Body of European Regulators for Electronic Communications
BEREC

BoR (18) 168

BEREC Public Consultation on the data economy

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Contents

INTRODUCTION AND OBJECTIVES

In recent years data has become a key resource for companies, civil society and governments. Advances in technologies, such as communications, computing, storage and software engineering, have allowed for cost reductions in data processing and storage, leading to the progressive incorporation of different economic actors into the data economy. This has also led to an exponential increase in data generated by consumers, private and public entities and, more recently, objects (the IoT).

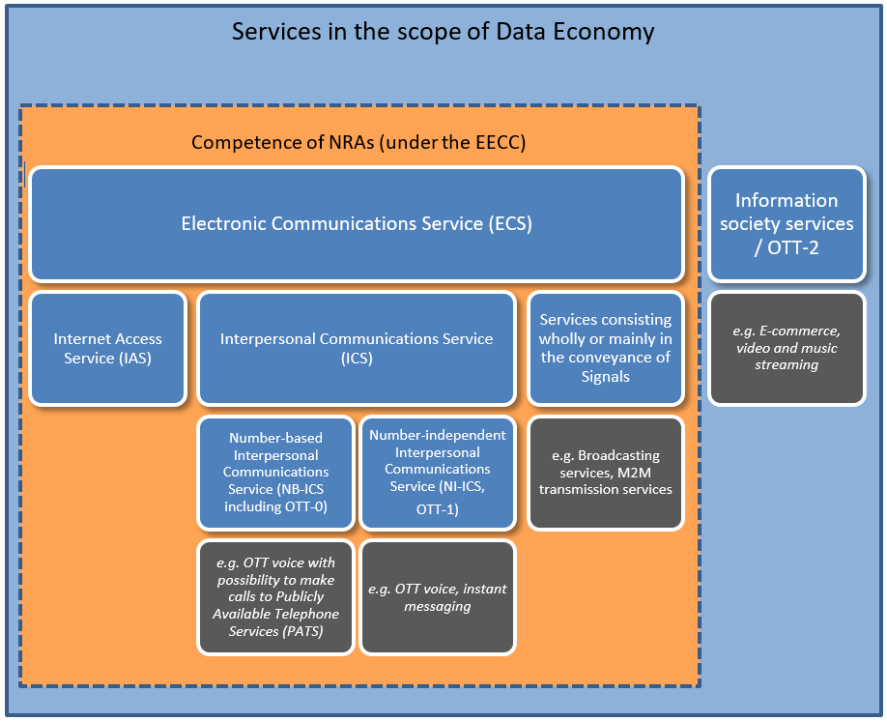
The increasing availability of data and the development of tools to collect and analyse data is changing a large portion of the economy, enabling innovative business models, cost reductions, more informed decisions by consumers, institutions and firms, and increased economic growth. All societies, including Europe, should ensure that firms, institutions and citizens are ready to take advantage of the vast potential of this strategic asset.

Meanwhile, the EU Telecommunications Policy Package is expected to be replaced in January 2019 by the EU Directive on the European Electronic Communications Code (EECC). The amended definition of electronic communications services in the EECC includes Over-The-Top communications services (OTT-0 and OTT-1) in the scope of the Directive as "number independent interpersonal communications service", thus widening the definition significantly.

For questions regarding the use of personal data, the General Data Protection Regulation applies, unless overriding sector-specific data protection rules are applicable.

The sector-specific data protection rules in the telecommunications sector are currently included in the Privacy and Electronic Communications Directive (2002/58/EC). They will eventually be replaced by the EU e-Privacy Regulation, which will then apply directly in the member states and will not need to be transposed into national law.

The following figure depicts the services in the scope of the data economy in relation to the future competences of National Regulatory Authorities (NRAs) according to the EECC.



Taking this into account, BEREC considers that it is important to study the impact of the data economy on the electronic communications sector that is under its regulatory scope, as well as considering the role that NRAs could play in the context of the data economy. Essentially, BEREC is interested in deepening its knowledge of how the data economy could affect its traditional line of work (both in terms of reshaping Electronic Communications Markets and in terms of the tools that can be used by NRAs to conduct their regulation activity) and how BEREC could contribute to the development of the data economy.

With this aim, BEREC has carried out some preparatory meetings with academics and stakeholders, including a workshop in June 2018, at which NRAs' Heads and various relevant actors took part. Following on from this, BEREC will prepare a report to be published in mid-2019.

As part of the preparatory tasks, BEREC has prepared this call for input with the aim of getting insights from all types of actors (consumers, companies in the telecommunications sector, digital companies, other companies, institutions) on issues to be taken into account by NRAs in the context of the data economy, as well as ideas on where the experience of NRAs can be used, in collaboration with other regulatory bodies, to encourage the development of the data economy. Specifically, BEREC is interested in the following issues that are addressed in the different sections of the public consultation:

1. **General issues regarding the data economy to be taken into account by BEREC**. This comprises issues such as the definition of the data economy, a taxonomy for the data that is used and its general economic properties, as well as identifying bottlenecks for the development of the data economy.

2. **Electronic Communications Networks (ECNs) and Services (ECSs) as enablers for the data economy.** Telecommunications networks are the "base structure" which enables data flows and, as such, this infrastructure is key to facilitate the transition towards a data-driven economy in Europe. BEREC is interested in the characteristics and future evolution of ECSs, as provided for in the monitoring and review obligation stemming from article 114a of the draft EECC, but also in order to ensure that consumers, companies and institutions benefit from the opportunities associated with the data economy.

3. **Impact of the data economy on competition in ECS markets.** Like most sectors of the economy, the telecommunications sector is affected by the data economy, and the use of data could be an important factor affecting the dynamics of competition in ECS markets. Furthermore, the new EECC provides a wider definition of ECS that encompasses OTT-0 and OTT-1[1]. This broader scope includes actors who are in principle even more involved in the data economy: for example the business models of OTT-0 and OTT-1 service providers often involves commercialising data instead of billing users for their services. BEREC is interested in getting stakeholders' views on how the use of data in the provision of ECSs is changing competition in the communications sector. Furthermore, BEREC would also like to get an overview of the issues to be taken into account when performing market analysis on ECS markets that are linked to the development of the data economy.

[1] As defined in the BEREC report on OTT services (BoR (16) 35, January 2016). Those are the OTT services that provide voice-over-IP services and/or instant messaging services.

