

BEREC
**Preliminary report on the harmonised
collection of data from both Authorised
Undertakings and OTT operators**

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Executive summary

OTT services – like Social media, Instant Messaging, Videoconferencing and Videostreaming - are of great value to consumers and businesses, but could on the other hand have an increasing competitive impact in the rapidly evolving electronic communications market.

Although, their impact has never been broadly quantified due to the absence of legal competences for NRAs to request information from providers of OTT services under the previous ECN/ECS Framework.

However, at the end of 2018, the EECC included a new, broader, definition of electronic communication services giving the NRAs legal power needed to collect data from NI-ICS providers. Moreover, it provided the legal basis to request data from services which are not electronic communication services or networks, insofar these requests are substantiated and proportionate.

Therefore, this report concentrates on the identification of the new kinds of data that NRAs and BEREC may need in order to perform their tasks and who to collect these data from.

As these new data collection powers apply to all NRAs and OCAs, it is important to seek for a level of harmonization on definitions of indicators, metrics and collection methods in order to facilitate NRAs data collection, make it easier for the companies to provide the data and to allow for international comparison.

BEREC has identified via a questionnaire to NRAs the relevant services and indicators to collect data from different OTT providers. The report includes a list of possible indicators to request from these providers, under the new Framework. The “preliminary list” shall be considered as a first approach that would satisfy NRAs’ needs. However, an updated definitive list with precise definitions and metrics shall be discussed with the agents in the sector to reflect on the provider’s capabilities to provide information and also to enable BEREC to make a judgement on what is a proportionate request. Moreover, it is necessary to engage in an industry wide discussion as to define the precise metrics and definitions of the indicators. This could end up in BEREC Guidelines and templates on the collection of data from OTT service providers, which should include a list of indicators and their data definitions, obligations for providers to provide data and cooperation amongst NRAs in the sharing of data.

The report is structured as follows: the legal rights to collect data following Articles 20 and 21 of the EECC are addressed in Chapter 2. Chapter 3 identifies the needs of NRAs for data and their justification. Chapter 4 identifies the challenges of data

collection and experiences by NRAs and also reflects on the interviews with OTT companies. Chapter 5 concludes with the list of indicators that BEREC has identified as necessary at this stage and finally Chapter 6 comprises the plan for further action.

1 Introduction

Social media, Instant Messaging, Videoconferencing and Videostreaming are an integral part of the daily lives of so many people in the European Union. These are some of the best-known examples of what are commonly called over-the top (OTT) services. In its 2016 report on OTT-services¹, BEREC defined an OTT service as “content, a service or an application that is provided to the end user over the public Internet” and introduced a taxonomy of different OTT-services (OTT-0, OTT-1 and OTT-2). With the publication of the Directive (EU) 2018/1972 of the European Parliament and of the Council of 11th December 2018 establishing the European Electronic Communications Code² (hereinafter EECC), in Article 2, a new, broader, definition of electronic communication services was formed, which now includes number independent interpersonal communications services (hereinafter NI-ICS). Consequently and in order to align with the wording of the EECC, BEREC uses the following terms in this report:

- Number based interpersonal communication services (hereinafter NB-ICS). as defined in Article 2 EECC
- Number-independent interpersonal communication services (hereinafter NI-ICS) as defined in article 2 EECC.
- Other OTT services which the EECC does not address in Article 2 and which are not electronic communication services are referred to in this report as “other OTT-services”.

OTT services are of great value to consumers and businesses, but could, on the other hand, have an increasing competitive impact in the rapidly evolving electronic communications market. Although, their impact has never been broadly quantified.

However, BEREC has already been active in this regard since 2016. In 2016, BEREC assessed the potential to conduct a European benchmarking of OTT indicators and concluded that the majority of NRAs needed European benchmarks of unmanaged communication OTT services, especially regarding services with functionalities similar

¹ BoR (16) 35 Report on OTT services.

² <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L1972&from=EN>

to electronic communication services, such as unmanaged Voice over Internet Protocol and instant messaging.

In its “BEREC Report on OTT services”, BEREC identified the need for information and for the ECN/ECS Framework review to address the absence of legal competences for NRAs to request information from providers of OTT services. In 2017 BEREC conducted an exchange with the European Commission (EC) and Eurostat regarding the urgent need for evidence in the development of OTT communication services (later called NI-ICS) to help inform European policies (telecoms regulation, e-privacy, etc.) and national regulatory decisions regarding the electronic communication sector. As a result, and after negotiations with the EC, Eurostat added two new questions on OTT indicators to its periodic ICT Questionnaires³, namely the usage of instant messaging by households and a new question (optional) for the enterprises on the usage of voice or video call applications over the internet for business purposes.

Building on the existing data collection powers of NRAs regarding authorized undertakings, the EECC has introduced new data collection powers for NRAs and other competent authorities (hereinafter OCAs) in order to enable them to perform their tasks. As the EECC will have to be transposed into national law in all EU-countries by 21 December 2020, it is important to identify the new types of data that NRAs will be able to collect. Furthermore, NRAs and BEREC already have years of experience in the data collection from Authorised Undertakings (ECN & ECS according to the current legal framework). Therefore this report concentrates on the identification of the new kinds of data that NRAs and BEREC may need in order to perform their task and who to collect these data from.

