

Report on number-independent interpersonal communication services (NI-ICS) revenue indicators



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Table of Contents

1	Introduction.....	3
2	Revenue - categorisation and metrics	4
	2.1. The importance of revenue-metrics in NRAs' activities	5
	2.2. NI-ICS providers' revenue typology	6
	2.3. Summary of the workshop held with NI-ICS and NB-ICS providers	11
	2.4. Considerations on NI-ICS revenue metrics	12
3	The need for a common contact information point of NI-ICS providers	15
	3.1. The role of BEREC.....	16
	3.2. Legal scope/possibilities to create a NI-ICS providers contact list	17
4	Conclusions	18
5	Annex: Documentation shared with stakeholders in anticipation of the 29th of June workshop	20
	Workshop Annex 1 – PRELIMINARY ASSESSMENT ON THE NEED OF REVENUE INFORMATION FROM THE NI-ICS PROVIDERS	20
	Workshop Annex 2 - PRELIMINARY TAXONOMY FOR NI-ICS PROVIDERS' REVENUES	22



1 Introduction

In the last years, BEREC has been studying number-independent interpersonal communications services (NI-ICS) providers' activities and investigating possible metrics that may be useful to NRAs to enforce and contribute to a consistent application of the European Electronic Communication Code (EECC)¹ provisions. In its "Report on harmonised definitions for indicators regarding over-the-top services, relevant to the electronic communications markets"², BEREC made available a series of definitions for NI-ICS indicators related to users (registered/active) and usage. These indicators were deemed central to NRAs' activities, in particular to assess the degree of competition between NI-ICS and number-based interpersonal communications services (NB-ICS) and among the different NI-ICS.

In 2022, BEREC has issued a short questionnaire to find out which NRAs have started or have plans to start collecting data regarding NI-ICS. 28 NRAs responded to this questionnaire. All but 5 expressed that they have no such plans in 2022. One had already issued a questionnaire and obtained responses from NI-ICS providers. The remaining 4 NRAs had started discussing such questionnaires, and two of them had publicly consulted on a draft. These 4 NRAs are expecting to send out a questionnaire for data collection as of end of 2022/beginning of 2023.

The BEREC questionnaire results confirm that the statistical work on NI-ICS is in its infancy and still to be developed. Plausibly, this will happen at different speeds in European countries depending on the national regulatory priorities and the consequent need for information. BEREC's task regarding the NI-ICS indicators is to accompany NRAs throughout these new processes and to ensure that the experience in defining indicators and collecting data is shared among countries, so that all NRAs can benefit from it. Indeed, the 2021 report concluded that "*BEREC will continue to evaluate the list of common indicators and (...) reflect on the learning and experience of the NRAs which collect data and will engage to put the accumulated knowledge at the use of the regulatory practice, to the ultimate benefit of end-users and citizens.*" In this light, during 2022, BEREC has looked into the possibilities to deliver on revenue metrics, a matter which could not be concluded upon in 2021 and has also separately reflected upon the possible means that BEREC has to support NRAs' data requests and activities regarding the NI-ICS providers.

First, as mentioned, the 2021 report drew no conclusions regarding concrete revenue metrics, despite the interest of several NRAs and some stakeholders. Adequate metrics reflecting the NI-ICS revenues were deemed difficult to determine, since further work to better understand the business models of the NI-ICS providers and their sources of revenues, taking due account of their variety, was needed. Thus, despite the recognized difficulties in developing on the NI-ICS providers' business models, as well as the incipient stage of the data collection in general,

¹ Directive (EU) 2018/1972

² See BoR (21) 127 –

https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/10041-berec-report-on-harmonised-definitions-for-indicators-regarding-over-the-top-services-relevant-to-electronic-communications-markets

the first aim of this report is to reflect on possible revenue indicators which relate to the NI-ICS³ and examine why they may be relevant to the electronic communications sector.

Secondly, BEREC has examined how it could (further) support the data request activities of NRAs, following its commitment to evaluate the practical difficulties anticipated in data collection processes and considering if there is any way to alleviate the burden of this task.

During the past years, BEREC has learnt that, for several NRAs, it is difficult to find appropriate contacts of NI-ICS providers due to two main reasons. Firstly, NI-ICS providers are not established in every country where they have users. Secondly, in accordance with the EECC, the provision of NI-ICS cannot be subject to a general authorisation, and consequently providers of NI-ICS cannot be subject to the notification requirement which may be imposed by Member States on undertakings subject to a general authorisation (unless these providers would also be supplying other electronic communications networks and/or services which are not categorised as NI-ICS). Therefore, this report provides a preliminary investigation of the possibilities that BEREC may have to establish and maintain a list of contact details of NI-ICS providers which could be consulted by NRAs to meet their regulatory objectives under the EECC.

Finally, in its response to the 2021 public consultation leading to the publication of BoR (21) 127, one stakeholder representing a number of NI-ICS providers suggested BEREC to introduce a more centralised and streamlined process for NI-ICS to engage and disclose information to NRAs, in order not to expose NI-ICS to potentially 27 different approaches in terms of data collection. The possibility to enable a single contact point with public authorities and BEREC in order to procure contact details is a way to reduce the administrative burden and streamline the processes.

2 Revenue - categorisation and metrics

The compensation a provider gets in exchange of the provision of a service can encompass monetary and non-monetary values and revenues. While monetary revenues can in general be quantified at least on an aggregate level, the attribution of such monetary revenues to particular services presents a challenge. Traditional, linear business models monetise the provision of the service itself (see revenue category 1a below). However, today, many services supplied over the internet are increasingly offered as zero-priced services to users⁴ and revenue is earned from other sources (mainly businesses) and from other platform services. At an aggregate level, these revenues add up to the total income of the service provider.

³ This report considers messaging/telephony applications and video-conference applications, but not email services.

⁴ BEREC hereafter uses the definition of “users” and “end-users” included in Article 2 of the EECC.



The economic value of a service, on the other hand, can encompass not only these revenues but intangible values, for example, the contribution to lock-in effects or demand synergies of the service (with monetised services). Additionally, the value of a service can include expectations of future income streams. In that case, the economic value may lie in the success of a service, which serves as basis for the implementation of new, additional services. Finally, another type of intangible value is the value of contextual (personal) user data which can, for example, be used for targeting advertising or personalisation of services towards users. The added value of this personalisation as such, versus a situation without personalisation, is difficult to quantify.

The following sections discuss the importance of revenue-metrics in NRAs' activities, business schemes of NI-ICS providers, a possible revenue categorisation and finalise with concluding considerations on the revenue metrics.