4. **The data economy in NRAs' regulatory activity.** NRAs can also benefit from the tools developed in the context of the data economy in order to take well-informed regulatory decisions and they can also share part of their data with the public. BEREC is interested in proposals from stakeholders that can be applied within the scope of its regulatory activity, for instance relating to the sharing of data and the application of data analytics in order to enhance regulatory decisions and to help consumers, companies and other institutions to optimise their decisions in a more informed context, in line to what is expected from institutions in the 21st century.

5. **NRAs' regulatory experience applied to the data economy.** BEREC is also interested in getting feedback in relation to potential collaboration with other regulatory bodies (e.g. data protection authorities) that could be of help in the field of the data economy. In this regard, BEREC would like to know if the methodologies and experience developed by NRAs could be of use in the context of the data economy. In particular, BEREC is interested in knowing whether its experience could be of help in the context of the data economy regarding:
   - Monitoring the evolution of markets;
   - Assessment of market power and the potential need for regulation;
   - Application of ex-ante regulation (whether this is symmetrically applied to all actors or applied only to the dominant player);
   - Development of portability schemes that aim to reduce switching costs for consumers;
   - Supervision of standardisation for interoperability, with the aim of maximising network effects;
   - Promotion of the development of wholesale access markets.

Once BEREC has received all stakeholders' responses to this consultation, a report summarising their input will be published on the BEREC website. The contributions will be used in the preparation of the final report.

INSTRUCTIONS FOR SUBMITTING FEEDBACK

Timeline and target group of this consultation

This consultation runs from the 10th October 2018 to the 21st November 2018 (closing date). It is open to the wide range of public and private stakeholders involved in the data economy, as well as to their associations. We welcome contributions from all actors that are interested in the data economy, namely:

- Public organisations, including local, national, or international organisations (e.g. data protection authorities, competition authorities, government authorities, intergovernmental organisations, non-governmental organisations, etc.);

- Industry actors: online platforms, media and social media companies, online content providers, online advertisers, providers of Electronic Communications Networks (ECN) and providers of Electronic Communications Services (ECS, as defined in the EECC), operators that are active along the value chain of the Internet of Things (IoT), players active in data collection or data processing, software developers, producers of smart devices, and any other industry players active in the data economy;

- Industry associations and networks;

- Consumers and consumers' associations;
- Academics, specialised research centres, think tanks, etc.;
- Financial investors;
- Any other stakeholder or citizen(s) with expertise/interest in the data economy.

Instructions for submitting your response and transparency provisions

Please provide your answers preferably in English and in PDF and/or Word format. Respondents are not required to answer all sections and questions, although BEREC invites stakeholders to submit contributions that are as complete and detailed as possible.

All non-confidential contributions to the consultation will be published on the BEREC website shortly after the end of the consultation period. Please indicate if any part of your response should be treated as confidential. Alternatively, you can provide a non-confidential version of your response.

Responses should be addressed to PC_Data_Economy@berec.europa.eu by 14.00 (CET) on the closing date, 21/11/2018. Late responses will not be considered.

Please provide the name (and website, if available) of your organisation, as well as the contact information (name, e-mail and/or phone number) for a contact person. In the case of personal contributions, please provide your name, nationality and contact information.

Name of the organisation/person, website, nationality and contact information
Deutsche Telekom AG (https://www.telekom.com/de)
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Tel. 0032-495253184

Please indicate the place(s) of operation of your organisation and the sector(s) in which your organisation mainly operates. Please explain how you are involved in the data economy.

Place of operation, sector(s), involvement in the data economy
Places of operation: Austria, Czech Republic, Croatia, Germany, Greece, Hungary, Netherlands, Poland, Romania, Slovakia, United Kingdom, Albania, Montenegro, Macedonia
DT operates in the following sectors: ICT, electronic communications, media, entertainment. We operate as a data service provider (with own data infrastructure) as well as a user of third-party data services.

1. GENERAL ISSUES

The collection and analysis of data is not, by any means, a new phenomenon, as it dates back to the development of statistics. However, the Internet offers immediate access to information that can put data into context. The ability to track a huge variety of events, with a high level of detail, generates raw data in an unprecedented way that can be collected and transformed into valuable information. More specifically, the combination of raw data and analytical tools can reveal patterns, provide key insights. The generation and collection of data and its analysis, as well as the exchange of newly generated information, may pave the way for creating new business opportunities.

Question 1.1:

The term 'Data Economy' tries to capture the increase in the availability of data, the related business opportunities and the (potential) social value of the insights that can be generated. According to the EC report "Building a European Data Economy"[2], the *"data economy measures the overall impacts of the data market – i.e. the marketplace where digital data is exchanged as products or services derived from raw data – on the economy as a whole. It involves the generation, collection, storage, processing, distribution, analysis, elaboration, delivery, and exploitation of data enabled by digital technologies".*

Do you agree on this general definition of the Data Economy? If you have an alternative definition or any comments on the proposed definition, please provide details below.

Answer to question 1.1
This definition introduced by the European Commission formed the basis of its data economy communication from 2017, which did however not aim thereby to capture the competitive conditions of data-driven markets. We generally agree with the definition.

Question 1.2:

Data is an essential input to many newly emerging services. However, it is hard to assess the individual value of a single piece of data. It might be also considered that, in the context of the data economy, a single piece of data has a negligible value by itself and, therefore, data will start generating added value only when a significant amount of information is processed and structured in a meaningful manner. Insights derived from data, and thus its value, depend on the quality and reliability of data, as well as its ability to be combined with other data. Inherently, larger amounts of data tend to allow more far-reaching insights. The marginal cost of collecting digital data can also be particularly low (if not negligible); therefore, substantial economies of scale can be present. Moreover, the utilisation of data can lead to the provision of better services, and thereby increase the number of users, which in turn can generate even more data to be collected. Thus, the data economy is often associated with strong network effects, even sometimes leading to "winner–takes-all" situations.

Data has sometimes been referred to as the "new oil", but a key difference is that data is non-rivalrous in consumption. That is, the same data about a consumer can be made available to

[2] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "Building a European Data Economy" {SWD(2017) 2 final. Brussels, 10.1.2017 COM(2017) 9 final

many different companies, rather than only being used once: e.g. data on date of birth, gender, home address, telephone number, credit card details, etc. Even though data is essentially non-rivalrous, it cannot be regarded as a pure public good in economic terms because people or companies may be excluded from using it. For example, some types of data may be specific to a particular platform and can also be made exclusive through commercial or technical means.