Moreover, as these new data collection powers apply to all NRAs and OCAs, it is important to seek for a level of harmonization on definitions of indicators, metrics and collection methods in order to:

- facilitate NRAs’ data collection,
- make it easier for the companies to provide the data and
- allow for international comparison.

Consequently the intention of this report is to identify previously unavailable data that it would be advantageous to collect in a harmonised way and to initiate a conversation with the industry as to how precisely indicators for such data should be defined.

³ European ICT surveys “Information and Communication Technologies in households and by individuals” and “Information and Communication Technologies in enterprises”.

Therefore, the report includes an indicative “preliminary list” of the relevant indicators to collect NI-ICS and other OTT-services. By publishing this first set of indicators the providers will understand the direction in which BEREC is heading (i.e. the services and type of indicators). However, the establishment of a final list of indicators, with precise definitions and definitive templates can only take place after consulting with the different providers. Therefore, BEREC will continue this work over the course of the next two years, as set out in Chapter 6 of this report.

As a basis for this report and in order to elicit useful and relevant information, BEREC launched a questionnaire in Q2 2019 for the NRAs on the need and feasibility of OTT data collection, which was responded to by 27 NRAs. Furthermore, in October 2019, BEREC held five one-on-one interviews with several OTT operators.

2 Legal considerations to collect data (EECC Art. 20 and Art. 21) and formal difficulties

2.1 Legal considerations of data collection under the current legal framework

Article 5 of the Framework Directive (2002/21/EC) limits the information national regulatory authorities may request from authorised undertakings providing electronic communications networks and services (ECN/S). The ECN/S definition of the Framework Directive however does not include NI-ICS and other OTT-services. This is why under the current legal framework, NRAs may only request information about NI-ICS or other OTT services on the basis of national legislation.

2.2 Legal background of data collection under the EECC

The collection of data from undertakings according to Articles 20 and 21 of the EECC depends on the requesting authority, the type of addressed undertaking and the type of requested data. Also, the provisions of the BEREC Regulation (EU) 2018/1971 need to be taken into account.

Table 1 – Overview of the legal background

Addressed entity → Requesting entity ↓	All ECN/S except NI-ICS	NI-ICS	non-ECN/S
NRA	Yes, data according to Articles 20/21 EECC	Yes, data according to Article 20 EECC	Only when data provided by ECN/S was insufficient according to Article 20 (1) subpara. 2 EECC
OCAs			
BEREC	Only when information needed for fulfilling the purpose of Article 4 BEREC Regulation is not made available by NRAs in a timely manner according to Articles 40(4) BEREC Regulation, 5(1) subpara. 2 second sentence EECC		No, as a conclusion from Article 40(4) BEREC Regulation

a) Who may request data?

i. Article 20 EECC

Article 20 mentions national regulatory authorities (hereinafter NRAs), competent authorities (hereinafter CAs) and BEREC in its first sentence without explicitly stating that they may request data.

Member States shall ensure that undertakings providing electronic communications networks and services, associated facilities, or associated services, provide all the information, including financial information, necessary for national regulatory authorities, other competent authorities and BEREC to ensure conformity with the provisions of, or decisions or opinions adopted in accordance with, this Directive and Regulation (EU) 2018/1971 of the European Parliament and of the Council (1).

The second sentence however **explicitly mentions the power to request data for NRAs and CAs** but not BEREC.

In particular, national regulatory authorities and, where necessary for performing their tasks, other competent authorities shall have the power to require those undertakings to submit information concerning future network or service developments that could have an impact on the wholesale services that they make available to competitors, as well as information on electronic communications networks and associated facilities, which is disaggregated at

local level and sufficiently detailed to enable the geographical survey and designation of areas in accordance with Article 22.

Also Recital 57 sheds no light on BEREC's data gathering power as it only mentions the need to gather information for BEREC but when it comes to requests and information gathered only NRAs and CAs are mentioned.

National regulatory authorities, other competent authorities and BEREC need to gather information from market players in order to carry out their tasks effectively, including assessing the compliance of general terms and conditions with this Directive without suspending the applicability of those terms and conditions during the assessment. [...] Information gathered by national regulatory and other competent authorities should be publicly available.

This "removed" position of BEREC with regard to data collection is also reflected in Article 29 EEC which attributes the power to impose penalties in case of non-compliance with a request for information to NRAs and CAs only.

In conclusion, in general BEREC's requests for information shall be issued by NRAs. Note that according to Article 40 of the BEREC Regulation (EU) 2018/1971 BEREC can request information from any NRA in Europe which is represented in the Board of Regulators, and as well the EC.

Moreover, Article 20(12) subpara. 2 describes a cross border sharing mechanism between Member States and BEREC and its prerequisites:

Subject to the requirements of paragraph 3, Member States shall ensure that the information submitted to one authority can be made available to another such authority in the same or different Member State and to BEREC, after a substantiated request, where necessary to allow either authority, or BEREC, to fulfil its responsibilities under Union law.

Article 20(3) basically states that such a request for information cannot be denied due to confidentiality concerns as BEREC; NRAs and CAs shall ensure confidentiality:

Where information gathered pursuant to paragraph 1, including information gathered in the context of a geographical survey, is considered to be confidential by a national regulatory or other competent authority in accordance with Union and national rules on commercial confidentiality, the Commission, BEREC and any other competent authorities concerned shall ensure such confidentiality. Such confidentiality shall not prevent the sharing of information between the competent authority, the Commission, BEREC and any other

competent authorities concerned in a timely manner for the purposes of reviewing, monitoring and supervising the application of this Directive.

ii. Article 21 EECC

Article 21 clearly only attributes data collection powers with regard to the general authorisation to NRAs and CAs.