2.1. The importance of revenue-metrics in NRAs' activities

NRAs are in charge of implementing *ex ante* market regulation, the resolution of disputes, addressing non-discrimination obligations and may also be responsible to decide on the funding of universal service, among others. For all these tasks, NRAs need revenue-related information at their disposal in the framework of their ongoing supervision of the markets. Insights on a variety of indicators (revenue-related and others) and their evolution can help NRAs in anticipating to potential problems.

More precisely, it is recognized that revenue metrics and their evolution are:

- 1) indispensable to understand the performance of the electronic communications sector and how it is affected by differences in regulatory regimes, policy or market facts;
- 2) important to detect emerging regulatory issues and/or evaluate the outcome of regulatory/policy decisions at various levels;
- 3) in particular, they are a key indicator to understand competition dynamics and impose/withdraw regulation on operators and service providers;
- 4) a relevant signal to investors which limits/boosts the capacity of companies to invest and an element of consideration in the promotion of the European connectivity targets;
- 5) a meaningful element in the consideration of who should fund and by how much (for example, in the case of USO), where services are publicly subsidized and funded by "sectorial taxes/contributions".

The anticipation of emerging regulatory issues and the need to effectively implement existing rules and regulations is at the core of the NRAs' activities and can only be achieved based on solid and regular information regarding market dynamics⁵.

⁵ This is recognized in BoR (21) 85 as well, which states that: "*The constant surveillance of the sector developments by the NRAs is a basic tool to measure the effectiveness of the rules and detect emerging regulatory issues and,*



As far as the NI-ICS providers are concerned, for the reasons mentioned above, BEREC emphasizes the importance of determining and collecting relevant revenue-related metrics, as well as to better understand the rapid evolution of the markets in which these providers operate. These insights are needed as a basis to determine an adequate regulatory approach. To that end, the primary objective of establishing proper revenue-based metrics for NI-ICS providers is to ensure that NRAs would be able to fulfil the duties for which revenue information is required. Therefore, BEREC believes that in many cases revenue generated by the provision of NI-ICS would need to be collected by NRAs. Currently, the reporting of revenue information mainly concerns (traditional) telecommunications undertakings, which provide similar functionalities to NI-ICS, while both are part of the electronic communications services markets, and, therefore, subject to some common obligations, i.e.: market revision in terms of *ex ante* regulation, non-discrimination of end-users, including business users etc.

Besides the individual role that NRAs play in the fulfilment of their obligations provided in the EECC, the revenue data from NI-ICS (along with the revenue data from NB-ICS) can also be useful for BEREC, which has an important role to aid in implementing the EECC's objectives in the following activities: the resolution of cross-border disputes, the insurance of end-to-end connectivity, the identification of transnational markets and demand, and the specific review procedure on end-user rights, for most of which the revenue data can be put to use.

In addition, BEREC's opinion is sought on certain regulations, such as roaming and intra-EU communications, for which NI-ICS information would be very relevant. Indeed, NI-ICS, as major challengers for the so-called traditional telecommunication services, are often not subject to the existing market regulation concerning for instance retail price regulation for roaming and intra-EU communications⁶ imposed at the EU level, established only for the telecommunications operators. However, the collection of remuneration and usage data regarding NI-ICS is relevant in the role of assessing the functioning of present regulations, as well as those that may be introduced in the future.

2.2. NI-ICS providers' revenue typology

Most of the NI-ICS play an important role in the business models of providers of platform-based ecosystems⁷. In this regard, we can generally distinguish two types of models: (1) a NI-ICS that is part of a larger ecosystem with independent services, where some services may be cross-subsidizing others (e.g., a messaging app within a social network platform or a video call app that is part of an operating system) or (2) a platform that is built upon a NI-ICS (e.g.,

ultimately, serves for research leading to suggestions aimed at improving the regulatory framework. Through appeals, the courts review whether the rules have been correctly enforced.

These tasks imply a correlative obligation on all ECS providers, including NI-ICS, to supply all the relevant information needed to NRAs, BEREC and competent authorities to enable them to carry out their duties including the monitoring of the evolution of the services".

⁶ These communications are precisely some of the ones most affected by the competition from NI-ICS – for instance, the availability of NI-ICS services has been quoted as a reason not to regulate those prices.

⁷ Section 5 in BoR (22) 87, "Draft BEREC Report on the Internet Ecosystem" describes the business models of several of these platforms.



a messaging app that combines core communication services with e-commerce, payment, gaming, digital content, etc.).

Besides, there is a third type of NI-ICS provider that supplies communication services as its core business, which is not part of a platform-based ecosystem and/or has not built its own platform with services other than communication services.

At the same time, note needs to be taken that the importance of the NI-ICS as such, in terms of demand substitutability with traditional communication services, is in principle not dependent on whether or not the NI-ICS is offered on a standalone basis. However, in cases where the NI-ICS is provided as the core activity, the overall revenues of such a NI-ICS could be a good proxy for NRAs to estimate the monetary revenue (and the monetary revenue per user) that is generated by such communications services.

Nevertheless, many NI-ICS providers deploy a multi-sided market model as their business model to provide monetary free-of-charge or paid services to users, while increasingly attracting more users and creating more interactions to reinforce network effects and generate revenues from other channels like advertising, transaction fees and other intermediation services. In this market model, the platform owner facilitates the direction of interaction between multiple groups, intermediating between private and business users⁸, content developers, service providers and advertisers, and designing a platform and platform dynamics which attract the different groups to the ecosystem.

Thus, the NI-ICS providers have adopted various ways to generate revenue and create value for their platforms. Subscription/usage models provided at no cost to users are often used as a complement to other online services, to expand their user base, increase the engagement of users, and ultimately convert free users to paying ones (e.g., subscriptions, digital content such as games and in-app purchases). On top of this, as the number of NI-ICS (and platform) users grows, platform owners may collect fees from third parties, for example advertisement fees or transaction and access fees from digital content sale, e-commerce, hotel bookings or other types of payments.

Lastly, the collection of (personal) data is an important aspect in creating value for the platform-based ecosystem. Data on user behaviour obtained from all the different user activities within the platform⁹ can provide insights to the platform owner for various markets wherein they operate — for example, in the advertisement or e-commerce markets.

⁸ For the purpose of this report, a business user will be understood as “any natural or legal person acting in a commercial or professional capacity, making use of an enhanced NI-ICS, offered by the NI-ICS provider for professional and/or business use”. See BoR (21)127 for further reference on this definition.