Data is not a homogenous good and there are different types of "data" (e.g. personal and non-personal). Different types of data will in turn have different values to different types of businesses, as the value of data depends on its context and is affected by four key characteristics: volume, velocity, variety and veracity. For instance, the volume of data may be important when looking to establish patterns in consumer behaviour in aggregate. Conversely, the velocity of data – how quickly its usefulness depreciates – is more relevant to services that promote products based on what users are currently searching for.

In your opinion, what are the most important characteristics of data to be taken into account when analysing its economic properties? Are there elements missing in the previous list?

Answer to question 1.2

Indeed, data starts generating value when a **significant amount** is being processed, e.g. the "critical mass" of data can be reached – which is also a key requirement for Artificial Intelligence. Besides "volume" as a key characteristic, the ability to **combine different data sets** through identifiers is equally **important to perform large-scale analytics**. e.g. to display traffic movements in certain directions during a certain period (by processing mobile location data), an identifier is necessary to link the positions of individuals at certain time intervals. Such an identifier would be missing if only anonymous data were to be used and such movement could not be displayed.[3] For **Big Data analytics**, the **use of personal data** is therefore **advantageous over anonymous data**, whereas technical safeguards like **pseudonymisation** (see Art. 4 (5) GDPR) can be used to mitigate potential risks for individuals.

With regard to contractual law and end-user protection, the **characteristic of data as alternative means of remuneration** has to be considered in the scope of analysing the Data Economy. This also refers to the recently adopted European Electronic Communications Code (EECC), which clarifies in its recitals that ECS are provided also against **alternative remuneration**, which particularly refers to the ECS-category of **number-independent ICS**. This doesn't necessarily require assessing the monetary value of data, keeping in mind that the application of end-user rights with regard to money-based services does neither depend on the amount of money (usually same rights apply irrespectively of the price level). **Data as substitute to remuneration requires a reasonable translation of end-user protection to data-based business models**. Eventually, **comparable protection standards** have to be ensured, including **non-discrimination of business models** based on money as remuneration. Sector-specific and horizontal law have to be updated accordingly, to **close** these **newly emerging gaps** in regulation.

Question 1.3:

[3] See Commission proposal for an ePrivacy Regulation (COM(2017) 10 final), Recital (17)

Different types of data can be distinguished and a taxonomy of data is useful to structure the analysis of the data economy. For example, one common distinction is that between personal and non-personal data. BEREC would be interested in respondents' input regarding more detailed or alternative classifications that can be made, especially those that are more relevant in relation to the analysis to be done by BEREC.

What classification of data do you consider to be most relevant (in the context of BEREC work on the data economy)? Please elaborate below.

Answer to question 1.3

As stated above, established **technical safeguards** like pseudonymisation and encryption become more and more important, since they can create a suitable basis and flexibility for processing personal data, while at the same time appropriately protecting the interests of individuals.

Pseudonymisation has an advantage vis-à-vis anonymous data, namely that the necessary "identifiers" remain intact for big data applications, to be able to merge data from various sources. The technique thereby eliminates the direct link between data and data subject, while the pseudonym used as an identifier allows to repeatedly merge personal data from different sources over a period of time, which is a key requirement for valuable data-driven services. It is also for that reason that the European Commission has embraced Pseudonymisation as a privacy-friendly technique in the GDPR, "*to reap the benefits of big data innovation while protecting privacy*"[4].

While pseudonymised data is not a data category per se (it remains personal data), the **benefits of this safeguard** established under the GDPR are inherent, more and more becoming the essential tool for companies to contribute to the data economy in a privacy-friendly way.

Question 1.4:

The ability to access data may be important in terms of reinforcing existing network effects in certain circumstances. As a result, there may be concerns about the exercise of market power in online markets and the ability of firms with market power to foreclose or restrict competition. For instance, concerns could include:

- exclusive control of certain data that creates a significant barrier to entry;
- leverage of market power into adjacent markets;
- lack of competition over non-price features, e.g. privacy.

Which kind of competition concerns are likely to be of relevance in the data economy?

Answer to question 1.4

In general, we see several economic features that are associated with data and the business models prevalent in the data economy that facilitate concentration and dominance and thereby increase the risk of abusive conduct. We hereby consider that **competition law is best suited** to **address these issues**.

[4] http://europa.eu/rapid/press-release_IP-15-6321_en.htm

Considering the unprecedented dynamics and scalability possibilities of data-driven businesses, we **do not believe** that **ex ante regulation** (neither sector-specific nor horizontal) is **well suited** to address any competitive issues related to the **use/collection of data** in the data economy. This is especially true for **IoT** and **M2M** markets which are characterized by emerging and growing businesses and do not offer any robust evidence of structural and persistent market failure that could be addressed by regulation.

Question 1.5:

Do you think that competition issues regarding the power of market data can be sufficiently addressed by current competition law and the upcoming regulatory framework (EECC, GDPR, e-Privacy Regulation, PSI Directive, etc.)?

Answer to question 1.5

- With the **GDPR**, a horizontal and harmonised framework for data protection has been established which clearly defines how companies can use personal data. As will be explained in more detail under Question 2.2, the currently discussed **ePrivacy Regulation proposal (ePR)** risks to deviate from this harmonised approach by establishing in parts an inconsistent and **asymmetric data protection regime** that needs to be **re-balanced in the context of competitiveness of the European industry**. A **stronger alignment** between **GDPR** and the proposed ePR is indispensable to provide for the necessary flexibility by European telecom operators, to innovate in data-driven services at the same competitive level as other market players.

- With the **PSI Directive and its current revision** being discussed at EU level, another step is being taken to reduce barriers faced by citizens and businesses to access public data. We suggest however that more attention needs to be paid to potential antitrust issues stemming from the provision of PSI. In this regard, two specific scenarios are of relevance. First, whenever the provision of PSI runs into serious risks of crowding-out private businesses and initiatives, an assessment based on state aid control principles needs to be conducted. Thereby, the provision of PSI would need to be stopped or significantly re-shaped such that any distortion of effective competition would be prevented or ceased. Second, the provision of PSI might trigger or aggravate antitrust issues associated with dominant firms. Precisely, access to PSI might serve dominant firms or firms being at the verge of dominance to engage in anticompetitive conduct (e.g., foreclose rivals or charge higher prices by cementing dominance).