Without prejudice to any information requested pursuant to Article 20 and information and reporting obligations under national law other than the general authorisation, national regulatory and other competent authorities may require undertakings to provide information [...].

iii. Articles 5 (1) subparagraph 2 second sentence EECC and 40 BEREC Regulation

Article 5(1) subparagraph 2 second sentence EECC states:

For the purposes of contributing to BEREC's tasks, national regulatory authorities shall be entitled to collect necessary data and other information from market participants.

This means that **NRAs may request data from market participants** when these are necessary for contributing to BEREC's task according to Article 4 BEREC Regulation. Paragraph one of Article 40 corresponds to this and explains how BEREC may request the relevant data from NRAs:

Upon the reasoned request of BEREC or the BEREC Office, the Commission and the NRAs represented in the Board of Regulators and other competent authorities shall provide BEREC or the BEREC Office with all the necessary information, in a timely and accurate manner, to carry out their tasks, provided that they have legal access to the relevant information and that the request for information is necessary in relation to the nature of the task in question.

Article 40(4) then introduces **a condition under which BEREC is allowed to request data directly** from relevant ECN/S undertakings:

Where information is not made available by the NRAs in a timely manner, BEREC or the BEREC Office may address a reasoned request either to other NRAs and other competent authorities of the Member State concerned, or directly to the relevant undertakings providing electronic communications networks, services and associated facilities.

In conclusion this means that BEREC can only address undertakings providing ECN/S directly where a previous request of information to the NRAs has failed or was not answered in a timely manner. This means that BEREC does not have the power to directly address relevant undertakings as the NRAs shall perform the questioning for BEREC.

b) What kind of data?

i. Article 20 EECC

Article 20 EECC mentions the following types of data:

- All the information
 - necessary for national regulatory authorities, other competent authorities and BEREC to ensure conformity with the provisions of, or decisions or opinions adopted in accordance with, this Directive and Regulation (EU) 2018/1971 of the European Parliament and of the Council.
 - Including financial information.
- In particular [...] information
 - concerning future network or service developments that could have an impact on the wholesale services that they make available to competitors,
 - as well as information on electronic communications networks and associated facilities, which is disaggregated at local level and sufficiently detailed to enable the geographical survey and designation of areas in accordance with Article 22.
- Accounting data on the retail markets that are associated with those wholesale markets.

Recital 57 clarifies with regard to request according to Article 20 that those “*should be proportionate and not impose an undue burden on undertakings.*”

ii. Article 21 EECC

Article 21 EECC allows the collection of the following types of data:

- Information with regard to
 - the general authorisation,
 - the rights of use or the specific obligations referred to in Article 13(2), which is proportionate and objectively justified in particular for the purposes of:

- verifying, on a systematic or case-by-case basis, compliance with condition 1 of Part A, conditions 2 and 6 of Part D, and conditions 2 and 7 of Part E, of Annex I and of compliance with obligations as referred to in Article 13(2); This information shall not be required prior to, or as a condition for, market access;
- verifying, on a case-by-case basis, compliance with conditions as set out in Annex I where a complaint has been received or where the competent authority has other reasons to believe that a condition is not complied with or in the case of an investigation by the competent authority on its own initiative; This information shall not be required prior to, or as a condition for, market access;
- carrying out procedures for and the assessment of requests for granting rights of use;
- publishing comparative overviews of quality and price of services for the benefit of consumers; This information shall not be required prior to, or as a condition for, market access;
- collating clearly defined statistics, reports or studies;
- carrying out market analyses for the purposes of this Directive, including data on the downstream or retail markets associated with or related to the markets which are the subject of the market analysis;
- safeguarding the efficient use and ensuring the effective management of radio spectrum and of numbering resources;
- evaluating future network or service developments that could have an impact on wholesale services made available to competitors, on territorial coverage, on connectivity available to end-users or on the designation of areas pursuant to Article 22;
- conducting geographical surveys;
- (NRAs) responding to reasoned requests for information by BEREC. This information shall not be required prior to, or as a condition for, market access.

iii. Articles 5 (1) subparagraph 2 second sentence EECC and 40 BEREC regulation

All information BEREC may request from NRAs or – in exceptional cases – from undertakings must be linked to the fulfilment of BEREC's task as described in Article 4 BEREC Regulation.

c) From whom?

i. Article 20 EEC

Article 20(1) subpara. 1 allows data collection from “*undertakings providing electronic communications networks and services, associated facilities, or associated services*”. However, in exceptional cases Article 20(1) subpara. 2 allows the data collection from other undertakings as well:

Where the information collected in accordance with the first subparagraph is insufficient for national regulatory authorities, other competent authorities and BEREC to carry out their regulatory tasks under Union law, such information may be inquired from other relevant undertakings active in the electronic communications or closely related sectors.

This is clarified by Recital 57⁴:

It may, by way of exception, also be necessary to gather information from other undertakings active in sectors that are closely related to the electronic communications services sector, such as content providers, that hold information which could be necessary for them to exercise their tasks under Union law. [...].

ii. Article 21 EEC

Article 21 EEC concerns information required with regard to the general authorisation, rights of use and specific obligations. Consequently it does not apply to undertakings that are not addressed by Articles 12 et seq. EEC e.g. non-ECN/S. This is also the case for NI-ICS as they are exempt from the general authorisation as described in Article 12(2) and do not use numbering resources or radio spectrum. In the end this means that information requests under Article 21 can only be made to ECN/S providers with the exception of NI-ICS.

