

BEREC Report on Transparency and Comparability of International Roaming Tariffs

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Executive summary and main findings

In July 2016 BEREC sent a questionnaire to operators and the National Regulatory Authorities (NRAs) in order to gather information on two aspects that are key issues for customers when selecting tariffs for international roaming services: firstly, *transparency*, meaning the availability of clear information about prices and conditions for each tariff, as well as simple procedures for customers to switch between tariffs; and, secondly, the *comparability of tariffs*. By comparability BEREC means the ability for customers to compare different types of tariffs offered by operators and to select the one best suited for their needs and patterns of consumption.

In the questionnaire for NRAs, BEREC focused on information about complaints received by NRAs on transparency issues since July 2015 as well as any information about tariff comparison tools that may be offered by different organizations such as customer associations; recommendations available for customers on how to select the most adequate tariff and any tools and hints for customers to estimate data traffic that may be facilitated by NRAs and any third party (i.e. consumer) associations. The questionnaire for providers was directed at seeking information about tariff structures offered, information for customers on the use of the tariffs and at how to switch between tariffs as well as information and tools for comparing tariffs and to estimate consumption.

Transparency is a key issue which enables customers to take informed decisions. Customers should have easy access to understandable information on prices and conditions for each existing tariff. It should also be possible to switch between tariffs quickly and conveniently.

When BEREC asked whether NRAs had received transparency related customer complaints, 58 % of the responding NRAs said that had received complaints on transparency issues since July 2015, an increase compared to the previous period, where 50 % of the responding NRAs reported receiving such complaints. In general, the number of complaints reported by each NRA was relatively low (less than 10). The complaints were mainly caused by problems with the cut-off limit for data roaming. They may reflect problems with the sending of, or understanding of, limit alerts, or the fact or possibility that the limit was not activated. Moreover, consumers might have received an alert but failed to adjust their usage accordingly. A few NRAs received a relatively high number of complaints regarding these issues. Some NRAs reported complaints regarding the lack of a welcome SMS. In addition, there were some complaints regarding roaming on planes and ships, charges for usage outside of the EEA and inadvertent roaming. However, the first of these topics is outside of the scope of the Roaming

Regulation while the second is relevant in relation to transparency and anti-bill shock provisions.

As in previous years, most of the operators reported that they provide extensive information on the conditions and prices for each tariff on their websites and inform customers about tariffs using different channels. When customers conclude a contract including an alternative roaming bundle that consists of a limited number of minutes, SMS and/or limited amount of data services, 90 % of operators inform the customers via SMS, the website etc. about the charges that apply for out-of-bundle consumption. A slightly smaller number of operators (around 82 % of respondents) reported that they notify their customers when they reach the limit of the bundle. This means that some operators still do not inform their customers when they reach the limit of the bundle, which may have negative impacts on customers as it may lead to additional charges without the affected customers having received thorough information in advance.

Regarding the opportunity to switch between tariffs, providers mainly inform their customers via call centers, through information on their website, at point of sale or by sending them a notification directly to their mobile device (i.e. SMS).

BEREC notes that operators reported that they provide more or less the same level of transparency when it comes to supplying information on consumption, both historical and real-time consumption, compared to the previous report on transparency and comparability of tariffs.

Information about consumption and charges for past usage may help customers to take informed decisions on selecting a tariff. The results of the questionnaire show that almost all providers that responded to the questionnaire supply historical service records to their customers.

Providing data on real-time consumption is more challenging for roaming services, as it is typically dependant on the collaboration between the domestic network and the visited network. The domestic network does not always provide information on real-time consumption of all services. The most common way for providers to supply data on real-time consumption is via call centre agents (64 %). The second most common way is to publish information in customer areas on their websites (58 %) and the third is by interaction via the mobile phone using short codes (57 %).

Customized applications available on smartphones or tablets are getting more and more popular compared to last year. Applications for accessing historical and real-time information

are offered by many providers (52 % of all providers offer apps for historical data and 49 % for real-time data).

BEREC has collected information on roaming tariff structures of European roaming providers that offer roaming services since July 2016, three months after the transitional period had entered into force¹.

According to Article 6f (2), Article 6e of the Roaming Regulation also applies from 30 April 2016 until 14 June 2017 (the transitional period). This provision allows providers to add a surcharge for regulated roaming services in addition to the domestic price during the transitional period, which in total shall not exceed the price caps set out in Article 6e (1). 68 % of roaming providers in the EEA offer such tariff structures i.e. domestic rate plus a surcharge. On the other hand, 54 % of the respondents only apply at maximum the surcharges set out in Articles 7(2), 9(1) and 12(1) with no additional domestic charge.

In advance to the envisaged end to intra-EU roaming surcharges from 15 June 2017 pursuant to article 6a, 37 % of roaming providers in the EEA already offer roaming services at domestic rates. This means that there are already a significant number of roaming providers offering pure RLAH tariffs e.g. tariffs without a daily charge for their customers without any limitation beyond the volume limits included in their domestic offers.

Concerning fixed periodic roaming tariffs according to Article 6e (1), subparagraph 4, monthly and daily packages are the most relevant roaming tariffs which are offered by 57 % and 35 % of roaming providers in the EEA, respectively.

Similar to the provisions set out in the Roaming III Regulation, roaming providers may offer alternative roaming tariffs as an alternative to the RLAH+ and customers may deliberately choose those alternative tariffs. In this respect, monthly packages (48 %) and daily packages (32 %) are still the type of alternative tariffs offered most frequently by roaming providers.

To sum up, although it was not mandatory to offer RLAH tariffs during the transitional period, 37 % of roaming providers in the EEA are providing such tariffs and 24 % of all roaming providers are offering RLAH tariffs with a self-defined Fair Use Policy. Monthly and daily roaming packages are the most widespread packages offered by roaming providers for both fixed periodic and alternative tariffs.

¹ The modification of Regulation (EU) No 531/2012 establishes a transitional period from 30 April 2016 to 15 June 2017 to ensure a smooth transition from Regulation (EU) No 531/2012 to the abolition of retail roaming surcharges.

Regarding the availability of tables and/or tools for comparing different tariffs, 58 % of the providers reported supplying a table comparing international roaming tariffs (as was the case last year), and almost all of them also provided a link to their website. A closer look at the links showed, however, reveals that only a small minority of the providers actually allow customers to compare tariffs at one glance, whereas most providers either present the different tariffs separately (thereby not allowing a comprehensive comparison of tariffs) or just publish each tariff for roaming in different zones (EU, USA, Asia, ...) as well as their alternative offers. Some operators also provide applications that allow the customers to track their roaming usage in near real-time. This tool enables customers to control their roaming consumption.

Customers should be able to select the most suitable tariff based on their own estimated pattern of consumption. In this regard, BEREC also analysed the availability of tools and information for customers to estimate their traffic based on the use of internet services such as e-mail sending/checking, web-page browsing, video streaming, etc. As in the previous years, BEREC's analysis shows that customers do not have straightforward and simple access to information and tools to estimate their consumption of data traffic (MB) and prices for usage of roaming services. Due to this lack of information customers may suffer from bill-shock or they may underestimate or overestimate traffic when choosing a roaming bundle. Tools, hints and other information allowing customers to estimate data traffic significantly increase transparency and efficiency in the market.