- Besides Public Data, a **regulatory framework** for **private (non-personal) data** does not exist but is also **not considered necessary**. In relation to private data, **contractual autonomy and voluntariness** are the best vehicles to accommodate the various needs of the parties concerned. We do so far not see any evidence (especially in IoT and M2M markets) that supports the existence of structural and persistent market failure which would warrant ex ante regulation to step in. We consider that contract law provides all necessary tools, as it presents a flexible and decentralized approach that is fit for purpose especially considering the complex, still emerging, and dynamic market environment. Hence, any **attempts to legally force access to private data**, even in the case of **public bodies requesting data** that they have classified as being **of public interest**, would be misleading and **detrimental**. They would **discourage market entry**, investments, and innovations and thereby **jeopardize** the

development of a future-proof and flourishing **European Data Economy**. If, however, market failure is observed, we consider an **adapted competition law** on a case by case basis as being best suited to restore competition to the benefit on consumers. It is far less rigid than ex-ante regulation and much better designed to respond to the dynamics and market realities of data-driven markets.

The **EECC** hardly includes provisions that specifically address data-related challenges. Besides, number-independent ICS – which most often base their business model of collection and monetisation of data – are exempted from most provisions. However, the EECC provides the opportunity for NRAs to ask relevant market players for information required to properly assess the market. Also, the foreseen review of the service chapter provides a window of opportunity to address identified issues in the closer future. However, ECS markets reflect only a rather small part of the digital market and the role of data may be considered to be more crucial with regard to other market players. Any action of NRAs should therefore be embedded in a more cross-cutting approach that addresses the whole market. Regulatory steps for ECS only would be inappropriate and overall not effective.

2. ECS AS AN ENABLING FACTOR FOR THE DATA ECONOMY

Electronic communications services (ECS) are an enabling factor for the data economy, as they provide the infrastructure upon which the data economy is developing. For data to be collected and distributed everywhere, networks must be ubiquitous, reliable, interoperable, secured and offer high speed transmission. Therefore, the development of ECS should both directly and indirectly support the growth of the data economy.

ECS providers can also develop innovations and new services that will allow them to play a new role in the data economy, going further than being the infrastructure on which the data economy relies. Some telecommunications network providers already offer services such as cloud storage and analytics solutions, which actors in the data economy can use to develop their businesses, but telecommunications network providers can also directly participate in the data economy by developing data-based services of their own. For example, they may offer mobile network location-based services. Moreover, with the development of the Internet of Things (IoT), ECS providers are enabling connectivity to billions of devices that can collect data.

This creates an opportunity for ECS providers to play a major role in the collection and analysis of a large volume of data. With the following set of questions, BEREC intends to identify the services and innovations provided by ECS providers that contribute to the development of the data economy.

Question 2.1:

Services provided by network operators can be assessed based on various parameters (latency, bandwidth, reliability, security, ubiquity, etc.). Considering that the development of the data economy is supported among others by the electronic

communication networks, which parameters are the most relevant for the development of the data economy in your view?

Answer to question 2.1

The availability of ubiquitous qualitative, reliable and secure infrastructure is essential. From an economical perspective, the **weighing of all these parameters** (without any specific preference) will depend on the concrete field of application. In general, the fundamental **reliability** and **security** is certainly of particular importance. The focus here is on the security of data integrity, since ultimately it must be ensured that the data economy is based on reliable data.

Question 2.2:

What more can ECS providers do to help the development of the data economy? Conversely, do you identify any bottlenecks for the development of the data economy that are related to ECS providers and, if so, what, in your view, could be done to address this issue?

Answer to question 2.2

Under the proposed ePrivacy Regulation (**ePR**), we propose a **stronger alignment** with the **GDPR** by ways of introducing the **concept of compatible further processing**, as currently foreseen by the Austrian Council presidency[5]. This would balance the systemic competitive advantages platforms / OTTs enjoy over traditional Telcos and thus prevent bottlenecks for the development of the data economy in their sector.

It is important to note that OTT services are generally covered by the new scope of the ePR proposal. However, a **GPS-driven service** will **not be covered by Article 6** of ePR (processing of communications metadata), as it **is not defined** as "electronic communications service," even though these services process more granular location data than telecommunications operators. Recital 17 of ePR states explicitly that "*location data that is generated other than in the context of providing electronic communications services should not be considered as metadata*." That means that the location data generated by these services will not be covered by Article 6 of ePR. Instead, metadata derived from those services are regulated under the risk-based approach of the GDPR, which allows for a lighter framework and constitutes the source of systematic competitive disadvantages Telcos face vis-à-vis OTTs / platforms.

In consequence, the **level playing field proposed by the Commission in the ePR is only partial** and thus creates a **bottleneck for a fair competition** between telecom operators and OTTs.

Telecom operators can contribute to the wider society and economy by using location data to improve urban planning / smart cities. These big data analytics could be performed using **pseudonymised location data** to produce aggregate insights to understand movements of populations in a specific time and space framework. However, the ePR proposal **prohibits any further use of location data** beyond the grounds listed even with the appropriate

[5] 12336/18, AT Presidency Text on interinstitutional file 2017/0003(COD) from 20 September 2018

safeguards applied (strict reliance on consent or anonymization/deletion). In contrast, non-ECS providers using location data based on technologies such as GPS do not fall under this restriction[6]. This produces an odd result considering that **in-app GPS location data is accurate to within a 3-4 metre range** of an individual's location whereas network generated location data is accurate up to several kilometres (for rural areas) or 50 metre range (for urban areas)[7]. In our view **users should receive the same level of protection and the rules should be defined equally for the same type of data, regardless of the technology that the location data** originates from.

The above described inconsistent data protection regime needs therefore to be **re-balanced** in a context of **competitiveness of the European industry**. A stronger alignment between GDPR and ePR is indispensable to provide for the same flexibility by European telecom operators to be able to innovate in data-driven services while ensuring a high level of privacy protection. By introducing the concept of **compatible further processing of metadata**, which is in line with article 6(4) GDPR, the **missing level playing field** between telecoms operators and GPR-driven service providers **should be restored in the ePR**.