⁴ Moreover, in its recent “Questions and Answers on the EEC” paper, the EC states that when the information collected from electronic communication network and service providers is insufficient for NRAs to perform their tasks, NRAs, OCAs or BEREC may need to gather information exceptionally from other relevant undertakings active in closely related sectors. The EC mentions that a concrete example are content providers which create, acquire and distribute content and data usually with the help of a software platform such as online movie platforms, e-commerce platforms etc. The EC considers other examples: developers of operating systems and/or manufacturers of hardware providers used in electronic communications networks and/or services. See: https://circabc.europa.eu/ui/group/7da1d333-3dda-4a40-9d7c-0013e0c51c98/library/341e23b7-3e3c-4797-9ed5-ec048442ad98?p=1&n=10&sort=modified_DESC.

iii. Articles 5 (1) subparagraph 2 second sentence EECC and 40 BEREC regulation

With regard to indirect information requests of BEREC neither the EECC nor the BEREC Regulation limit the target audience as long as the information is needed for the fulfilment of BEREC's task according to Article 4 BEREC Regulation. However, with regard to direct information requests of BEREC Article 40(4) BEREC Regulation does only mention "*relevant undertakings providing electronic communications networks, services and associated facilities*" which excludes information "*inquired from other relevant undertakings active in the electronic communications or closely related sectors*" as mentioned in Article 20(1) subparagraph 2 EECC.

3 NRAs' needs to collect data from NI-ICS and other OTT-services

In 2016, BEREC assessed the potential to conduct a European benchmarking of OTT indicators. The conclusion of that research was that:

- Most NRAs did not gather any statistical information on unmanaged OTT services. Those that gathered information mainly used end-user surveys as a source.
- The majority of NRAs had no legal basis or very limited legal capacities to request information from providers of unmanaged OTT services.
- At NRA level, there was almost no experience in collecting data on unmanaged OTT services from providers.

On the other hand, however, the research also showed that 27 NRAs stated European benchmarks of unmanaged OTT services were needed to fulfil their duties, particularly regarding services with functionalities similar to electronic communication services, such as unmanaged VoIP and instant messaging.

Moreover, BEREC identified the need for the ECN/S Framework review to address the absence of legal competences for NRAs to seek information from providers of OTT services. In some cases, there was a short-term need for evidence in order to inform national regulatory decisions. A lack of legal competence to gather information on NI-ICS and other OTT services impeded the assessment of the impact of OTT services

on traditional ECS services, which is information necessary to improve the comprehensiveness and robustness of market analysis.

As mentioned, with the EECC in force, the legal basis for some data collection is set and NRAs will be able to gather information about NI-ICS and other OTT services (please refer to Chapter 2 for more detailed background information on the legal rights to collect data) starting from 21 December 2020⁵. Since some of the major OTT services are usually offered across borders by companies that operate in several Member States, an aligned approach on OTT data collection seems crucial, in order to help NRAs and streamline the provision of data. Moreover, an aligned approach will also allow international comparisons, promoting the consistent application of regulatory obligations across Europe.

In the spring of 2019 BEREC launched a questionnaire to survey NRAs' OTT-related information needs and the data that has already been gathered by some NRAs. This section provides a summary of the responses provided by NRAs to the BEREC questionnaire.

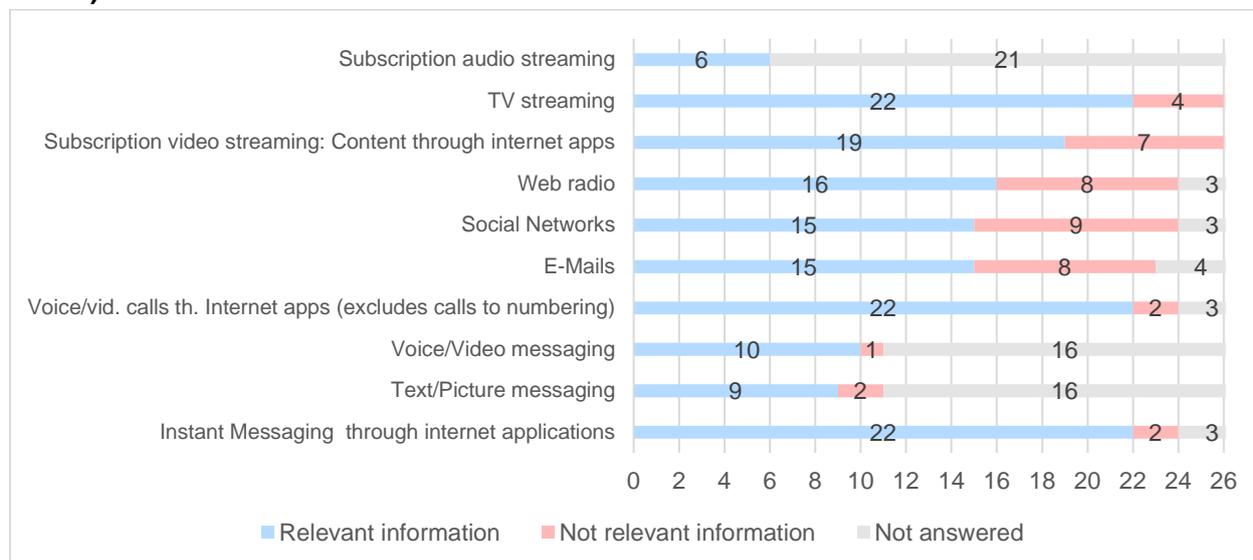
3.1 Which services?