BEREC will repeat this exercise each year to assess the evolution and advances in increasing the transparency and comparability of tariffs.

1 Introduction and objectives of the document

The market for electronic communications has been providing a steadily increasing number of offers. Accordingly, users may find it more difficult to compare the various offers as well as to compare the performance parameters of different services. Specific tools to measure consumption could help to create certainty about the offers in order to allow customers to assess and compare prices and offers. Regarding service providers, these tools may help them to differentiate their offers more clearly. Especially in case of data services, considering the increased use of smartphones and tablets, the availability of applications for the most common operating systems would enable customers to take informed decisions based on their patterns of consumption.

The selection of an alternative tariff should take into account the possibility to use the regulated tariff and the conditions for the alternative tariff chosen. Such an awareness, together with policies and instruments, which allow customers to estimate their consumption and compare international roaming tariffs, will lead to better informed customer decisions.

This Report takes into account the amendments of Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union by the TSM Regulation², (hereafter “Roaming Regulation”). According to Article 6f (2) and Article 6e of the Roaming Regulation roaming providers may apply a surcharge for regulated roaming services in the transitional period (from 30 April 2016 onwards) in addition to the domestic retail price. When a roaming provider applies a surcharge for the consumption of regulated retail roaming services, the sum of the domestic retail price and any surcharge applied must not exceed the price cap set out in Article 6e (1) (b) and (c). Furthermore, the switch from or to the regulated roaming tariff (default tariff) pursuant to Article 6e (3), subparagraph 3 has to be made free of charge within one working day. This provision³ also applies in the transitional period³.

² Regulation (EU) No 2015/2120 of the European Parliament and of the Council of 25 November laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users’ rights relating to electronic communications networks and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union

³ BEREC Guidelines on Regulation (EU) No. 531/2012 as amended by Regulation (EU) No. 2120/2015 (Excluding Articles 3,4 and 5 on wholesale access and separate sale of services). This document contains the guidance of BEREC on the application of the Roaming Regulation as amended by the TSM Regulation. Available at:

http://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/guidelines/5750-berec-guidelines-on-regulation-eu-no-5312012-as-amended-by-regulation-eu-no-21202015-excluding-articles-34-and-5-on-wholesale-access-and-seperate-sale-of-services

In this context, and in accordance with Article 19 (4) of the Roaming Regulation, BEREC is publishing information on transparency and comparability of different tariffs offered by operators to their customers each year.

In line with the provisions set out in the Roaming Regulation, the report has the following objectives:

1. To investigate specific problems which prevent or impede customers from taking informed decisions. As part of this objective, the report aims to assess whether offers are transparent, and to investigate transparency issues concerning charges which may be applied and other billing issues.

2. Comparability of tariffs. Under this objective, the report aims to assess how easy/difficult it is for customers to compare different roaming tariffs, especially to compare the regulated tariff with alternative tariffs, and to identify whether customers are able to take informed decisions in order to select the most suitable tariff based on their needs. The report also includes an overview of the different structures of roaming tariffs offered by mobile operators.

2 Information collected by BEREC

In order to investigate whether customers face transparent conditions, and are able to compare different tariffs, BEREC prepared two questionnaires each addressed to the operators and the NRAs respectively.

With regard to assessing transparent market conditions, the questions focused on the availability of roaming tariffs and the conditions applied (price limitations in terms of volumes or the geographical area, or any other restrictions as well as any linkages to domestic tariffs etc.). Operators were also asked whether they provided transparent information about the start and end of a specific period for a given, time-limited tariff. Furthermore, BEREC asked whether operators informed their customers about any possible tariffs/charges when a bundle is exhausted or where the valid time period for the tariff elapses, as well as whether bills were itemized. NRAs were requested to provide any information on customer complaints concerning any alleged lack of transparency.

With regard to assessing the comparability of tariffs, BEREC's attention was focused on the availability of tools, applications and any information facilitating the selection of the most adequate tariff to suit the customers' patterns of consumption.

A total of 30 NRAs sent their responses to BEREC.

BEREC received a total of 166 responses from mobile providers operating in EEA countries. 67 % of the responses corresponded to MNOs and 33 % to full MVNOs or light MVNOs and resellers, as shown in Figure 1.

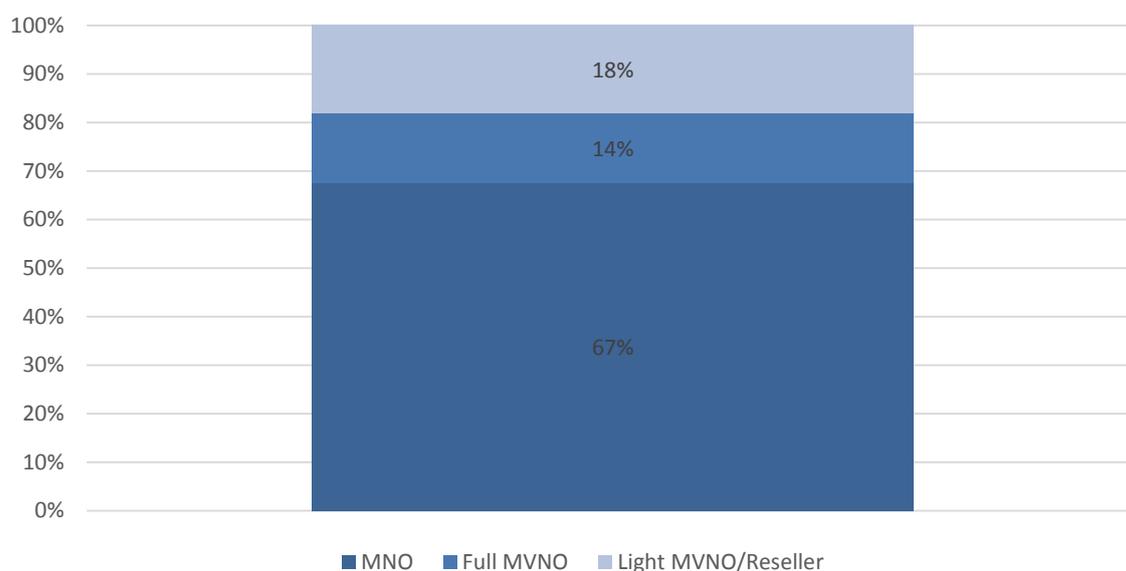


Figure 1: Type of mobile providers responding to the BEREC questionnaire

3 Transparency of roaming services

3.1 Transparency of complaints received by NRAs

58 % of the responding NRAs received complaints on transparency issues since July 2015. This is an increase compared to the previous period, where only 50 % of the responding NRAs reported having received complaints. As shown in Figure 2, most of these NRAs stated that the total number was relatively low (less than 10 in the observed period). The complaints are mainly due to problems with the cut-off limit for data roaming. This may reflect problems with the sending of, or understanding of, limit alerts, or the fact that the usage limit was not activated. Moreover, some consumers may have received an alert but failed to adjust their usage accordingly. A few NRAs have received a relatively high number of complaints regarding these issues. Some NRAs report complaints about the lack of a welcome SMS. In addition, there are also some complaints regarding roaming on ships and planes, charges for usage outside of the EEA and inadvertent roaming. However, the first of these issues is outside of the scope of the Roaming Regulation while the second issue is covered only in so far as the complaints relate to transparency and anti-bill shock issues. The figure below shows the distribution of consumer complaints on different issues.