⁹ The information retrieved from the NI-ICS may allow the detection of the phone contacts of the user subject to specific consent, and also provides for a means to identify the users with a phone number quite generally. These kinds of information may prove relevant to the platform providers in order to recognise non-platform users and even be suggestive of some profiling of those which would otherwise be unavailable and also when the phone number

Recital (16) EECC recognises that the concept of remuneration of an electronic communication service is wide¹⁰, as services “*are often supplied to the end-user not only for money, but increasingly and in particular for the provision of personal data or other data.*” Therefore, BoR (21) 127¹¹ concluded that, in principle, an ample definition of revenues needs to be considered by regulatory authorities in the monitoring of markets and the assessment of market power.

In this section, BEREC proposes a general categorisation of the revenues of NI-ICS providers, which is considered useful in identifying the categories/types of revenues which may be associated with the NI-ICS.

The contribution of the NI-ICS to the economic value of the platform goes beyond its monetary revenue or accounting remuneration. An example of such non-monetary value is the role that NI-ICS may play in attracting new customers to the ecosystem and retaining existing customers (“lock-in effect”). This non-monetary or “intangible” contribution of the NI-ICS to the value of the entire ecosystem it belongs to is not considered in this section as a remuneration category since it can hardly be quantified and would not be reflected in any accounting statements of the companies.

The monetary/accounting revenue of the NI-ICS obviously also creates economic value for the ecosystem but may, in the end, not be the most important contributor to the platforms’ success and sustainability. For providers of NI-ICS that are offered on a stand-alone basis, the monetary revenue¹² is the only source of value.

So, finally, BEREC considers that several types of monetary revenues, as specified in the section hereunder, should be taken into consideration when assessing the need for revenue data for different regulatory functions. The key element to which the monetary revenues are allocated is a ‘**Revenue Generating Unit**’ (RGU).

An RGU represents a private or business user (either a natural or a legal person) entitled to make use of any service related to a NI-ICS on a regular basis, who generates direct recurring

is a means to link several pieces of information and (personal) data about a user which may be retrieved from different sources (search engines, web tracking, social networks, etc.).

¹⁰ “[...] *Electronic communications services are often supplied to the end-user not only for money, but increasingly and in particular for the provision of personal data or other data. The concept of remuneration should therefore encompass situations where the provider of a service requests and the end-user knowingly provides personal data within the meaning of Regulation (EU) 2016/679 or other data directly or indirectly to the provider. It should also encompass situations where the end-user allows access to information without actively supplying it, such as personal data, including the IP address, or other automatically generated information, such as information collected and transmitted by a cookie.*”

¹¹ Pg. 4 BoR (21) 127 – BEREC Report on harmonised definitions for indicators regarding over-the-top services, relevant to the electronic communications markets – https://www.berec.europa.eu/sites/default/files/files/document_register_store/2021/10/BoR_%2821%29_127_Report_on_OTT_services_indicators_clean.pdf

¹² Either by means of subscriptions or donations.

(e.g., monthly, yearly) and/or direct non-recurring revenue and/or indirect revenue (e.g., through in-app advertising, purchasing and so on) for the NI-ICS provider.

Revenue categorisation

Based on an analysis of the business and revenue models applied by a number of major global and regional NI-ICS providers, BEREC has identified the revenue categories associated with the provision of NI-ICS presented below. BEREC points out that:

- The NI-ICS providers do not necessarily generate revenue in all categories.
- The delineation between the revenue categories is not absolute. Overlaps between categories may occur.
- Although BEREC believes that the proposed list addresses most revenue types relevant to NI-ICS, it cannot be considered as exhaustive of the platform revenues. Some platform revenues would not be included in any of the categories listed below.
- BEREC is not aware of the providers' internal accounting principles and of the categorisation that they internally use to split/allocate their revenues. It is noteworthy that internal accounting principles give guidance on how revenue must be reported and would serve as a good basis for the revenue typology, yet BEREC has no insight on this. Publicly available information usually only provides information on aggregated figures.

The following is BEREC's proposed typology:

1. Revenue earned from the RGU

1.a. for their use of and/or right to use the NI-ICS

This category addresses recurrent subscription fees, one-time subscription fees, various ad-hoc payments (e.g., unsolicited donations) and revenue generated within the application (e.g., in app-purchases to extend/improve the features of the NI-ICS, an upgrade to the premium version or credits to use functionalities that are not included in the overall fee) that are directly related to the right to use or use of the communication service. While the business model of certain NI-ICS providers is based on the sales of hardware, or any device required to use the service, the corresponding revenues are not included in this category.

Another example of revenues included in this category are the revenues generated using the NI-ICS API¹³ for communication purposes (e.g., chat functions framed on business websites to guide customers to the product that fits them best, for technical support, to contact private users via the NI-ICS, etc.). In such cases, a business user is typically the contracting party for the service and pays the NI-ICS provider for the use of its API. Payments may be in the form of license fees, for example, where a fee

¹³ Application Programming Interface



is paid for each message a NI-ICS user sends to other NI-ICS users. Some examples would include Viber, Threema, Wire, Whatsapp Business, etc.

1.b. for the use of services (other than the communication services), but bundled with the communication services and embedded in the NI-ICS interface/app

This includes revenues accrued by transactions that are at least initiated in the NI-ICS interface/app and for which a payment takes place. For example, when payment systems are embedded in the interface (i.e., the information exchange regarding transactions is part of the NI-ICS functionalities) and are charged for, or when fees are levied for a specific intermediation done within the NI-ICS interface/app, for instance fees that are paid when reservations are made – restaurants, hotels, etc. Some relevant examples include Whatsapp Pay, the stickers purchased in the app, such as in the case of Viber and others. Revenues generated by the RGU for advertisements showed in the app would also be included in this category.

1.c. for the use of other services in the platform’s ecosystem, not embedded in the NI-ICS interface/app

This subcategory includes revenues earned from the users of the NI-ICS through services independent from the NI-ICS belonging to the same ecosystem. Examples include commissions on purchases in app stores, games, other applications supplied by the same provider of the NI-ICS, etc., while all of these are initiated by the RGU, but not in the NI-ICS interface.

2. Revenue earned from third parties

2.a. in relation to the use of the NI-ICS and other services that are embedded in the NI-ICS interface/app

This includes advertising shown directly in the NI-ICS interface/app, which is paid for by third parties. These third parties (companies) pay for the display of advertising, usually in terms of clicks or views, but sometimes only when the customer buys from that company. The examples are not exhaustive, as other means may be used to pay the NI-ICS providers.