In the questionnaire issued by BEREC in the spring of 2019, NRAs were asked their needs for data collection on different services. 27 NRAs responded to these questions.

Figures 1 and 2 below provide summary information about those NRA responses. Figure 1 provides the counts of NRAs answers (where the information needs are classified as non-relevant, relevant and not answered). Figure 2 provides the average ranking of importance of each service, where 1 implied very important and 7 less important. Figure 2 shows that 22 NRAs consider Instant Messaging (comprising of Text/Picture-Messaging and Voice/Video-Messaging) and Internet-telephony (comprising of Voice- and Video-Calls) as very important services to collect data upon (both with average rankings of 1.8). In the second place, TV Streaming and Subscription Video Streaming were mentioned as relevant by 22 and 19 NRAs, and also achieve high rankings (3.5 and 3.4 respectively).

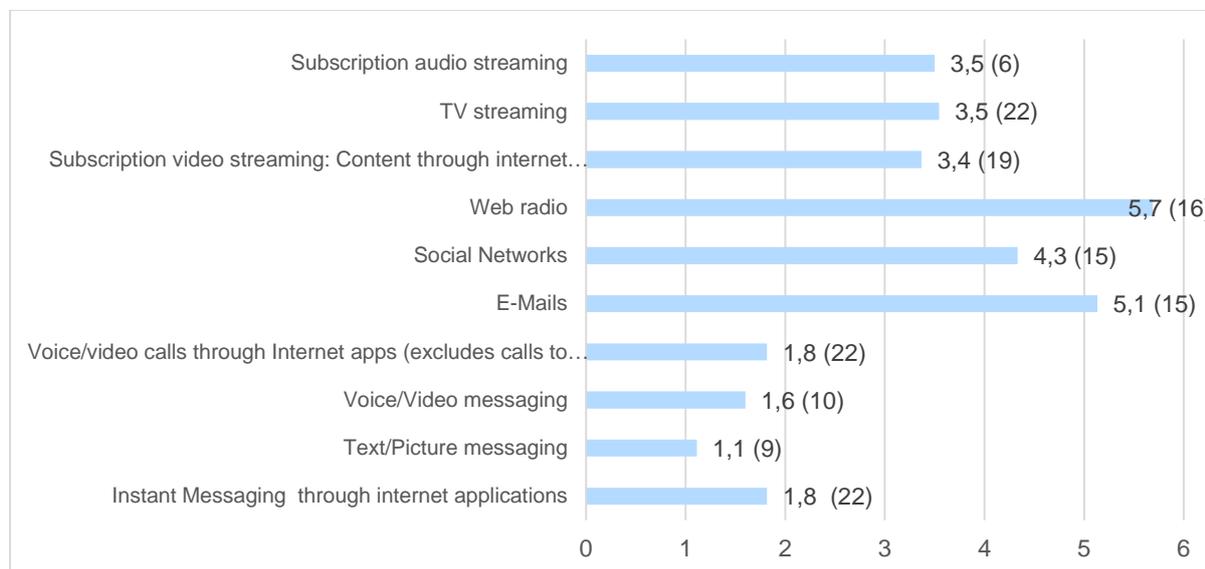
⁵ The EECC also provides the legal basis to issue proportionate and justified requests for information regarding OTT services which are not Interpersonal Communication Services.

Figure 1 - Different services relevance of information according to NRAs (number of NRAs)



Source: BEREC questionnaire.

Figure 2 - Average ranking of importance and number of NRAs that consider services relevant (1-very relevant to 7-less relevant)⁶.



Source: BEREC questionnaire

⁶ Note: In brackets, the number of NRAs that ranked the relevance of services.

Generally speaking, the main reasons stated by NRAs for OTT data collection, were the necessity of information to complete several market analyses, e. g. for market observation, for defining relevant markets or for assessing the impact on traditional communication services. Additionally, some NRAs suggest to use information to safeguard the level playing field and to examine the substitution of ECS by NI-ICS. Further uses of data could be for the understanding of the market (differentiated pricing, the evaluation of the need for broadband, the assurance of consumer and data protection).

Some NRAs are interested in market analysis in cases of tying or bundling of services or products of an OTT-provider (e.g. a video streaming service) with a certain internet service provider. Information from OTT-providers directly on which services and products are tied or bundled with one of their service can therefore be helpful in market analysis. Ideally NRAs are equipped with a comprehensive list of all bundled or tied offerings with OTT-services. Tied or bundled services and products could be for example devices, operating systems or content provider services.

Finally, thirteen NRAs stated that they gather information about NI-ICS and other OTT Services via consumer-surveys; but only two NRAs collect data about OTTs from ECS-Providers. The main reasons for the consumer-surveys were again for market-analysis/monitoring and for the assessment of the impact of OTT services on ECS, especially to assess the potential substitution of ECS by NI-ICS.