Question 2.3:

What kind of evolution do you foresee regarding the role of ECS providers in the value chain? For example, with regard to the development of the Internet of Things or mobile network location-based services, could new revenue models for ECS providers emerge based on the data economy?

Answer to question 2.3:

The right regulatory framework is a precondition for ECS to play a role in the data economy. As stated under Question 2.2., current sector-specific privacy regulation (**ePrivacy**) severely hinders the development of mobile location-based services, since the existing and proposed rules (ePrivacy Regulation proposal) for processing mobile location data are imposing strict conditions on operators (consent or anonymisation requirement) vis-à-vis the more flexible framework of the GDPR.

With regard to the **Internet of Things**, industrial (non-personal) data will be created at large scale, which opens up opportunities for companies to share and re-use such data in a B2B environment. For this to happen, **data marketplaces** will come more and more important. Deutsche Telekom has recently created the "**Data Intelligence Hub**" (https://iot.telekom.com/en/products/telekom-data-intelligence-hub/), a platform for secure data-sharing that aims to contribute to building a data sharing economy by providing a secure infrastructure along the entire data value chain. The platform provides reliable and monitored networking of companies and institutions in **line with the International Data Spaces**

[6] It is worth noting that the GDPR does not list mobile/GPS location data among the categories covered by Article 9 GDPR deserving additional safeguards; there is thus no legal justification to consider location data related to an ECS service per se as more sensitive than the location data related to a service that doesn't fall within the ECS definition, see in more detail https://etno.eu/datas/positions-papers/2018/ETNO_Metadata_Memo.pdf .
[7] WP29 Opinion 13/2011

Association (IDSA), thus offering a solution that can enhance data-sharing without losing ownership and control and thus, preserving business secrets.

3. IMPACT OF THE DATA ECONOMY ON COMPETITION IN ECS MARKETS

The provision of electronic communication networks and services generates a significant amount of data that, in some cases, cannot be obtained by other sources. The availability of processing this data might create some opportunities for telecommunication operators. For instance, data can potentially be used to improve the services provided to the users, gain internal efficiencies, deliver innovative services, create new business models or, in the cases and conditions allowed by privacy regulation, commercialise this asset.

A distinction can be made between network or infrastructure data on the one hand and content or usage data on the other hand.

Data related to the network itself are of great relevance in optimising the network operations of telecommunications operators[8]. Analysis of this type of data can help to make network operations more efficient.

Telecommunications operators can also benefit from the analysis of usage data. For example, customer loyalty and churn can be examined with data analytics methodologies. The aim could be, for example, to identify the factors affecting churn and, based on these findings, take action to reduce it over time. Another area where data analytics could be of use is fraud detection. Consumers could also benefit from innovative products and services based on data collection and analysis. The development and implementation of smart home services, for example, could improve safety, energy efficiency and comfort.

The growing importance of data collection and analysis may also affect competition in the telecommunications sector. For example, ECS providers with a large number of customers could possibly benefit from economies of scale in terms of data collection and analysis. Moreover, some ECS providers are vertically integrated across different levels of the value chain and might thus benefit from economies of scope, as they act both as network operators in the fixed or mobile network and as service providers at wholesale and retail level. A telecommunications company with a broad product portfolio, for instance encompassing fixed network services, mobile services, IPTV or even Smart Home services, can collect significantly more data than those providing just stand-alone services, which it can then use to better serve their customers and optimise their business operations while reducing costs. Overall, having access to a wide variety of data may facilitate innovation or optimisation when combined with data analytics techniques. ECS and data services (such as cloud computing) may also be combined to make new service proposals that could affect competition dynamics.

With regard to mobile services, it should be noted that network operators have exclusive access to additional network data compared to resellers or MVNOs. Therefore, a question may arise about whether network operators are able to extend their advantages from (exclusive) data collection and analysis to other areas.

[8] For example, the analysis of topography data for planning network deployment can help increase the range and transmission capacity of mobile radio base stations.

Instant messaging services and voice over IP (VoIP) services have been widely adopted by consumers and are increasingly competing with traditional telecommunications services, such as SMS or voice telephony. The Privacy and Electronic Communications Directive (2002/58/EC) established ECS sector-specific data-protection rules. This Directive will be replaced by the EU e-Privacy Regulation, which will then apply directly in the member states and will not need to be transposed into national law.

Question 3.1:

What is the significance of data for the telecommunications value chain today? How would you expect this significance to change in the future?

Answer to question 3.1

The use and analysis of mobile customer data is still limited vis-a-vis OTT, due to regulatory restrictions described under Question 2.2.

As explained under Question 1.2, the remuneration of data has become a substitute to the remuneration of money in the digital market for services. This particularly refers to number-independent ICS that are subject to sector-specific regulation under the EECC. A **reasonable translation of end-user protection to data-based business models is required**, to avoid that end-user protection is applied in a non-discriminatory way and avoid providing incentives for undertakings to rather rely on the monetisation of data instead of charging a price.

Question 3.2:

How are ECS providers making use of (anonymised) data? Are they buying/selling it from/to third parties? Please elaborate.

Answer to question 3.2

ECS providers are today successfully collaborating in the B2G (Business to Government) market, e.g. by providing valuable analysis of aggregated location data, to portray traffic movements and thus helping cities to become smarter and improving their infrastructure planning.

Question 3.3:

Are you aware of cross-sectoral initiatives carried out by ECS providers with regard to data analytics? Please provide examples of (big) data analytics projects/initiatives carried out by ECS providers[9].

Answer to question 3.3

Question 3.4:

What is your view on how the use of data (including the combination of data services and ECS) may change the competition dynamics among ECS providers? Do you see

[9] As defined in the EECC, including providers of OTT-0 or OTT-1 services.

any risk of leveraging market power, or conglomerate effects caused by the use of data in the telecommunications sector? If so, should the methodology to assess market power be reviewed to further consider access to data?

Answer to question 3.4

We do **not see any change in competition dynamics within the telecommunications sector itself** (vis-à-vis e.g. MVNOs). However, as stated under Question 2.2., **bottlenecks have been identified in relation to other market players through asymmetric regulatory treatment** of location **data** (derived from mobile networks vs. GPS-based), which would prevent telecom operators from entering into data-analytics markets competing on equal footing with other digital players. A better alignment of the proposed ePrivacy Regulation with the GDPR is therefore of utmost importance.