2.b. in relation to the use of other services belonging to the same ecosystem, facilitated by the retrieval of users’ data gained while using the NI-ICS

This subcategory includes (additional) advertising revenue in relation to other services. The more comprehensive and precise the profiling of users becomes, the more targeted the advertisements can turn into and hence the higher the attached/corresponding value. Estimating the actual size of this revenue type is probably very difficult and it may, therefore, complicate obtaining reliable information.

And then finally, BEREC wishes to reiterate **the importance of the intangible contribution of the NI-ICS to the providers’ ecosystems in terms of “attraction and retention” value and/or “lock-in” effects.** It reflects demand synergies with other (monetised) services and



strategic considerations, such as the retention of users within the ecosystem and the consequent reduction of the churn out of the ecosystem. In the current report, BEREC does not aim to attach a monetary value to such economic value.

2.3. Summary of the workshop held with NI-ICS and NB-ICS providers

On the 29th of June 2022, BEREC organised a workshop to collect the views from stakeholders on BEREC's reflections about the relevance of NI-ICS revenue information, as well as its preliminary revenue categorisation¹⁴. Two documents were presented for debate¹⁵: Annex 1 – “Preliminary assessment on the need of revenue information from the NI-ICS providers” and Annex 2 – “Preliminary taxonomy for NI-ICS providers' revenues”. The first one contained the main reasoning and activities which revenue indicators are relevant for, while the second one was comprised of some thoughts on the potential delineation concerning relevant revenue metrics. In what follows, BEREC presents the main insights and views received from stakeholders.

It was commonly agreed that NRAs need data to carry out their functions. However, the invited speakers expressed somewhat different views regarding the need for NI-ICS metrics as far as revenues and BEREC's role are concerned. One stakeholder explained that the information should only be collected once specific needs were identified by NRAs and for ensuring compliance with the EECC and questioned the role of BEREC in anticipating NRAs' tasks. According to this speaker, BEREC should take into consideration that NI-ICS are subject to a lighter regulatory regime than the NB-ICS. Another stakeholder stressed the need to collect NI-ICS revenue data as there are core obligations affecting both NI-ICS and NB-ICS and, therefore, there should be no discrimination among services. These data are important to understand competition dynamics, specifically where regulations would need to assess the market situation taking into consideration the prevalence of NI-ICS competition.

Comments regarding NI-ICS revenues and the need for revenue information

- Many of the NI-ICS are offered for free to the users, therefore it is difficult to track the revenues for these services.
- In terms of Annex 1 (need for revenue data), the data on usage and subscribers might be more relevant information than revenues.
- However, according to the operators'/providers' views, there are particular instances where NI-ICS revenue data are important, both *ex ante* and *ex post*, for example, to assess the prevalence of NI-ICS competition in intra-EU communications and roaming context.

¹⁴<https://www.berec.europa.eu/en/events/berec-events-2022/workshop-regarding-berecs-report-on-ni-ics-indicators>

¹⁵ For an easier reference, these documents are copied as annexes to this report.



- The stakeholders reminded BEREC that revenue information is sensitive and should be subject to confidentiality obligations.

Comments regarding the revenue categorisation proposed by BEREC

- With regards to Annex 2, some stakeholders mentioned the implied complexity of the classification of revenues and that the efforts to place them under given categories might lead to uncertainty and inaccurate results. The interpretation of the categorisation may also not be harmonious.
- The revenue categorisation suggests a heavy implementation and seems non-proportional.
- A reporting obligation would be hurtful for small companies, even more if carried out per country.
- NRAs' experience in financial reporting and accounting obligations could be useful in placing a value to the revenues presented in Annex 2.

BEREC has been carefully considering the inputs of the providers expressed during the workshop and has tried to further clarify, as much as possible, its classification/typology concerning the revenue metrics of NI-ICS providers, as well as its intentions in this report. In terms of the typology proposed, a clearer split between the revenues earned from the RGU and from third parties has been introduced. Also, several insights into potential overlapping of the categories have been included, while the wording underlying the descriptions has been improved.

2.4. Considerations on NI-ICS revenue metrics

One of the main tasks of the NRAs, as described in this specific regulation since many years now, is to monitor the competitive environment and market developments with a view to intervene in cases where competition would be hindered, investments opportunities forfeited and end-users' rights not adequately guarded. NRAs have been conducting these activities on a regular basis as far as traditional electronic communications operators and providers are concerned. With the introduction of NI-ICS providers in the regulatory scope, these scrutiny activities will concern these providers as well, particularly the ones who may exert some competitive pressure on the traditional operators/providers.

The importance of NI-ICS revenue information for general market monitoring

For the purpose of general market monitoring and taking due account of the categorisation that BEREC is proposing in section 2.2. above, the overall revenues of NI-ICS providers (these are categories: 1.a., 1.b. and 2.a. and 2.b. described in section 2.2.) need to be taken into account. In other words, the data to be collected for this task would need to go beyond categories 1.a., 1.b. and 2.a., including also revenue from advertising (category 2.b.). The reason for this stems from the fact that the sectorial importance and performance of a NI-ICS can be proxied only with such overall revenues. This is also reflective of its capacity to generate returns on investments. At the same time, such data would reflect the relative size of a given NI-ICS provider compared to similar providers and/or to traditional telecom operators/providers.



Making use of such revenue-related considerations enables NRAs to do a comprehensive assessment of competition between providers of NI-ICS and the role of the communication service for the ecosystem of the provider. In many cases, factors affecting competition among NI-ICS (network effects, access to data, multi-homing patterns, consumer inertia, data portability and interoperability) interrelate with factors of competition regarding other services (in the ecosystem of the provider). Being aware of the NI-ICS providers' revenue can help in the assessment of these competition dynamics.

The importance of NI-ICS revenue information to assess competition dynamics in the electronic communication markets

Another important activity that NRAs need to undertake on a regular basis concerns the reviews of markets in the electronic communications sector susceptible to *ex ante* regulation. Despite the fact that the (fixed) telephony markets are currently widely unregulated and that the NI-ICS have typically not been regulated *ex ante* in Europe, overseeing these particular markets needs not be underestimated. On the one hand, national particularities/circumstances may still require their *ex ante* regulation. On the other hand, NRAs still need to keep track of the developments and the advances in interpersonal communications markets to safeguard their well-functioning and anticipate potential competition problems, therefore, the penetration rates and usage of services, as well as the revenues generated by NB-ICS and NI-ICS are necessary. BEREC sees as relevant for this task category 1.a. - the direct revenues which accrue from the provision of the communications services - and also potentially category 1.b. The reason for this is that those are the revenues that matter most for the consumers and, more generally, for the retail markets.