3.2 Which indicators?

According to the BEREC questionnaire, for all of the services mentioned in the previous subsection, the responding NRAs expressed a need to gather information on the number of active users and volumes of usage mainly, followed by information about revenues and fees. For example, for instant messaging and internet/video-telephony, the most important ranked indicators were penetration and usage information, followed by revenue related information, such as costs/prices to consumers and other (unspecified) substitutability indicators. A similar ranking applies also for all the other OTT-services i.e. streaming services (for audio and video, respectively), web radio, e-mail and Social Networks.

Table 2 - Average ranking of importance and number of NRAs that consider the different indicators relevant (1-very relevant to 7-less relevant) regarding Instant Messaging and Voice over the Internet.

		Penetration	Usage	Types of online supplier/platform	Cost/prices to consumers (if any)	Other indicators regarding Substitutability OTT/traditional services	Consumer protection information	Whether services are paid/free of charge
Instant messaging	Number of NRAs	22	22	19	19	15	17	21
	Average ranking	1,2	1,9	4,5	3,8	4,2	5,3	4,6
Voice over internet (excluding calls to numbering)	Number of NRAs	22	22	20	20	16	18	21
	Average ranking	1,2	1,8	4,6	3,9	4,1	5,2	4,7

Source: BEREC questionnaire

A few NRAs also included a mention to indicators about interoperability and portability. Information on how portability and interoperability affect competition could include e.g. the degree, to which the consumer is able to port data of one service (for example the friends list of a communication app or the movies you liked on a streaming service platform) to another service provider.

In conclusion, the most relevant indicators to collect from OTT providers are penetration and number of active users of digital services. These could be measured as monthly active users (MAU), where an 'active user' can, for example, be defined as the user who has used the service at least once in the respective time period. Other possible indicators for penetration could be the number of registered users for a certain service or the number of downloads of a certain app in various App-Stores. For services, such as Subscription Video Streaming it may also be possible to collect data on the number of subscriptions per unit of time or at a specific point in time.

Usage volumes are also key to NRAs. For example, indicators for the volume of usage could be the number of messages sent, voice traffic (minutes), voice traffic into the publicly available telephone services (minutes), internet traffic generated by the service per user and month (Megabyte) or average time spent in the app per user and day (minutes). The session interval, the time between two consecutive sessions of an app (minutes) shows the frequency at which user opens and uses the app. The session length measures the time between opening and closing of an app (minutes).

For video streaming services usage indicators could be focused on measurements of number of streams by period of time.

Moreover, indicators for revenue could be total revenue or revenue split by origin, for example revenue from (targeted) advertisements or revenues from users in form of different fees as pointed out by some NRAs. Another common indicator for revenues of digital services is the average revenue per user (ARPU) which gives the average revenue generated by one customer over a period of time, generally a month. Regarding fees for consumers, we can distinguish different kinds of fees. Information on the (App-Store) purchasing price, the subscription fee, the fee to remove advertisements, the attention the users pay to advertisements and the prices of In-App-purchases could be relevant indicators.

Finally, it should be noted that even though this report concentrates on the indicators which have been identified as the most relevant for many NRAs and which will be subject to harmonization. However, in the future some NRAs might have to collect other typologies of information that might be needed to fulfil their regulatory tasks.

4 Challenges of OTT data collection and experiences by NRAs

Regarding the questions set out in the questionnaire on potential and experienced difficulties during the collection of information, the answers of NRAs can be separated in two categories: (i) organizational issues and (ii) technical issues, whereas the organizational issues seem to be more challenging.

(i) Organizational and legal challenges

The organizational difficulties mainly appear to be of legal nature. Until now, NRAs mainly used consumer surveys to assess the OTT market. Thus, the OTT companies involved are not asked to provide their own data and the results of the consumer surveys gave only an approximation of the market trends. When the EECC enters into force, it would be a question of gathering the information directly from the companies concerned.

Besides data protection concerns other very important aspects relate to the legal basis in addressing OTT-providers, especially NI-ICS-providers, need to be clarified. First, at the beginning of the application of the EECC, there may be some uncertainties on which services fall under the new definition of NI-ICS. NRAs need to identify legally involved NI-ICS-providers. Second, providers of OTTs could be located in other

countries than the NRAs', even outside of the European Union. This could make it more complicated to identify and get in contact with these OTT-Providers.

(ii) Technical challenges

The metrics used for market monitoring of traditional telecommunication services are often not applicable for internet-based applications. For example, penetration indicators may be misleading when based only on the number of App-downloads or registered users, since these services allow multi-homing and maybe even multiple accounts per users. Additionally, users' behaviour regarding activeness or passiveness should be considered. On the one hand, those specificities are caused by the very nature of internet-based applications, for example in terms of separation of network and service, which would lead to more competition ("innovation without permission"). Moreover, the growing number of functionalities within a single OTT-service might be an issue for the separation of purely communication services and annex activities. For example, communication services may also not only provide group chats and profile pictures, but also payment services, a social network, a search engine and a media platform. This bundling of services (might pose new challenges in separating indicators usage and revenue by their service).

On the other hand, decentralization and geographical independence makes it harder to determine membership and usage for application providers and for regulators as well, i.e. to determine the residence of a user and the place where services are consumed. It is therefore compulsory to introduce metrics and key statistical indicators to be able to generate a comprehensive picture of communications service markets.

Some of the technical issues mentioned by NRAs reflect the ideas in the previous paragraph: the difficulty to distinguish between active or passive usage of NI-ICS; the difficulties in the determination of the residence of a user and the location where services are consumed; the possibility of multiple accounts per user which poses a question on how to measure the number of users, and also, the large number of providers of some of these services, which may make difficult an exhaustive data collection. This is especially concerning in the case of television streaming services.