And even if the asymmetric regulatory treatment is mitigated / eliminated, it will be very difficult for non-data-driven businesses to compete in light of the size and power of established players / platforms in data-driven markets. Therefore, we do not see any competition risks for MVNOs, OTTs, etc. stemming from Telcos using data and offering data services. **To the contrary**, the increasing involvement of online platforms / data-driven businesses in infrastructure deployment and experimentation **might enable anticompetitive leveraging into ECS markets**. Thereby, ECS providers could be foreclosed by online platforms using their market power to establish themselves as ECNs.

To address any competition issues related to such scenarios we consider a **modified competition policy approach to be best suited rather than ex ante regulation**, which is inherently too rigid to tackle these challenges.

Additionally, and as mentioned above, BEREC needs to consider the impact of **particularly number-independent ICS** that base their business model on the monetisation of data on the overall competition. Most end-user rights are not applied in the absence of a price and, thus, business that prefer remuneration money face a higher level of compliance costs. This scope of end-user rights provides an incentive to rather remunerate data than money.

Question 3.5:

Are there cases in which exclusive ownership of data or other potential hurdles related to data restrict competition or the development of new telecommunications business models? Please provide examples. Below are some specific examples of cases that may be of interest to BEREC:

- **Do you see any competitive differences with regard to data collection and analysis between MVNOs and MNOs?**
- **Do you see any competitive differences with regard to data collection and analysis between fixed line infrastructure operators and retailers that rely on wholesale access?**
- **Do you see any competitive differences with regard to data collection and analysis between "traditional" ECS and OTT-0/OTT-1 providers?**

Answer to question 3.5

With regard to competitive differences between traditional ECS and OTT providers, please see in detail our answer to Question 2.2.

Question 3.6:

What opportunities and/or risks do you see for consumers linked to an increase in data collection and analysis in the telecommunications sector?

Answer to question 3.6

The opportunities of a growing data economy for consumers are manifold. Enhanced Smart Cities will make it easier for consumers to navigate, e.g. through **smart parking applications**, where built-in sensors in parking places are being combined with data from the mobile communications network, to effectively calculate the probability of parking spaces becoming vacant in a city.

Further, analysis of **traffic and movement flows in cities** (e.g. speed of traffic flow, differentiation between modes of transport, etc.) helps cities to improve their urban planning (and thus ultimately serve consumers), e.g. by introducing new bus routes that could serve areas where private transportation has been identified to have increased.

Wherever large amounts of data are needed to achieve meaningful and valuable results, appropriate technical safeguards like pseudonymisation can help reduce privacy risks for consumers, while enabling operators to use data in a risk-based and responsible way.

Beyond data protection regulation, consumers should rely on comparable protection standards in consumer law, irrespectively whether the undertaking choses to remunerate data or money. Thus, a reasonable translation of consumer protection standards for data-based business models is required. In this context, consumers' informed choice is key – enabled through effective transparency obligations. **Consumers should be fully aware if they use a service that is not "for free" but based on the commercial processing of their data** as a kind of remuneration. Also, they should be aware of their resulting contractual rights. This in principle requires a **horizontal approach, beyond ECS**.

4. NRAs' ECS REGULATORY ACTIVITY IN THE CONTEXT OF THE DATA ECONOMY

The emergence of the data economy is characterised not only by an increase in the quantity of data available, but also by the availability and use of data analysis tools (e.g. Apache Hadoop, SAP HANA, etc.) that are capable of analysing rapid real-time flows of data. These new data and tools can greatly influence how NRAs take regulatory decisions.

The use of data in increased quantity and quality by NRAs, combined with new analytical tools, may have the potential to significantly improve the quality of regulatory decisions in various aspects (e.g. consumer protection and empowerment, fostering competition and investment, monitoring the quality of services and network deployment/coverage and the assessment of market power).

Furthermore, in the context of an evolution towards an open government data ecosystem, defined by the re-use of public sector information (PSI) Directive[10], NRAs could have a significant role in contributing to the economic and social benefits that may be possible. In fact, the electronic communications sector alone is responsible for vast amounts of data being generated/collected and the nature of such information may allow for significant benefits beyond its use for strict regulatory purposes.

This section therefore addresses the dimensions of the relationship between NRAs and the data economy in the context of NRAs' duties and responsibilities, as established by the new European Electronic Communications Code (EECC) and the proposal for a revised BEREC Regulation.

In adapting to the data economy, NRAs should consider how to leverage data in order to enhance the quality of their work, their decisions and the accuracy of regulatory analysis (e.g. market definitions or market power assessments) as a step towards "data-driven" regulation (increased use of available relevant data).

With the increasing volumes of data generated by customers and operators, the quality of data used by NRAs – not only existing internal data but also data that can be collected from operators (respecting existing principles, such as proportionality) – can also be improved. Additionally, data collected and generated by NRAs (when not subject to confidentiality clauses and when their publication is allowed by national legislation), may also be useful for different actors in the digital economy.

Question 4.1:

What is your view on how NRAs can use data to better perform their duties (e.g. consumer protection, fostering competition, monitoring the quality of services and network deployment/coverage, the assessment of market power…)? Can the use of digital tools improve the capacity for action? If that is the case, please provide further explanation, as well as any proposals you may have.

Answer to question 4.1

The EECC foresees new obligations regarding regular surveys on the geographical reach of ECNs (Art. 22 EECC). In turn, it must be mandatory for NRAs to take recent data collected on this basis into consideration in market analyses, in view of SMP designation resp. of lifting SMP obligations.

BEREC should motivate NRAs to further increase intelligence on **data-based business models by OTT**, based on the new option to request data from also providers of number-independent ICS in the EECC. A better understanding of these business models is crucial to properly monitor ECS markets and apply adequate obligations where found to be necessary. Particularly, this is key with a view to the upcoming **review of the end-user rights chapter of the EECC**.

[10] Directive 2013/37/EU of the European Parliament and the Council of 26 June 2013 amending Directive 2003/98/EC on the re-use of public sector information, as well as proposal for a directive of the European Parliament and of the Council on the re-use of public sector information (Brussels, 25.4.2018). COM(2018) 234 final 2018/0111 (COD)

Question 4.2:

What kind of data, or which specific data, should NRAs collect and publish which could facilitate the development of the data economy?