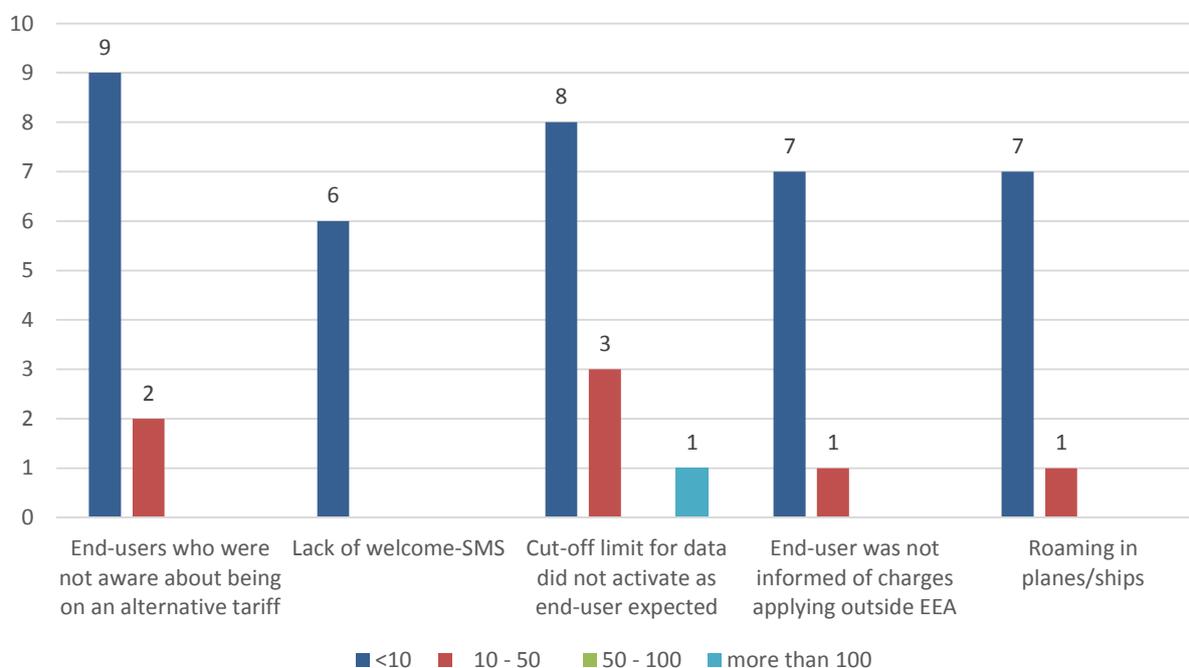


Figure 2: Volumes of consumer complaints on different issues reported by NRAs

3.2 Information on switching between alternative tariffs

The majority (92 %) of providers offering alternative tariffs stated that they did not apply any activation charge when their customers switch between any of their tariffs.

For alternative tariffs limited in time, 81 % of the respondents inform their customers actively about the charges that are applied for roaming services when the time period for the chosen alternative tariff ends. This still means that 19 % of the providers do not actively inform their customers on the charges applied after the end of the alternative tariff period.

When customers have contracted an alternative bundle with roaming services that includes a limited number of minutes, SMS and/or limited amount of data services, 90 % of the operators inform their customers via SMS, website etc. about the charges that apply for out-of-bundle consumption. On the other hand, a slightly smaller share of operators (around 82 % of the respondents), notify their customers when they reach the limit of the bundle. This means that there are still some operators that do not inform their customers when they reach the limit included in the bundle. This may have negative impacts for customers as this could lead to additional charges (e.g. bill shocks) as a result of customers not having been thoroughly informed of such out of bundle charges in advance. Accordingly, BEREC encourages operators to inform those of their customers that subscribe to alternative tariffs of when their bundles' limits have been reached.

Regarding the opportunity to switch between tariffs, providers mainly inform their customers via call centers, through information on their website, at point of sale or by sending notifications directly to their mobile device (i.e. SMS). Figure 3 shows the different channels of information that are used most. Other means include, for example, so called MyPage services⁴, landing pages, IVR⁵, brochures, invoices, information via emails or via mobile applications.

⁴ Personal web page where the end user can manage his/her subscription

⁵ Interactive Voice Response

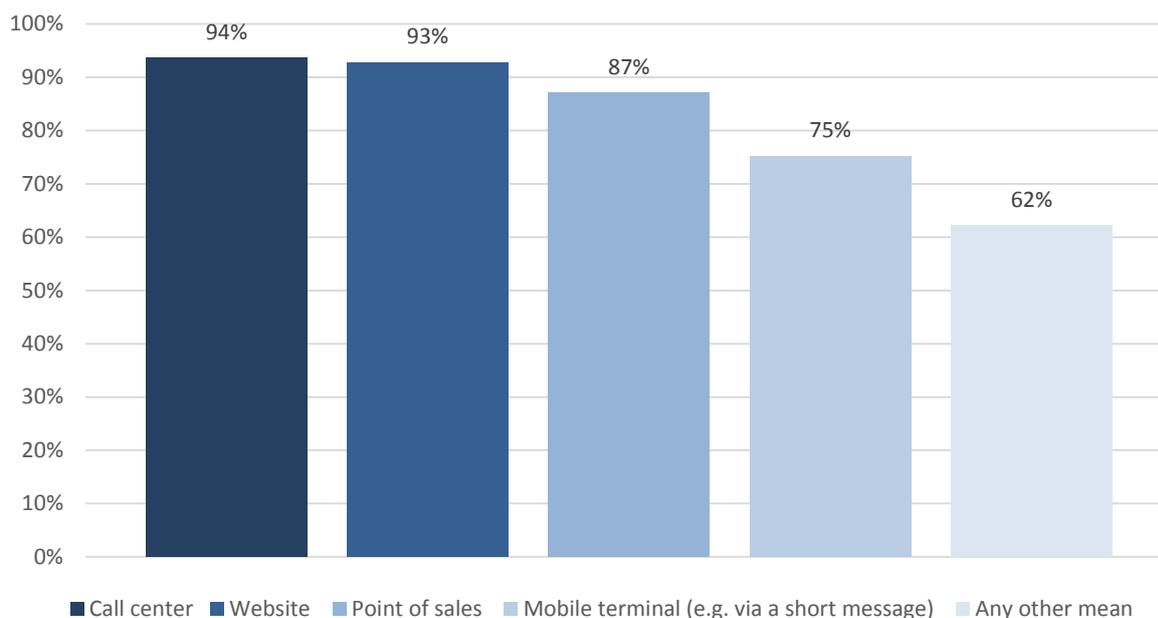


Figure 3: Supply of information concerning switching between tariffs

3.3 Methods for providing information about consumption

This section addresses the methods used by providers to inform their customers about historical and real-time consumption of international roaming services. The questionnaire provides some examples of methods commonly used by providers for providing information about consumption such as the providers' websites, interaction with the mobile device of the customer, call centres, applications or any other means specified by the provider.