The importance of NI-ICS revenue information to assess end-user rights

At the same time, category 1.a. and 1.b. revenues are also seen as important in the context of safeguarding end-users' rights. Specifically, care needs to be taken of the fact that the tariffs of the services provided in the market need to be affordable and the end-users could choose from a wide array of services. In that context, revenues contribute to the calculation of ARPU, which can be compared among operators/providers and help NRAs draw some conclusion on the evolution and relative affordability of services.

Quite generally, in BEREC's view, the revenues accruing to NI-ICS providers from the direct provision of the interpersonal communications services (category 1.a.), as well as the others which accrue because of its use being embedded in the NI-ICS interface/app (part of category 1.b.) are the most relevant to inform end-user rights. However, this statement is without prejudice to the importance of the other revenue categories in the specific case or situation that may be examined by an NRA for its task at hand.

The importance of NI-ICS revenue information in the context of roaming and intra-EU calls



Today, NRAs collect roaming information and intra-EU calls information from NB-ICS based on the Roaming Regulation (EU) No. 612/2022 (“Roaming Regulation”)¹⁶ and the Telecom Single Market Regulation (EU) No. 2015/2120 (TSM Regulation)¹⁷, BEREC Regulation (EU) No. 2018/1971¹⁸ respectively. Besides information on the usage of voice, SMS and data services (total minutes called, number of SMS, GB transmitted with mobile data), retail and wholesale prices and revenues are also collected. The roaming services and the intra-EU communications are actually most exposed to competition from the NI-ICS and an exact quantification of this impact has not been established to date. BEREC notes that the revenue information from NI-ICS providers, along with the other specific usage metrics and subscription figures, would thus be informative in the field of roaming and intra-EU communications as well. The revenues that matter in this context would be category 1.a., as these earnings from RGUs are the ones directly connected to the communication service and could be compared with the retail prices for roaming services and intra-EU communications.

The importance of NI-ICS revenue information in the context of USO (Universal Service Obligations)

According to Article 84 EEC, the EU Member States are obliged to ensure that *“all consumers in their respective territories have access at an affordable price [...] to an available adequate broadband internet access service and voice communications service [...]”*. In this context, providers of NI-ICS may contribute financially to the net costs of universal service obligations according to Article 90 1. (b) EEC¹⁹. According to Article 90 EEC, *“The sharing mechanism shall respect the principles of transparency, least market distortion, non-discrimination and proportionality, in accordance with the principles set out in Part B of Annex VII. Member States may choose not to require contributions from undertakings the national turnover of which is less than a set limit”*.

In order to adequately meet these obligations, and to make appropriate decisions about who should contribute to the USO fund and to what extent, NRAs may need to collect revenue related information from providers, also since the EEC exempts certain providers that are below a certain national turnover from the funding scheme.

When the national design of the obligation to participate in such sharing mechanism includes NI-ICS, revenue categories 1.a., 1.b., 2.a. and 2.b. could be of interest and taken into account. However, note that the income base used for universal service may be different and reliant on other categories or concepts of revenues, rather than the ones listed before.

The importance of revenue information in *ex post* settings

¹⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R0612&qid=1666953627228&from=en>

¹⁷ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R2120&from=EN>

¹⁸ <https://eurlex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R1971&from=EN>

¹⁹ Depending also on the corresponding national provisions in place and their specific wording.

Finally, having pencilled a correlation between the proposed revenue categories and their main information purpose, BEREC notes that all the above-mentioned revenue categories may be relevant in an *ex post* setting, such as a dispute resolution or abuse of dominance investigation.

3 The need for a common contact information point of NI-ICS providers

Considering the fact that the electronic communication services definition covers nowadays also the interpersonal communications services which are provided independently from the numbering resources, as well as the fact that several obligations included in the EECC bear on these services, NRAs have been faced or will be faced with the need to contact NI-ICS providers in order to fulfil the tasks attributed to them by the EECC and related legal norms (i.e. to guarantee the corresponding rights and obligations).

In particular, pursuant to Articles 23, 24 and 103 of the EECC, NRAs may contact NI-ICS providers for consultation, transparency and publication of information. Also, the same need may be arising in relation to the measures for the consolidation of the internal market for electronic communications (Article 32 EECC), for access, interconnection and interoperability of services (Article 61 EECC), and for quality of services purposes related to the internet access service (IAS) and publicly available ICS (Article 104 EECC), among others.

However, several NRAs express that they find difficulties in this endeavour - on the one hand, to identify the NI-ICS providers that are active in their national territories and, on the other hand, to get in contact with those who were identified. The difficulty to reach NI-ICS providers stems from several aspects, the most poignant one being the fact that the NI-ICS are explicitly exempted from the general authorisation regime. This means that, under the EECC, NI-ICS providers do not need to notify to the relevant public administration when they start their activities in any given national territory²⁰, subject that they do not provide other electronic communications networks and/or services which are not categorised as NI-ICS. Moreover, since most (if not all) of them offer their services across borders, all over Europe and globally, in many cases NI-ICS providers typically do not have an office or a point of contact/presence at national level in every European state where they carry out their activities.

²⁰ In some countries, the General Authorization regime does not impose a notification obligation to any undertaking. In those countries, operators/providers are not required to notify themselves to the NRA when they (intend to) start their activities, thus there is no formal registry of ECS providers. At the same time, there are Member States where NI-ICS providers are required to communicate their contact details and activities to the 'Registry of Operators' on a voluntary basis (no sanctions are foreseen for NI-ICS not submitting their data), for census and statistical purposes for instance.

To that end, BEREC reflects in what follows on the possibilities to overcome this difficulty collectively, by looking at several options that BEREC, as an organisation, might have to put together a contacts' list for NI-ICS providers at a European level.

BEREC believes that a centralised list of NI-ICS providers' contact information that NRAs could resort to in order to fulfil their duties under the EECC would enable a more timely, efficacious and harmonised implementation of this Directive. The availability of such a centralised list of NI-ICS providers' contact information should be without prejudice to the individual NRA's assessment regarding the qualification of the services as such.

3.1. The role of BEREC

Considering the benefits of a common list of NI-ICS providers' contact information, it is somewhat natural to expect that BEREC and the BEREC Office (BO) would play a central role in this respect. Ultimately these are the institutions where NRAs meet and work together to pursue a common understanding and a harmonised delivery of national regulations and indeed, BEREC and NRAs share the same objectives (Article 3.2. of the EECC), to which the sharing of contact information would contribute.