Furthermore, since one of the main goals of the data collection is to enable a comparison between OTT services and ECS, it is necessary to use comparable measures between the two types of providers. In the case of voice communication services, for example, it would be difficult to compare the volumes of data consumed (measured in megabytes, for example) with the metrics used by conventional operators (measured in time units).

The frequency of data collection and the anticipation of data requests by providers are also elements to be taken into consideration in any future data collection. Indeed, some OTT providers may not store their data long enough to be able to provide them

when requested if data requests are not sufficiently anticipated. Also, in some circumstances, for example for NI-ICS services, the need to understand market dynamics may entail a high frequency of data requests.

4.1 Interviews with OTT providers

In order to discuss some of these difficulties, during October 2019 BEREC held one to one interviews with four major NI-ICS providers and, also, two major providers of online audiovisual content services. The aim of those interviews was to provide for a first point of contact with some industry members in order to gather their views on any prospective data requests and second to identify the difficulties that these data requests may pose on the providers of information. These preliminary interviews anticipate the work that BEREC will undertake in 2020, where an open workshop is planned so that all the agents can be consulted on those issues. Annex 1 includes the topics discussed in those interviews.

When questioned about their views on the legal background of OTT data collection under the EECC, all OTT providers interviewed agree that they need to cope with the EECC and thus provide the data for NRAs needs (provided the requests are reasonable and proportional).

All the OTT providers interviewed welcomed the idea of a harmonized BEREC approach across different Member States recognising the benefits of common definitions and metrics. Having said this, most providers mentioned that in the future, once specific data requests were issued by NRAs, they would respond to those in so far they understood that they would be bound to comply⁷ and, additionally, in so far these requests were proportionate and well-reasoned. In this sense, they expressed a need for any data requests to be clear and well-argued. Moreover, many providers were concerned with the confidentiality of the data that would be provided to Authorities, as typically they do not publish the relevant indicators and they consider those to be a business secret.

With regard to the indicators internally monitored by OTT providers, an important finding is that they do not seem to be the same from one company to another. In some cases, these may also vary from one service to another within one provider. It therefore appears necessary to work with the relevant stakeholders to determine a list of harmonized indicators that could be aggregated on a national scale. Such

⁷ Several NI-ICS providers were at the stage of assessing the EECC and building towards their vision on which of their services would need to comply with its different articles.

harmonization involves laying down the appropriate definitions of relevant indicators such as "active users", country of residence of a user" and "country where a service is consumed".

Different services have different specificities so it remains a challenge to find a common ground of understanding of these concepts. For example, some NI-ICS providers perform (internal) monitoring of some of these indicators and have their own definitions, which may differ from one to another. On the other hand, some NI-ICS providers do not monitor or collect some data, for example, the origination of an Internet call may not be monitored, and companies may only be able to do if the end user has provided the company with the legal right to find out its geographical location when performing the call, which is not always the case.

5 “Preliminary list” of indicators

First, as stated by many NRAs in responding to the BEREC questionnaire, some information on the number of users and usage of NI-ICS and other OTT services is important in the analysis of several electronic communication network and service markets.

In particular, the competitive pressure that NI-ICS services may pose on NB-ICS is relevant in the retail analysis of voice related markets such as the markets for call termination and for call origination. Internet messaging and telephony services can create an indirect competition effect on retail NB-ICS and affect the size of call termination and origination markets. These effects should be taken into consideration in the discussion on the need and means to regulate related voice wholesale markets. In the long run, number-based voice calls and number-based internet telephony services might be indistinguishable from the point of view of the end user, given the ease of the development of applications offering such services for the mobile networks, due to the characteristics of the operating systems that the mobile networks support. Second, the need of data on TV Streaming and Subscription Video Streaming arises in the context of analysing market 18 in the 2003 Market Recommendation⁸. A discerning element in the decision to regulate these wholesale broadcasting markets is the degree of direct or indirect competition in downstream markets with alternative sources of supply.

Moreover, in some Member States, the bundling of content services (commonly known as “pay-tv”) and electronic communication services is pervasive and a key element in

⁸ According to Cullen (September 2019), the market for broadcasting transmission systems is regulated in 11 European member states.

the differentiation of electronic communication service providers' offers driving the demand of electronic communication services, especially fixed broadband. In those circumstances, NRAs may be interested in understanding how the supply of the online content offerings may discipline the prices of bundles offered by operators, which include content and broadband services⁹.

BEREC and NRAs may also need to collect specific information (such as data traffic related indicators) for other purposes such as the monitoring of the network load. There is also a need to understand how different services generate data traffic and impact the development of network and broadband services.

Finally, it is also necessary to point out that BEREC may also be in need of data to deliver on some of its functions as described in Article 4 of the BEREC regulation. In particular, this refers to BEREC's role in assisting and advising the EC upon request in preparing legislative proposals in the field of electronic communications (Art 4b, BEREC regulation), and also in the issuing of opinions referred to Article 4c, BEREC regulation.