BEREC notes that, aside from bills, providers are using different methods to provide historical information on consumption and charges, ranging from the customers' area of the website, contacting the operator's call centre and, interaction via the terminal using short codes, to specific applications for smartphones and tablets. The majority of the operators who responded to the questionnaire said that they enable their customers to use different methods to access this information.

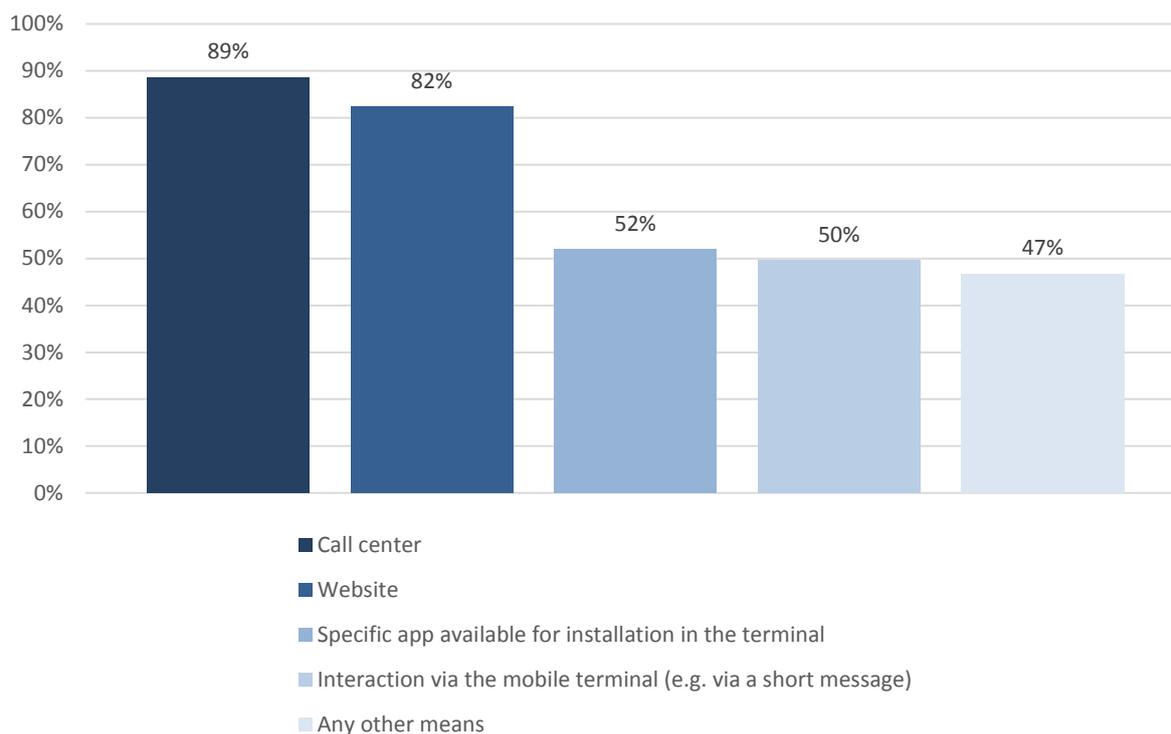


Figure 4: How providers inform about the charges and/or volume consumption (historical)

The results of the questionnaire show that almost all providers who responded to the questionnaire supply historical service records to their customers (see Figure 4). The most used communication channel for delivering historical information to customers is via call centre agents (89 %), followed by the customer area on the providers' website (82 %), via a specific application for installation in the terminal (52 %), interaction via the mobile terminal using short codes (50 %) or any other means (47 %).

As shown in the following Figure 5, similar methods are also used to provide customers with information on real-time consumption.

For reasons of clarity, "real-time" information in this report also includes information provided in "near" real-time. "Near" real-time means that information on consumption is delivered instantaneously, but it might occur that certain information on roaming consumption is not available yet, since some of the providers receive data from their roaming partners within a 24-to-48-hour time lag.

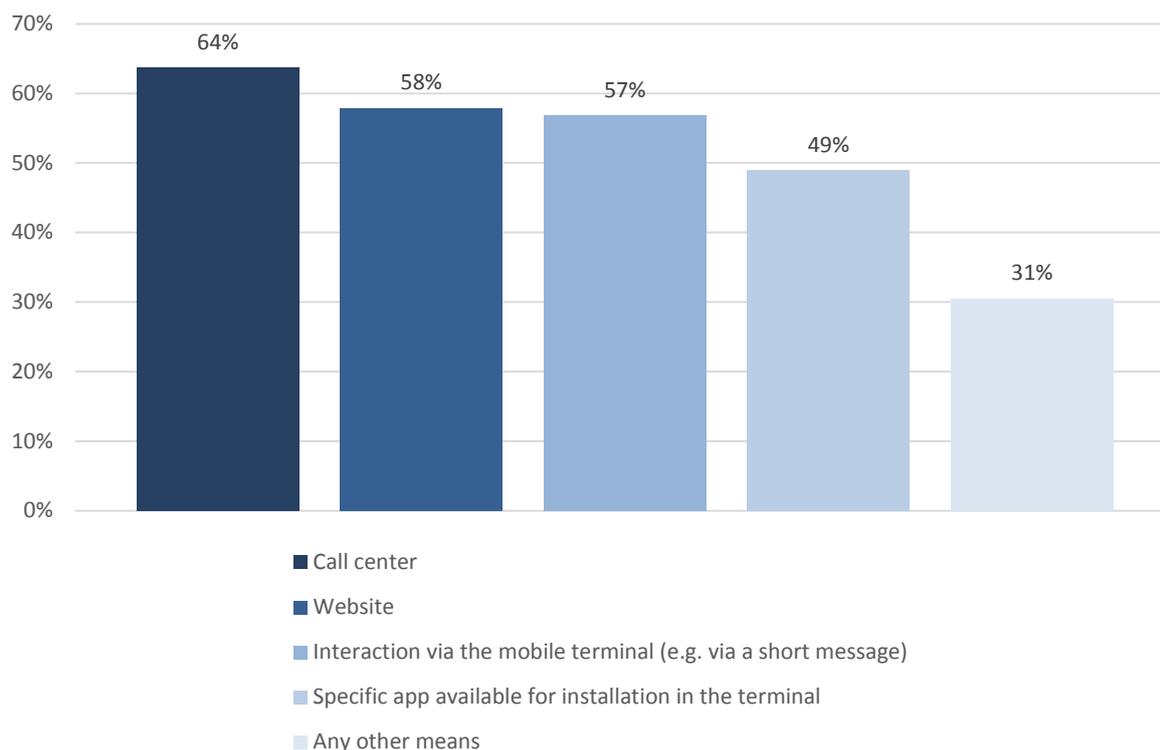


Figure 5: How providers inform about the charges and/or volume consumption (real-time information)

The most popular way for providers to supply data on real-time consumption is via call centre agents (64 %). The second most popular way is to publish information in customer areas on the providers' websites (58 %) followed by interaction via the mobile terminal (57 %).