From a legal standpoint, Article 3.2. of the BEREC/BO Regulation²¹ ("BEREC Regulation") states that "*BEREC shall aim to ensure the consistent implementation of the regulatory framework for electronic communications*" and Article 4.1(a) establishes the regulatory tasks of BEREC, which include cooperating with NRAs upon request or on BEREC's own initiative on any technical matter regarding electronic communications within its competence. Given this role, and since the contact list of NI-ICS providers at European level would be contributing to the implementation of the EECC, it seems reasonable that BEREC should be involved in its establishment and maintenance.

Moreover, several other legal references support the collaboration and sharing of information between NRAs and BEREC. Recital 85 of the EECC generally encourages the cooperation between institutions to ensure a consistent application of the EECC. Then, Recital 61 (information exchange among authorities) and Article 20 of the EECC (information request to undertakings) coupled with Articles 5 (b) and 40 (2) of the BEREC Regulation establish the legal basis for BEREC to collect and share information with NRAs.

On top of this, the involvement of BEREC would also bring across some positive aspects. First, by hosting such a contact list accessible to all NRAs, BEREC would be promoting a more harmonised implementation of the EECC that could foster a European debate and a consistent and continuous assessment of the qualification of certain services as NI-ICS. Thus, a potential BEREC action in that regard could lead to a diminished risk of fragmentation.

²¹ [Regulation \(EU\) 2018/1971 of the European Parliament and of the Council of 11 December 2018 establishing the Body of European Regulators for Electronic Communications \(BEREC\) and the Agency for Support for BEREC \(BEREC Office\), amending Regulation \(EU\) 2015/2120 and repealing Regulation \(EC\) No 1211/2009.](#)

Second, whilst holding such a list, BEREC could use it for its own tasks without the need to resort to other means. For instance, the EECC contains an explicit task for BEREC to periodically monitor the market and assess the technological developments (Article 123) in the view of safeguarding end-user rights. BEREC has already looked at these aspects in its document BoR (21) 177 “BEREC Opinion on the market and technological developments and on their impact on the application of rights of end-users in the EECC”²² where it states that consumers’ use of ECS is evolving over time with the prevalence of NI-ICS as a potential substitute for traditional ECS and that it is important to continue monitoring the market and technology trends because “*given the limited experience of the application of Title III of Part III and the dynamic nature of some of the market developments that have been identified, there is potential for significant change in this area*”.

3.2. Legal scope/possibilities to create a NI-ICS providers contact list

After a thorough analysis of the incidental legal provisions, mainly the EECC and the BEREC Regulation, BEREC has established that there would be two options through which the establishment of a list of contact points for NI-ICS providers at European level could be achieved.

One possible option, since it would be difficult for BEREC to enforce the reporting of data on providers because of the limits imposed by Article 40 (4) in the BEREC Regulation²³, is for BEREC to approach the NI-ICS providers and ask them to voluntarily share their contact details. This option is procedurally easy and does not encompass any specific legal basis as such, other than the protection of personal data²⁴. However, in BEREC’s view, the requests for contact information would need to be reasoned and BEREC would need to explain to the NI-ICS providers how they could benefit from the collaboration by making them aware of the advantages of the existence of a common contact list at BEREC level, mainly the reduction of administrative burden. Thus, this option would imply a direct relationship between BEREC Office/BEREC and the NI-ICS providers, with no NRA scrutiny. Under this option, BEREC would not profit from the information and experience that each NRA might have at national level and the NI-ICS providers may be reluctant to collaborate for various reasons, may not respond or only provide partial information.

BEREC has identified yet a second option, which implies that NRAs share any contact detail of the NI-ICS providers that they may have with the BEREC Office/BEREC, for the reuse of other NRAs to fulfil their duties in the EECC. For such an option to be workable, the legal basis

²² See <https://www.berec.europa.eu/en/document-categories/berec/opinions/berec-opinion-on-the-market-and-technological-developments-and-on-their-impact-on-the-application-of-rights-of-end-users-in-the-eecc>

²³ Article 40 (4) in the BEREC Regulation establishes that BEREC can only approach undertakings directly to inform the tasks under Article 4 of BEREC Regulation and when NRAs cannot provide the necessary information in a timely manner. This possibility has been previously assessed by BEREC in document BoR (21) 127, section 5, and it is not further detailed here.

²⁴ See [Regulation \(EU\) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC \(General Data Protection Regulation\)](#).



through which the data transfer from the NRAs to BEREC and vice versa can take place is necessary. Particularly, the sharing of information between NRAs and BEREC/BEREC Office is envisaged in Article 20 (and Recital 61) of the EECC. In the reverse direction, the sharing of information by the BEREC Office with the NRAs is provided for in Article 4, 5 (b) and 40 (2) of the BEREC Regulation.

A word of caution needs to be said with respect to all these legal provisions in the sense that they all need to be read in conjunction with the legislator's intentions and objectives, as well as taking due account of the specific tasks that NRAs are under the obligation to fulfil with that particular data sought from the NI-ICS providers.

In BEREC's view, the second option concerning NRAs gathering the contact details of NI-ICS providers and sharing it with BEREC has some net advantages, as the process for the preparation of the list of contacts will allow NRAs to spot out any divergencies in the qualification of NI-ICS and thus enable reflection on those cases. At the same time, the contact information from one NRA could be complemented/completed with additional data from another NRA. Therefore, BEREC considers that there is added value in proposing an approach based on NRAs' knowledge/insights. Moreover, BEREC is of the view that such coordination among European NRAs and within BEREC would render, with time, more coherence in the approach throughout the Union. Another important aspect with this option is that it could easily be combined with the first option, complementing the information already included in the list by NRAs with voluntary contributions from NI-ICS providers. For instance, such contributions can take the form of a confirmation of the data already included within.

Finally, this report only provides preliminary considerations regarding the opportunity and possibility for BEREC to host the referred contact list, to enable BEREC's judgement on the matter and, if deemed adequate, future developments. The report has not considered how to establish a procedure for NRAs or NI-ICS providers to report contact information or exactly which information should be considered for inclusion. In all events, procedures need to be very simple and the information to be included in the NI-ICS providers' contact list should be (i) minimal and not create any undue difficulties to the NI-ICS providers and (ii) fully aligned/consistent with the objectives in the EECC, not surpassing what is needed for the intended purpose (i.e. to address NI-ICS providers with legitimate data requests).

4 Conclusions

NRAs find themselves at an early implementation stage of the EECC's provisions regarding NI-ICS, and are in the process of discerning which is the information that they need to carry out their tasks and to start collecting it.

