program and encourage BEREC to include this dimension after the review.

Strategic Priority 3 : Empowering end-users

Microsoft observes that in the description of this goal, BEREC refers frequently to consumers ("consume empowerment", "consumer transparency and digital skills", "involvement of stakeholders, including consumer representatives", etc.) and seems to pay far less attention to the B2B customer segment. However, as described under the previous section, the B2B segment is in our view key to unlocking Europe's digital potential and therefore merits greater attention from BEREC's side.

Particularly, while telecoms regulation has historically been rather focused on protecting consumer markets and been historically designed for human communications, we think that BEREC should spend more time and guidance on how these rules can be efficiently and usefully applied to the B2B segment and particularly IOT applications, without raising the cost of doing business and introducing inappropriate delays.

II.   Work program 2021

As described in the previous sections, Microsoft expressly asks BEREC to encourage a harmonized implementation of the EECC and to look with a fresh eye on how some of the currently national obligations can be usefully applied to NI-ICS providers. We wish to illustrate this ask by elaborating on how the current implementation of the obligation foreseen under **Article 40 EECC to notify security incidents with "significant impact"** is ill-fit for NI-ICS and why there is **need for a new, pan-European approach.**

In light of the broad set of interpersonal communications services to be covered by the reporting obligations envisioned by Article 40, we believe that an entirely new approach to service outage reporting is required. Service outages affecting global "OTT" communications apps and services will normally not be localized. Unlike the telecom networks and services of old, where an outage might occur due to the failure of a particular network component affecting a specific area, outages of services provided over the top of internet access services are likely to span numerous countries and regions. Rather than enabling a system that requires service providers to independently assess a single outage across up to 27 different sets of criteria and then report that same outage up to 27 different times – following up to 27 different timelines – we strongly encourage BEREC to work with ENISA and the Member States to construct a pan-European outage reporting process that rationalizes the reporting process while adequately protecting end-users across Europe. ENISA has also recognized, notably in its Report on Security Supervision under the EECC, that the existing security measures framework needs to be updated and that ideally a common threshold and reporting model should be developed to allow for harmonized and consistent EU-wide incident notification system while taking into account the specificity of OTT communications services.

As an example, if a global NI-ICS provider experienced an outage of its email service and was subject to the service outage reporting obligations that are in place in EU Member States today, it would have to assess that single outage across multiple differing frameworks:

- Country A defines a reportable outage as one that
    o impacts more than 700,000 end users for an hour or more
    o impacts more than 460,000 end users for 2 hours or more
    o impacts more than 230,000 end users for 4 hours or more
    o impacts more than 95,000 end users for 6 hours or more
    o impacts more than 48,000 end users for 8 hours or more

- Country B considers whether the breach/outage impacted
    o 5000 users for 24 hours
    o 10000 users for 8 hours
    o 15000 users for 6 hours
    o 40000 users for 4 hours
    o 80000 users for 2 hours

- 120000 users for 1 hours
- Country C requires a report if the outage is
  - More than 1 hour and affecting
    - more than 150000 users,
    - 15,000 square km, or
    - 50% loss of capacity
  - More than 2 hours and affecting
    - more than 30000 users
    - 5,000 square km, or
    - 30% loss of capacity
  - More than 6 hours and affecting
    - more than 5000 users
    - 2500 square km, or
    - 20% loss of capacity
  - More than 24 hours and affecting
    - more than 2000 users
    - 1000 square km, or
    - 10% loss of capacity

Each one, moreover, has its own timelines for providing information to the government. While these are just three examples, it demonstrates the potential complexity created for providers offering a single service across Europe – complexities that are further exacerbated by the fact that users are not "local" per se. For example, a user of an email service may have signed up for the service while in Country A even though that user actually resides in Country B. To which country should the provider associate the user when making an assessment of the outage reporting criteria?

It is understandable that each Member State has an interest in understanding the continuity of regulated services within its territory, as set forth in Article 40 of the EECC. Moreover, it is understandable that each country may measure the significance of service outages differently due to the country's geographic size and population. However, applying traditional service outage reporting measurements to new types of services requires a fresh approach. We would highly appreciate it if BEREC works with ENISA to enable a pan-European outage reporting process – particularly when a single outage has impacted multiple EU Member States. A single filing that describes the cause of the outage and the actions taken to remedy it should be sufficient. Ideally, that single report could be filed just one time – to a centralized entity – and then made available to each Member State's competent authority. The details of such an approach require further investigation and discussion. Therefore, Microsoft strongly encourages BEREC to work with ENISA to establish a consistent, pan-European approach to this issue.