Certain methods require some action by the customer such as dialling a short code or sending a keyword to a short code, and upon doing so they receive an SMS giving their call credit and data usage balance.

Specially-designed applications available on smartphones or tablets are more and more popular compared to the previous year. Applications for accessing historical and real-time information are offered by many providers (52 % of all providers offer apps for historical data and 49 % for real-time data).

BEREC notes that the most popular communication channel used by providers to supply historical and real-time information on the consumption is via call centre agents. The second preferred communication channel is the customer area on a provider's website.

BEREC notes that operators provide more or less the same level of transparency when it comes to supplying information on consumption, on both historical and real-time consumption, compared to the previous year.

3.4 Information on volume consumption and charges

This section analyses the provision of separate itemized information relevant to the roaming services, charges and volumes in the monthly bills as well as real-time billing information. The wide adoption of such practices is aimed at ensuring transparency among European providers with regard to roaming charges in order for them to show clearly the amount subscribers pay and the amount they get in return.

BEREC asked operators whether customers were provided with service records containing volumes and charges as well as with real-time billing information. The information collected on charges and volumes was then split into information on outgoing voice calls, incoming voice calls, outgoing SMS and data services.

In general, customers are informed about the applicable roaming charges and the consumed volumes of regulated roaming services, as more than 90 % of the operators provide the necessary service records about their customers in the respective monthly bills, both for service charges (Figure 6) and volumes (Figure 7). Compared to the previous transparency report this means a small reduction of about 4 %.

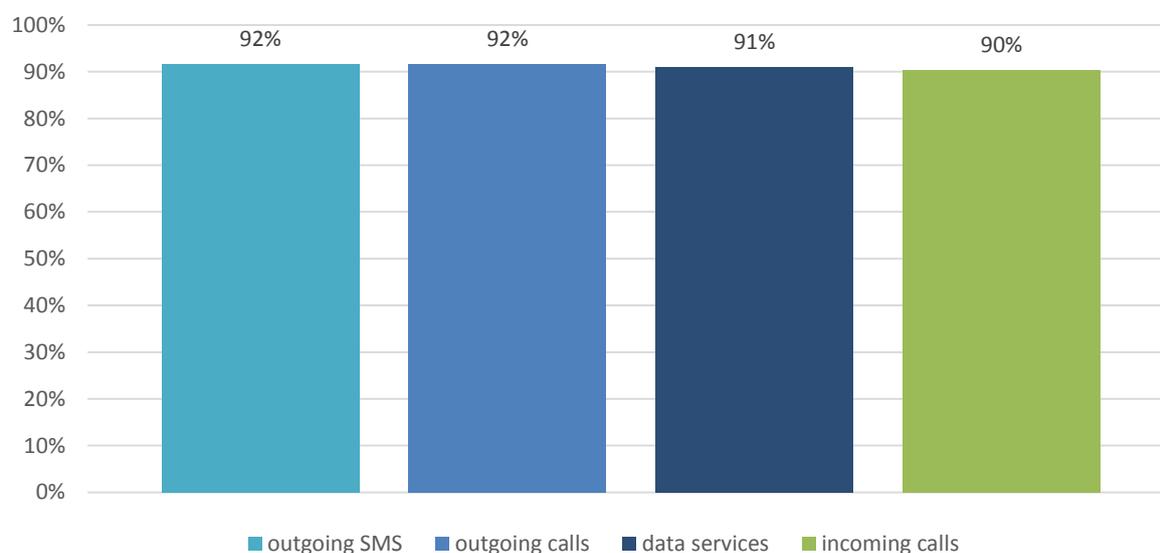


Figure 6: Information for customers about charges for intra-EU roaming (monthly information)

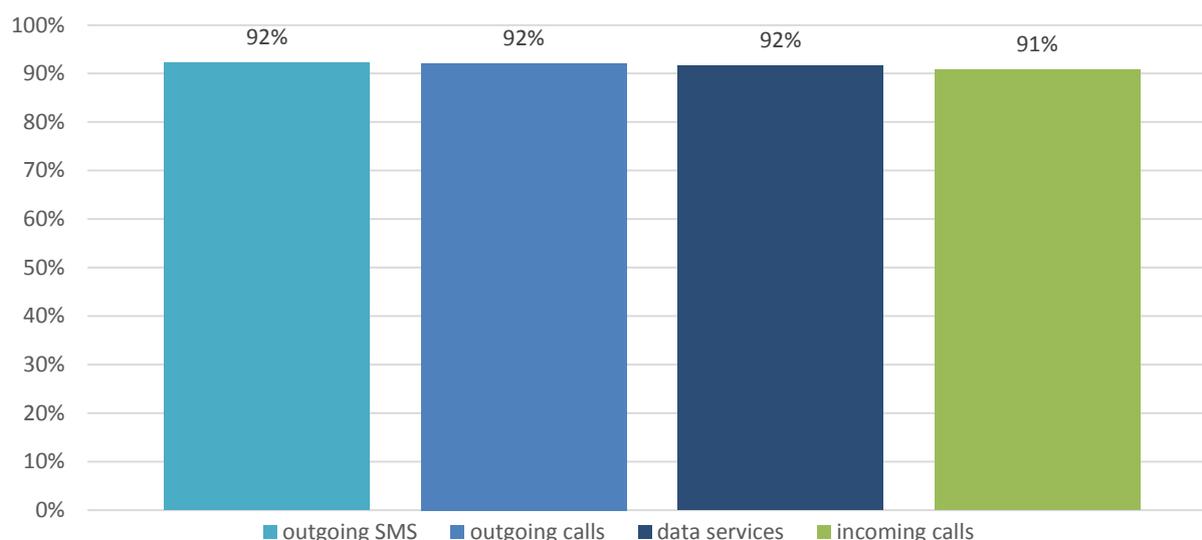


Figure 7: Information for customers about consumption of intra-EU roaming (monthly information)

More than half of the questioned operators surveyed reported providing itemized charges in real-time for voice calls (outgoing and incoming 51 %,) and SMS (52 %). Almost 75 % of the operators provide real-time information concerning charges for data services. It is worth noting that with regard to data services this means an increase of 16 % compared with the previous data collection exercise.