Answer to question 4.2

Question 4.3:

Under the new EECC (art. 22) NRAs shall conduct surveys on NGN deployment, including relevant information on operators' intentions to invest (planned network deployments, upgrades and extensions) and QoS parameters.

When this information is not available in the market, NRAs shall also make data from the geographical survey available and easily accessible to allow for its re-use (when not subject to confidentiality). Such data may be particularly useful for end-users as it can support their choices (e.g. allowing them to check for connectivity options in different areas).

Regarding this provision, which relevant data (and to what level of detail) should NRAs collect (e.g. as QoS metrics) and which techniques could be applied, both in collecting data and in making it available to end-users?

Answer to question 4.3

Article 22 EECC stipulates new data collection competencies and obligations for many different purposes and potential user groups (comprising public, as well as private entities), comprising partially also very sensitive data. Therefore, it is of utmost importance that before each data collection, its **purpose, usage and access conditions are clearly defined**, following the **principle of proportionality**. These conditions should be defined only after a **public consultation**.

It goes without saying that **private investment plans are business secrets** and thus strictly **confidential**. Therefore, whether the related new competencies in Art. 22 form an appropriate legal basis to collect such sensitive data remains questionable. In any case, the potential conclusion that data on investment plans collected by public authorities on this (legal) basis no longer constitutes confidential data and can thus be made accessible to third parties, is inadmissible and should be prevented.

Any form of **transparency on investment plans would seriously harm competition and market economy principles**, and in the context of network deployment plans, of infrastructure competition in particular. Therefore, **access to such data is not compatible with the basic principle of infrastructure competition** and should be prevented.

Additionally, **the amount and the effort for the collection of data has to be balanced**. Undertakings, especially regulated ones, have to put a lot of resources in raising and adjusting data for authorities, especially if that data has to be solely raised and/or adjusted for the authorities' purpose. Therefore, the concrete usage of data has to be justified by the collecting authority by explicitly stating **concrete benefits**. Otherwise, such data should not be collected

and NRAs should confine themselves to data which is already available (for different purposes).

Question 4.4:

The PSI Directive set the framework for the re-use of public sector information, as part of an open data policy, recognising it as a major opportunity to stimulate innovation, economic growth and social engagement, adding value to users and the society in general.

Along the same line, the draft reviewed BEREC Regulation[11] includes a mandate to BEREC to enforce an open data policy. According to this provision, BEREC shall "*promote the modernisation, coordination and standardisation of the collection of data by NRAs. Without prejudice to intellectual property rights, personal data protection rules and the required level of confidentiality, this data shall be made available to the public in an open, reusable and machine-readable format on the BEREC website and the European data portal*."

Intensified by digitisation, the amount (and types) of public data has vastly increased. Both businesses and citizens now expect data within the scope of the PSI Directive to be online, readily available under non-restrictive conditions and easy to understand.

How can NRAs and BEREC contribute to increasing the availability of data in the spirit of the PSI Directive and the reviewed Regulation? In your opinion, what specific data should NRAs and BEREC publish (e.g. QoS indicators, consumer complaints, coverage, usage statistics)?

Answer to question 4.4

Please see our answer to Question 4.3.

The example of publishing data on **consumer complaints** or coverage is not justified. It is not **clear how publishing such data could be helpful to support a data economy**. BEREC should take into account that such data are **partly confidential or highly sensitive**, e.g. regarding details on complaints and usage. Also, BEREC should take into account the already established **broad publication requirements on QoS in the Open Internet Regulation and the EECC**. Data related to coverage are often already available publicly on a voluntary basis, e.g. coverage maps.

5. NRAs' EXPERIENCE APPLIED TO THE CASE OF THE DATA ECONOMY

The data economy is governed by different regulatory instruments that address various aspects, such as the protection of personal data (the General Data Protection Regulation), re-use of public sector information (the PSI Directive), guidance on private sector data sharing, the free flow of non-personal data and e-Privacy, among other issues.

However, the data economy and regulations on access to data are in general not in the regulatory scope of NRAs in the electronic communications sector. This does not necessarily

[11] Article 2 of the Proposal for a Regulation of the European Parliament and of the Council establishing the Body of European Regulators for Electronic Communications. Inter-institutional File: 2016/0286 (COD).

imply that there is no role for NRAs with regard to issues in the data economy. As addressed in previous sections of this public consultation, many sectors are involved in the data economy. In this respect data economy concerns the economy as a whole. The impact of the data economy on competition dynamics for ECSs should be considered and ECSs are a key enabling factor for the data economy.

For their part, NRAs have gained considerable experience from monitoring ECS markets, analysing them and designing remedies to encourage competition and investment. Although different to data markets, there could nonetheless be synergies to be harnessed from NRAs' experience gained on ECS markets which may be useful in the context of encouraging competition and investment in the data economy.

In this context, BEREC is interested in areas where the experience of NRAs could be useful in addressing potential issues in the development of a data-based society in the future. As of today, powers on the data economy for NRAs are very limited as they are focused on ECS markets, however it can be useful for BEREC to envisage potential future areas where NRAs could share their experience to help the development of the data economy, such as:

- Monitoring the evolution of the data markets
- Encouraging the development of wholesale markets for access to data.
- Fostering interoperability obligations (to maximize network effects while weakening winner takes all effects) and data portability (e.g. oriented towards reducing consumers' switching costs when moving from one digital ecosystem to another)
- Fostering transparency and non-discrimination (concerning either just the dominant players or all players).

BEREC is therefore interested in collecting views from all actors on the potential need for the above mentioned tools in the context of the data economy. This could be in the short, medium and/or long-term, with the aim of addressing any potential bottlenecks for investment and competition that may not be sufficiently covered under ex-post competition law.

Question 5.1:

Do you consider the competitive conditions in data economy-related markets are optimal for the development of the data economy? For example, do you consider that there are efficient data-sharing mechanisms in place?