Having considered all of this, BEREC foresees a need to collect data for OTT services, for example the following indicators (by Member State):

a) For NI-ICS, voice communication (aggregated at Member State level):

- User-related indicators such as:
 - Number of registered users (end of period)
 - Number of active users¹⁰ (end of period)
 - Average number of calls per user (in the last month)
- Volume-based indicators such as:
 - Number of calls originated in the MS (total of period)
 - Number of calls originated in the MS with a destination on an NB-ICS (total of period)
 - Number of minutes of calls originated in the MS (total of period)
 - Number of minutes of calls originated in the MS with a destination on an NB-ICS (total of period)
- Data traffic related indicators
- Revenue related indicators

b) For NI-ICS, instant messaging (aggregated at Member State level):

⁹ There are other goods and services which can be bundled with electronic communication services such as operating systems or devices.

¹⁰ Please note that the definition of an active user is not available.

- User-related indicators such as:
 - Number of registered users (end of period)
 - Number of active users (end of period)
 - Average number of messages per user (in the last month)
 - Volume-based indicators such as the number of instant messages originated in the MS (total of the period)
 - Revenue related indicators
 - Data traffic related indicators
- c) For TV streaming (aggregated at Member State level)
- User-related indicators such as:
 - Number of registered users (end of period)
 - Average number of streams per user in a week (averaging weeks in the period)
 - Volume-based indicators such as:
 - Number of streams (total of the period)
 -
 - Revenue related indicators
 - Data traffic related indicators
- d) For subscription streaming services (information aggregated at Member State level)
- User-related indicators such as:
 - Number of subscribers in the MS (end of period)
 - Number of subscribers in the MS by subscription type (end of period)
 - Average number of streams per user in a week (in the period)
 - Revenue related indicators
 - Data traffic related indicators

It should be noted that this list of indicators reflects the needs that BEREC can anticipate at this stage¹¹ but that in order to provide a definitive list of indicators, the industry needs to be consulted thoroughly as to enable BEREC to make a judgement on what is a proportionate request and understand the costs of provision of

¹¹ It should be noted as well that the needs for information may vary with time.

information. Moreover, it is necessary to engage in an industry wide discussion as to define the precise metrics of the aforementioned.

6 Conclusions and plan for further action

OTT services are of great value to consumers and businesses, but could on the other hand have an increasing competitive impact in the rapidly evolving electronic communications market. However, their impact has never been broadly quantified due to the absence of legal competences for NRAs to request information from providers of OTT services under the previous ECN/ECS Framework.

As noted, at the end of 2018, the EECC included a new, broader, definition of electronic communication services giving the NRAs legal power needed to collect data from NI-ICS providers. Moreover, it provided the legal basis to request data from services which are not electronic communication services or networks, insofar these requests are substantiated and proportionate.

BEREC has identified through NRAs the relevant services and indicators to collect from different OTT providers. NRAs consider instant messaging (comprising of text/picture-Messaging and voice/video-Messaging) and internet-telephony (comprising of voice- and video-Calls) as very important services to collect data upon and, in the second place, TV streaming and subscription video streaming. The most important indicators mentioned by NRAs were penetration and number of active users of digital services.

Considering the relevance of these services and indicators to collect, the report includes a list of possible indicators to request from the OTT providers, under the new Framework. The “preliminary list” shall be considered as a first approach that would satisfy NRAs’ needs. However, an updated definitive list with precise definitions and metrics shall be discussed with the agents in the sector to reflect on the provider’s capabilities to provide information and also to enable BEREC to make a judgement on what is a proportionate request. Moreover, it is necessary to engage in an industry wide discussion as to define the precise metrics and definitions of the indicators.

6.1 Plans for further action

As mentioned before, in order to provide a definitive list of indicators with precise definitions and metrics, BEREC would need to consult with the agents in the sector, so as to find outcomes that would satisfy the aforementioned needs but also consider the provider's capabilities to provide information. In order to do this BEREC will follow the following plan in 2020:

Phase 1: Delivery of a questionnaire to different providers to assess their capability to provide information by assessing the information they collect, the definitions and methods providers use to collect this information and other related issues.

Phase 2: Elaboration of draft definitions and templates taking into consideration the phase 1 questionnaire results

Phase 3: Workshop to discuss draft definitions and templates provided in anticipation to the workshop.

Following the work in 2020, BEREC should in 2021 consider providing Guidelines on the collection of data from OTT service providers, which shall include a list of indicators and their data definitions, obligations for providers to provide data, establishment of common resources to identify the contacts points of NI-ICS providers and other OTT service providers, an assessment of confidentiality issues and any other related issues.

Moreover, BEREC will also separately work around the definition of NI-ICS services according to Article 2 EECC and also on Article 20 in relation to the NRA powers to request information from providers that have no establishment in the Member State where they offer services, or even in Europe.

Annex 1

1. Legal rights to collect data/ understanding of Article 20 and 21 EECC

2. Type and scope of data to gather.

3. Legal/practical obstacles in collecting/sharing data

What would be the practical obstacles you would face if requested this data? Which kinds of data do you collect and use for internal purposes?

4. Difficulties in identifying the consumer

For voice markets, what would be a good definition of an end-user?

How difficult is it to assess the country where the user is located?

How difficult is it to distinguish voice traffics from other traffics?

How difficult is it to know in which country a call or an instant message is originated?

For subscription services: How difficult is it to assess the number of users as opposed to the number of subscribers?

5. Confidentiality Issues

Would you consider part or all of this information confidential? Why?

6. Tools to deliver data

Do you have any preference on how to deliver this data?

7. Frequency of data gathering.

How frequent could the data gathering be?

8. AOB