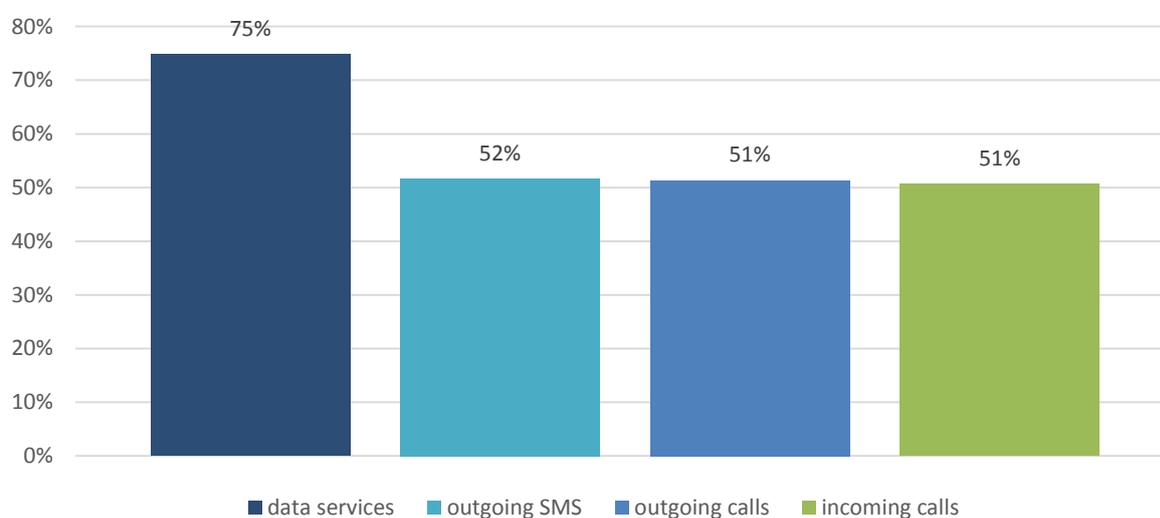


Figure 8: Information for customers about charges for intra-EU roaming (real-time information)

In view of providing itemized volumes in real-time a similar picture appears. More than 47 % of the operators reported providing such data for voice calls (outgoing 49 %, incoming 47 %) and SMS (48 %). About 73 % of the operators reported offering their customers the opportunity to obtain information about their consumed volume (Figure 9).

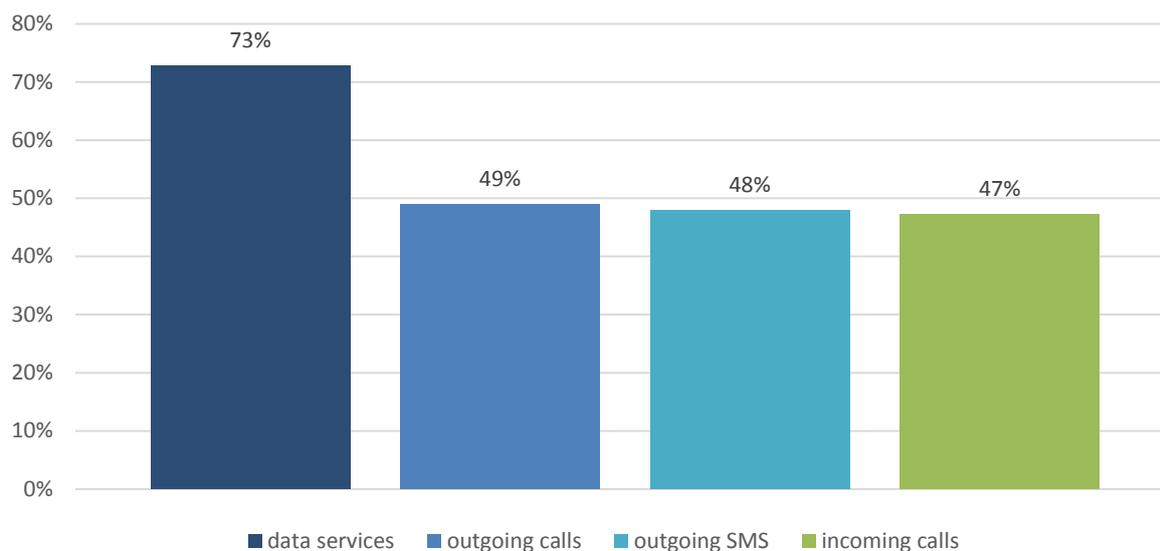


Figure 9: Information for customers about consumption for intra-EU roaming (real-time information)

Operators inform their customers in different ways about charges and their consumption. Figure 10 illustrates the main sources of information. With regard to historical information, operators mainly provide information by call centres (89 %) closely followed by websites (82 %). Other ways to inform customers about charges and/or volumes are mobile apps (52 %), directly via mobile terminals (50 %) or by any other means (47 %).

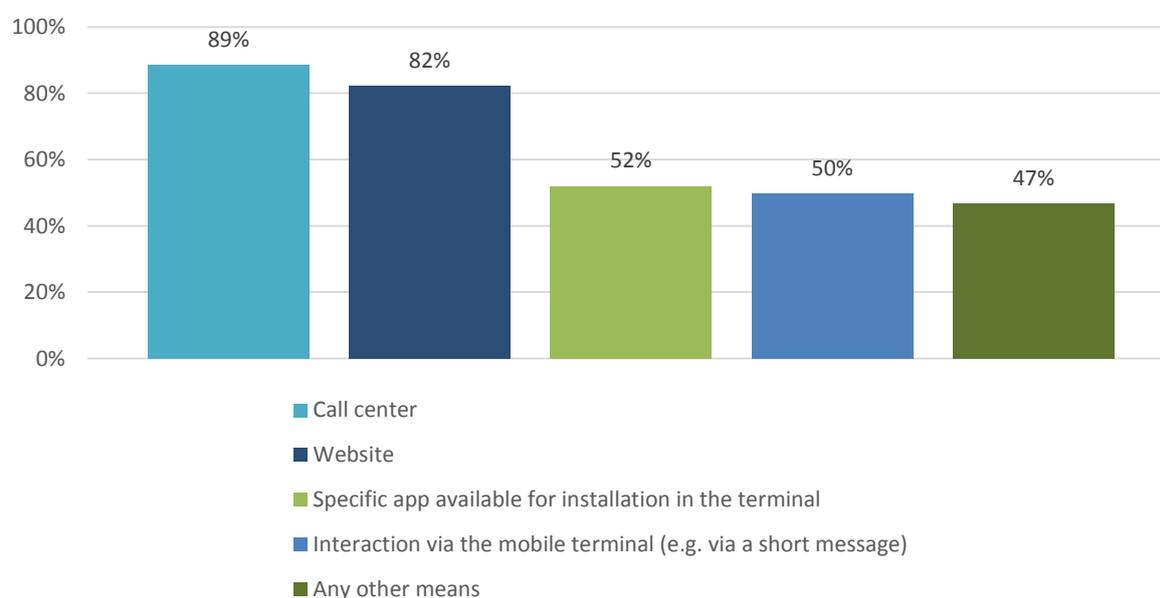


Figure 10: How providers inform about the charges and/or volume consumption (historical)

As figure 11 shows, the usage of information source providing real-time information is different. Call centres (64 %) and websites (58 %) are the preferred ways of operators to inform their

customers about their charges and/or volume consumption. In addition the interaction via mobile devices (57 %) has become more important.