On the one hand, with this BEREC report, NRAs reflect collectively on the need for NI-ICS revenue information for the fulfilment of their tasks under the EECC and other pieces of relevant regulation. The report provides a taxonomy of revenue categories and then goes on to draw a correspondence between the different revenue typologies and the tasks for which they would be informative. The insights provided within should help NRAs to make a better judgement of what revenue information to collect from NI-ICS providers, taking into



consideration the reasoning underlying the data-collection decision and the need for those requests to be proportionate. Ultimately, the decision on which data to require from providers is a matter under the discretion of NRAs and for which more consultation with stakeholders would be advisable, so as to take into consideration the particular informational needs of each circumstance. It should be noted that this work focused on revenue indicators does not preclude the NRAs' need for other indicators related to NI-ICS volumes, such as those defined by the 2021 BEREC report on over-the-top services²⁵ and which can be quite important to NRAs as they provide a good and complementary indication of the NI-ICS prevalence. These indicators were: number of active users and business users, number of calls and minutes of voice calls and video-calls and number of instant messages.

On the other hand, the report reflects on the possibilities that BEREC has for hosting a contact list of NI-ICS providers that could be used by NRAs to support the adequate fulfillment of their tasks under the EECC and other relevant legislation. Such contact list of NI-ICS providers should help NRAs who need to address NI-ICS providers, at least by offering them a first point of contact, and may also benefit the providers through a more efficient information exchange. The report describes the legal possibilities for BEREC to host the list and concludes that the best option is the one under which NRAs share the contact list information with BEREC.

Finally, this report looks at the current information needs of NRAs and BEREC. Given the role that BEREC will play in the High-Level Group for the enforcement of the Digital Markets Act (DMA)²⁶, it could be relevant to collect the information already described in the different BEREC reports (BoR (21) 127 and this report), as well as other types of indicators, so that BEREC's reasoning and decision making continues to be based on factual evidence and a good knowledge of market circumstances.

²⁵ BoR (21) 127 - "BEREC Report on harmonised definitions for indicators regarding over-the-top services, relevant to electronic communications markets",

<https://www.berec.europa.eu/en/document-categories/berec/reports/berec-report-on-harmonised-definitions-for-indicators-regarding-over-the-top-services-relevant-to-electronic-communications-markets>

²⁶ Regulation (EU) 2022/1925 on contestable and fair markets in the digital sector amending Directives (EU) 2019/1937 and (EU) 2020/1828 –

https://eur-lex.europa.eu/legal-content/EN/TXT/?toc=OJ%3AL%3A2022%3A265%3ATOC&uri=uriserv%3AOJ.L_.2022.265.01.0001.01.ENG



5 Annex: Documentation shared with stakeholders in anticipation of the 29th of June workshop

Workshop Annex 1 – PRELIMINARY ASSESSMENT ON THE NEED OF REVENUE INFORMATION FROM THE NI-ICS PROVIDERS

Importance of revenue metrics to NRAs and to BEREC

The revenues generated by electronic communication networks and services have been an important piece of information for NRAs and BEREC because revenue metrics and their evolution are:

- a) indispensable to understand the performance of the telecommunications sector and how it is affected by different regulatory, policy or market facts. Also, revenues are important to detect emerging regulatory issues and/or evaluate the outcome of regulatory/policy decisions at various levels.
- b) an important signal to investors which limits/boosts the capacity of companies to invest and an element of consideration in the promotion of the European connectivity targets.
- c) a key indicator to understand competition dynamics and impose/withdraw regulation on operators.
- d) an important element in the consideration of who should fund and by how much (for example, in the case of USO), where services are publicly subsidized and funded by “sectorial taxes/contributions”.

Why are NRAs collecting revenues regarding ICS on a regular basis?

NRAs are in charge of implementing *ex ante* market regulation, the resolution of disputes, deciding on the funding of universal service and addressing non-discrimination obligations, among others.

All these tasks are reliant on revenue information and require an ongoing supervision of the markets, as well as an anticipation of possible problems by a permanent overseeing of market indicators and their evolution. Moreover, *ex post* corrective measures are also reliant on revenue data, and in general, given the variety and complexity of tariffs in the telecom sector, ARPU is a simple measure of price. This is considered a key indicator for NRAs' activities.

The anticipation of emerging regulatory issues and the need to revise existing rules and regulations is at the core of the NRAs' activities and can only be constructed with solid and regular information of market dynamics. This is recognized in BoR (21) 85, which states that:

“The constant surveillance of the sector developments by the NRAs is a basic tool to measure the effectiveness of the rules and detect emerging regulatory issues and, ultimately, serves for research leading to suggestions aimed at improving the regulatory framework. Through appeals, the courts review whether the rules have been correctly enforced.”



These tasks imply a correlative obligation on all ECS providers, including NI-ICS, to supply all the relevant information needed to NRAs, BEREC and competent authorities to enable them to carry out their duties including the monitoring of the evolution of the services”²⁷.

NRAs are also responsible for the imposition of access and interconnection obligations (Art 5 (1) a, EECC) and contribute to the protection of end-user rights (Articles 102, 103, 104 of the EECC), for which revenue information may be useful but not as indispensable.

NI-ICS and revenues

NI-ICS services are communication services of very widespread use in Europe. These services provide similar functionalities to NB-ICS, but the two categories are fairly different in that:

- (i) Mainly they are offered “over the top” of the electronic communications networks and by non-traditional/new providers.
- (ii) These services are subject to a lighter regulatory regime²⁸ under the provisions of the EECC.

However, both NB-ICS and NI-ICS are part of the electronic communications markets and, therefore, subject to some common core obligations for which revenue information is important. BEREC believes that end-user revenues generated by the provision of these services should be collected by NRAs.

The common obligations for which revenue information is necessary include:

(1) Revision of markets susceptible to *ex ante* regulation: Despite not being an explicit part of the current Recommendation, NI-ICS could be subject to a market analysis procedure (Art 32 EECC). Revenue information is not only important when performing the market analysis procedure, but also to understand/decide whether it is worthwhile engaging in one. Market analysis procedures are heavily reliant on revenue data and its analysis.

(2) Non-discrimination of end-users (Article 99 EECC) is applicable to NI-ICS and NB-ICS. Note that this covers the non-discrimination of business users, too. In order to assess non-discrimination, the retail pricing (and corresponding revenues/ARPU) provide a relevant measure for comparison.

(3) Dispute resolution (Articles 25, 26 and 27 EECC), as many of the disputes which are brought forward to the NRAs’ resolution have a monetary component embedded.