Answer to question 5.1

For **B2B**, existing data-sharing mechanisms are considered sufficient. We consider that **contract law provides all necessary tools**, as it presents a flexible and decentralized approach that is fit for purpose especially considering the complex, still emerging, and dynamic data market environment. Any **regulated access to private data would discourage market entry, investments, and innovation** and thereby jeopardize the development of a future-proof and flourishing European Data Economy. Such an approach is also not justified due to lack of identified market failure[12]. In addition, in the B2B / IoT segment there are already **non-**

[12] See e.g. the legal study on ownership and access to data, prepared for the European Commission by Osborne Clarke LLP, which cam to the conclusion, that considering further legislation would be premature. Following the study, the European Commission did not propose any legislative matters in the B2B and B2G field and has instead proposed guidance for data sharing subject to contractual autonomy (see SWD(2018) 125 final).

governmental initiatives (standards developed by IDS) and private **business models that facilitate and incentivize data sharing between companies** by offering secure and transaction cost efficient solutions. As stated under Question 2.3., data marketplaces such as **Deutsche Telekom's "Data Intelligence Hub**" will become increasingly important to further incentivize data sharing between businesses and thereby increase market efficiency and security.

Question 5.2:

If you consider that the competitive conditions in data economy-related markets could be improved, which of the potential tools measures (along the lines of the ones listed in the introduction to this section) would, in your view, be appropriate to foster the development of the data economy? Please also explain if you consider such tools to be ineffective or if you consider that they could even harm the data economy's development.

Answer to question 5.2

As stated above, considering the unprecedented dynamics and scalability possibilities of data-driven businesses, we **do not consider regulatory bodies (neither sector-specific nor horizontal) to be well suited to address any competitive issues in the data economy**. This is especially true for IoT and M2M markets which are characterized by emerging and growing businesses and do not offer any robust evidence of structural and persistent market failure that could be addressed by ex-ante regulation. Rather, we hold the view that **contractual freedom and market-based negotiations are best suited to govern access and reuse of data**, data sharing, interoperability, etc. In case of market failure, competition policy shall kick in and restore the competitive process by choosing the most accurate remedies which might entail obligations to grant access or to share data with competitors.

We consider that the proposed **P2B regulation that aims at increasing transparency and facilitating redress possibilities is a good and necessary first step in ensuring more efficient markets**. Any additional regulatory steps that go beyond those proposed in the draft P2B regulation should be abstained from. In a second step, it rather needs **to be ensured that such a P2B regulation is complemented by an adapted competition policy**. Both steps are considered to be sufficient and best suited to tackle the antitrust challenges associated with data-driven markets.

In sum, except **for fostering transparency and facilitating redress possibilities** we consider that ex ante regulation and NRAs, respectively, taking over competencies for data access, data sharing, interoperability, non-discrimination, etc. would harm competition and discourage innovations as well as the expansion of the data economy.

Question 5.3:

Do you see the need for closer cooperation between the NRAs (that have a regulatory focus on ECSs) and other regulatory bodies, such as data protection authorities, competition law authorities (National Competition Authorities, which usually focus on ex-post regulation), consumer protection authorities or other bodies, on issues related to the data economy (such as data portability, market power assessments, merger

control, rules on the treatment and sharing of data, etc.)? Please specify the area of potential collaboration, the roles that could be played by NRAs, within their competence, and which regulatory body or institution to collaborate with.

Answer to question 5.3

On regulatory matters in relation to **data protection & privacy**, e.g. data portability, **competences are already clearly defined** (e.g. data protection authorities being responsible under GDPR). For the ePrivacy Regulation proposal, competences have yet to be decided (e.g. NRA or DPA or potential cooperation) by the legislator. Here, it is of utmost importance that companies are being addressed by **one competent authority**, which incorporates the views from all other authorities involved into one common position.

On **data portability under GDPR**, the approach chosen so far by the (former) WP29 in regard to their issued guidelines on data portability has serious implications on telecoms operators. Specifically, concerns have been raised (and explicitly shared by the European Commission[13]) as to whether data generated automatically (e.g. mobile traffic data) by the service would as well fall under the obligation to port data "*provided by*" the data subject (see Art. 20 GDPR). This interpretation goes not only against Art. 20 GDPR and the objective of the co-legislators but would **also conflict with existing obligations under the current ePrivacy Directive** to make telecommunications metadata anonymous. Here, we welcome **closer cooperation between data protection authorities and NRA's as sectoral regulators** to feed in their experience in the field of telecommunications.

Ongoing legislations such as the draft regulation on **platform-to-business relations** or the **Consumer Deal** may eventually also include rules on portability – personal and non-personal data. Decision-makers need to e**nsure a consistent approach in this regard without duplicating existing rules**.

As elaborated above, many services in the digital market and particularly referring to number-independent ICS are based on the commercial exploitation of data. Since consumer protection law needs to be adjusted to also cover these business models, various stakeholders (e.g. **consumer authorities, NRAs, DPAs**) need to **better align** themselves to **ensure a consistent approach,** e.g. on data protection and contract law.

Question 5.4:

In relation to data markets, which are the key issues that should be taken into account when assessing competition dynamics? What should be the geographical scope for data markets (national/European/international/other) and what drivers should be taken into account?

Answer to question 5.4

See our detailed answers to existing bottlenecks and competitive disadvantages above.

[13] Letter of Commissioner Jourová to the former chair of WP29, Ms. Falque-Pierrotin, Ares(2017)1790040

Question 5.5:

In general, how can NRAs contribute to address competition/regulatory issues in order to foster the transition to a data economy?

Answer to question 5.5
See response to 3.1. and 3.5. on data-based business models that require a reasonable translation of consumer protection standards.

Question 5.6:

Is there any other issue in relation to the application of NRAs' experience to the data economy that you would like to add?

Answer to question 5.6
n/a

6. OTHER ISSUES

This section covers any other issues that have not been addressed in previous sections/questions and which stakeholders consider to be of potential interest to NRAs in the context of the report that will be prepared by BEREC.

Question 6.1:

Is there any additional issue not included in previous questions that you would like to address? For the sake of classification, please, differentiate between:

1) Issues in relation to ECS regulation under the powers for NRAs in the new Electronic Communications Code;

2) Areas where NRAs or BEREC could collaborate with other public bodies or organisations in the context of the data economy when applying existing regulation for the data economy; and

3) Any additional issue relevant for NRAs that is not addressed in the existing regulation applicable to ECSs and/or the data economy.

Answer to question 6.1
n/a