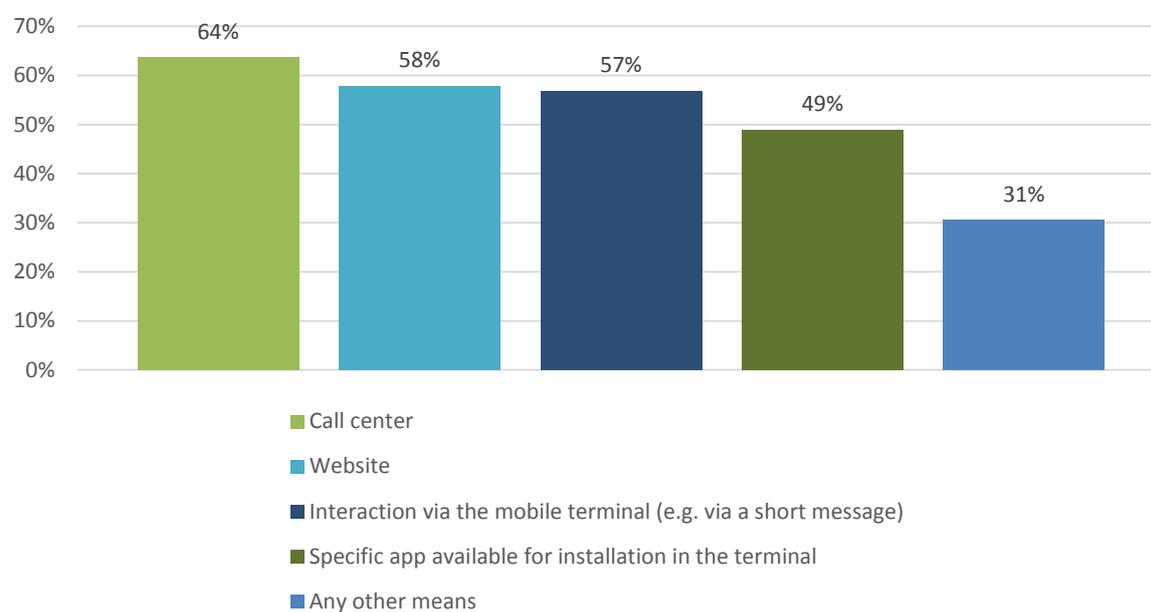


Figure 11: How providers inform about the charges and/or volume consumption (real-time information)

BEREC notes that there is a variety of ways to provide information about charges or volumes for the roaming services (voice calls, SMS and data services) to the customer. Some operators only deliver information on volumes, others only on prices. In some cases, operators provide both price and traffic information on all three services, but in other cases the records are restricted to one or two roaming services only. Overall, there is no significant difference between providing real-time information on prices and volumes regarding the type of service considered. Lastly, it should be noted that the available information for end-users about charges and consumption with regard to international roaming data services has increased.

4 Comparability of international roaming tariffs

4.1 Diversity of tariff structures

BEREC has collected information about the roaming tariff structures of European roaming providers that were available in July 2016, which was three months after the transitional period had entered into force⁶. It provides an overview of how roaming providers are adapting their tariff structures in advance of the changes due in June 2017. With regard to the comparability of tariffs, the responses received show that there is a large variety of different types of tariffs, ranging from default regulated tariffs to fixed period tariffs and specific tariffs where domestic prices are combined with an additional surcharge or fair use policy⁷.

An overview of the structure of the default regulated tariffs according to Article 6e (1) is shown in Figure 12. 68 % of the roaming providers in the EEA offer a tariff structure of the domestic rate plus a surcharge. 54 % of these providers only apply the maximum surcharges set out in Articles 7(2), 9(1) and 12(1) with no additional domestic charge.

In spite of the envisaged end to retail roaming surcharges from 15 June 2017, 37 % of roaming providers in the EEA are already offering roaming services at domestic rates. This means, that there is already a significant number of roaming providers offering pure RLAH tariffs for their customers without any limitation beyond the volume limits included in the domestic offers.

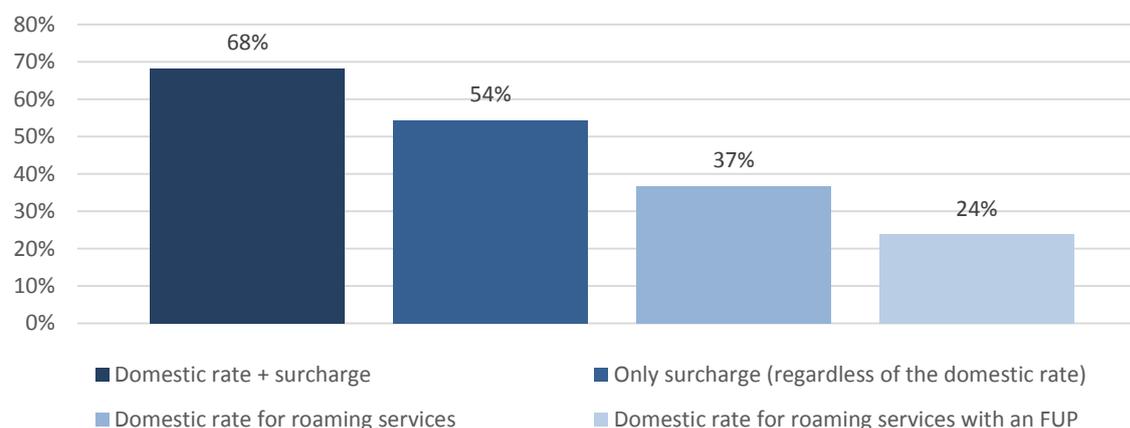


Figure 12: Structure of default regulated tariffs according to Article 6e (1)

⁶ The modification of Regulation (EU) No 531/2012 states a transitional period from 30 April 2016 to 15 June 2017 to ensure a smooth transition from Regulation (EU) No 531/2012 to the abolition of retail roaming surcharges.

⁷ Please, notice that one roaming provider can provide more than one type of roaming tariff and therefore the sum of percentages is not 100%.

As shown in Figure 13 fixed periodic roaming tariffs according to Article 6e (1) subparagraph 4 are mainly offered as monthly packages (57 %) or as daily packages (35 %) by the roaming providers.