(4) Interoperability of NI-ICS (among other ECSs) is regulated through Article 61 of the EECC. Interoperability may be imposed on a case-by-case basis in the case NI-ICS providers. According to

²⁷ BoR (21) 85 - BEREC Report on the interplay between the EECC and the EC’s proposal for a Digital Markets Act concerning NI-ICS –

https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/9966-berec-report-on-the-interplay-between-the-eecc-and-the-ec8217s-proposal-for-a-digital-markets-act-concerning-number-independent-interpersonal-communication-services

²⁸ Recital 18 EECC: “Number-independent interpersonal communications services should be subject to obligations only where public interests require that specific regulatory obligations apply to all types of interpersonal communications services, regardless of whether they use numbers for the provision of their service. It is justified to treat number-based interpersonal communications services differently, as they participate in, and hence also benefit from, a publicly assured interoperable ecosystem”.

Recital (151), NRAs should assess whether interventions are necessary to ensure end-to-end connectivity on providers of NI-ICS with a significant level of coverage and up-take²⁹. Coverage and take-up are mainly related to the number of users and/or subscribers rather than revenues. However, revenue information can also provide a secondary element of consideration regarding the spread of the use of a service.

BEREC's role

BEREC has an important role to aid in implementing the EECC's objectives. The Code makes explicit the need to involve BEREC in the following activities: (i) the resolution of cross-border disputes (Art 27), (ii) the ensuring the end-to-end connectivity (Art 61), (iii) identification of transnational markets (Art 65) and demand (Art 66), and (iv) the specific review procedure on end-user rights (Art 123), for most of which the revenue data from NI-ICS (along with the revenue data from NB-ICS) can be put at use.

It should be noted as well, that there is retail price regulation for roaming and intra-EU calls imposed at European level. These kinds of calls are precisely some of the calls most affected by the competition of NI-ICS – for instance, the availability of NI-ICS services has been quoted as a reason not to regulate those prices. In the future, the take-up and revenue information regarding NI-ICS may be relevant in the decision-making process of upholding these regulations. BEREC is tasked with providing opinions on the roaming and the intra-EU calls regulations.

Workshop Annex 2 - PRELIMINARY TAXONOMY FOR NI-ICS PROVIDERS' REVENUES

Recital (16) EECC recognises that the concept of remuneration of an electronic communication services is wide³⁰, as services „are often supplied to the end-user not only for money, but increasingly and in particular for the provision of personal data or other data.”

Therefore, BoR (21) 127 concluded that, in principle, an ample definition of revenues needs to be considered by regulatory authorities in the monitoring of markets and the assessment of market power.

In that spirit, BEREC is proposing a definition for 'Revenue Generating Unit' (RGU).

RGU = Revenue Generating Unit = a private or business end-user (either a natural or a legal person) entitled to make use of any service related to a NI-ICS on a permanent basis, who may generate

²⁹ The term significant should be interpreted in the sense that the geographic coverage and the number of end-users of the provider concerned represent a critical mass with a view to achieving the goal of ensuring end-to-end connectivity between end-users.

³⁰ “[...] Electronic communications services are often supplied to the end-user not only for money, but increasingly and in particular for the provision of personal data or other data. The concept of remuneration should therefore encompass situations where the provider of a service requests and the end-user knowingly provides personal data within the meaning of Regulation (EU) 2016/679 or other data directly or indirectly to the provider. It should also encompass situations where the end-user allows access to information without actively supplying it, such as personal data, including the IP address, or other automatically generated information, such as information collected and transmitted by a cookie.”



recurring (e.g., monthly, yearly) or non-recurring revenue for the provider and/or facilitate revenue for the NI-ICS provider in an indirect way (e.g., through in-app advertising).

Revenue classification

On many occasions, NI-ICS services form part of a larger ecosystem of services. Below, BEREC proposes a general categorisation of the revenues of NI-ICS providers which is considered useful in identifying the categories of revenues which may be associated with the NI-ICS service (i.e. the communications service). Note that, in view of Annex 1, BEREC is focusing on country-level revenues.

1. **Revenue earned from private or business end-users of the NI-ICS related to their use and/or their right to use the NI-ICS.** This category would cover: recurrent subscription fees, one-time subscription fees, various ad-hoc payments (e.g., unsolicited donations) and revenue generated within the application (e.g., in app-purchases to extend/improve the features of the NI-ICS, an upgrade to the premium version or credits to use functionalities that are not included in the overall fee) that are directly related to the primary function of the NI-ICS being the communication service. Revenue generated by sales of hardware or any device required to use the service are not included in this category.

Another example of revenues included in this category are the revenues generated by the use of the NI-ICS API for communication purposes (e.g., chat functions framed on business websites to guide customers to the product that fits them best, for technical support, to contact private users via the NI-ICS etc.). In such cases, the end-user contracting the service pays the NI-ICS provider for the use of its API. Payments are in the form of license fees, for example, where a fee is paid for each message the RGU sends to other NI-ICS-users.

BEREC is aware that, in some cases, intermediaries offer the NI-ICS service or an upgraded NI-ICS service to the end-user, rather than the NI-ICS provider itself. Those revenues also fall in this category and ***BEREC would like feedback on who should be reporting these quantities.***

2. **Revenue earned from private or business end-users or third parties for other services (other than the communications services) embedded in the NI-ICS interface.** This would include revenues accrued by transactions that are at least initiated in the NI-ICS interface and for which a payment takes place. For example, when payment systems are embedded in the interface (i.e. the information exchange regarding transactions is part of the NI-ICS service functionalities) and are charged for, or when specific fees are levied for the use of the NI-ICS service, for example specific fees that are paid when reservations are made – restaurants, hotels etc. or when some types of information are exchanged. Other examples include advertising showed directly in the NI-ICS interface (which is paid for by third parties).
3. **Revenues earned from private or business end-users from other services in the platform's ecosystem, not embedded in the NI-ICS interface.** This subcategory includes revenues earned from the RGU through services independent from the NI-ICS (i.e. the communications service) belonging to the same ecosystem. Examples include commissions on purchases in app stores, games, other Microsoft applications in case of MS Teams users etc.
4. **Revenues earned from third parties for other services belonging to the same ecosystem, facilitated by the retrieval of end-users' data gained through the use of the NI-ICS.** ***BEREC would like feedback on the feasibility of reporting on this.***



5. **Intangible, “attraction and retention” value for the ecosystem:** this item reflects the so called “non-monetary revenue” It expresses the “contribution” of the NI-ICS (i.e. the communications service) to the “value” of the ecosystem and reflects demand synergies with other (monetised) services and strategic considerations. What counts for owners of ecosystems is that users can be retained within and that the churn out of the ecosystem is as limited as possible. Attaching value to such non-monetary revenues is difficult and BEREC does not aim to do this. Thus, the last category is proposed to be included in the assessment for completeness reasons.