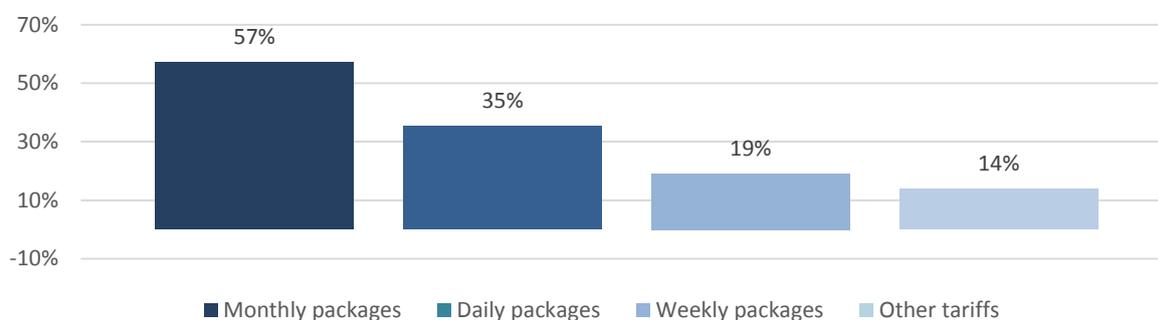


Figure 13: Structure of fixed periodic roaming tariffs according to Article 6e (1), subparagraph 4

Similar to the provisions set out in the III Roaming Regulation, roaming providers may offer alternative roaming tariffs as an alternative to the RLAH+ and customers may deliberately choose those alternative tariffs. In this respect, monthly packages (48 %) and daily packages (32 %) are the type of packages most offered as alternative tariffs by the roaming providers.

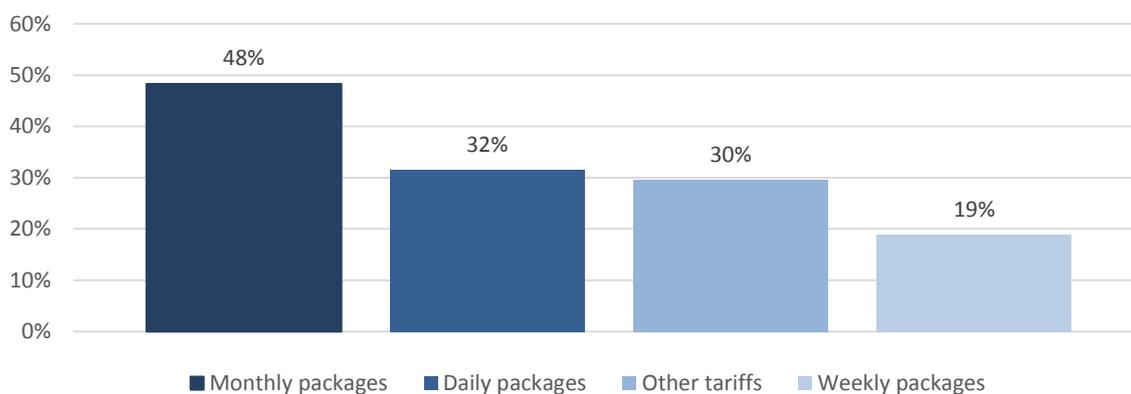


Figure 14: Structure of alternative tariffs according to Article 6e (3)

It is also relevant to point out that alternative 'other tariffs' are offered by 30 % of roaming providers while regulated 'other tariffs' are offered by less than 14 %. According to data collected from roaming providers, these alternative 'other tariffs' are mainly annual packages, customized tariffs for large companies, tariffs including non-EEA or rates for specific countries, etc.

To sum up, although it was not mandatory to offer pure RLAH tariffs during the transitional period, 37 % of the roaming providers in the EEA provide RLAH tariff and 24% of all roaming providers are offering RLAH tariffs with an associated Fair Use Policy as it is shown in Figure

12. Monthly and daily packages for roaming services are the most widespread packages of roaming providers for both regulated fixed periodic roaming tariffs and alternative tariffs.

4.2 Availability of up-to-date information on existing tariffs

In many EU Member States, there is a variety of roaming services and roaming packages available on the market. Mostly, the alternative offers appear to be convenient for the customer, however they might not always be the cheapest option (particularly for low and average users), compared to the default roaming surcharges that are added to the domestic price. Roaming services are generally sold as additional services in a bundle which usually includes domestic mobile access while in certain cases, roaming allowances are included as a standard part of the customers' main bundle. In the retail market, the focus of competition is on domestic services due to the fact that for the majority of users domestic services are of prime importance. All these different factors significantly influence customer choices and the costs of services, and therefore can make any comparison difficult. In any case, the availability of information to allow comparing different tariffs at least for each provider is a first step to empower customers to make informed decisions on roaming offers.

Tables on the providers' websites comparing tariffs available to customers

BEREC asked providers if they supply any tables or tools on their websites that enables customers to compare the prices and terms and conditions of the tariffs available for intra-EU/EEA international roaming.

As was the case last year, 58 % of the providers reported supplying a table comparing international roaming tariffs, and almost all of them also provided a link to their website. A closer look at the links showed, however, that only a small minority of the providers actually allow customers to compare tariffs at one glance, whereas most providers either present the different tariffs separately (thereby not allowing a comprehensive comparison of tariffs) or just publish each of their tariffs for roaming in different zones (EU, USA, Asia,...) as well as their alternative offers. Some operators also provide applications that allow the customer to track their roaming usage in near real-time. This tool enables the customer to control their roaming charges at least to some degree, depending on the existence of any time lag in tracking real-time use.

Tables and assessment from consumers' associations and other organizations

BEREC asked NRAs if consumer associations or any other organizations provide tables, or any other information that allow the comparison of tariffs for international roaming offered by

different operators, as well as access for customers to publicly available reports comparing international roaming tariffs.

Only 5 of the responding NRAs (17 %) are aware of such comparison tables. These NRAs kindly provided links from consumer associations. The information provided by the organizations often does not cover all the possible tariff plans of all the providers. The focus is mainly on general information about the Regulation or in some cases they highlight certain roaming packages that are offered by the major operators. One NRA indicated that its country's consumer association published a report that compares international roaming tariffs. The report⁸ provides a practical and clear overview of the applied surcharges of each operator in that country in June 2016. BEREC acknowledges that – in the past – making such reports to compare tariffs for international roaming from different operators was quite resource intensive as it requires monitoring a variety of tariff plans in real time in order to keep the information updated. However, since the transitional period started in April 2016, the roaming charges that are applied tend to be more uniform amongst the operators. This facilitates a side-by-side comparison of roaming charges. This may become easier starting from June 2017, when roaming surcharges will be abolished, potentially lessening or removing the need for such comparative reports or tools, though there will be new factors to consider such as individual operators' fair use policies for periodic roaming.

Some consumer associations (28 %) published recommendations for end-users in order to help them select the most suitable international roaming tariff or provide recommendations on how to prevent bill shocks for data roaming usage.

Tables with tariffs on NRA websites

BEREC notes that more and more NRAs are providing general recommendations for customers which may help them to select the most suitable international roaming tariff. In the current survey, 17 of the responding NRAs reported that they publish such information (55 %), whereas in 2014, only 30 % of the responding NRAs reported doing so. A closer look at the links showed that in most cases, NRAs provided an overview of the provisions set out in the Roaming Regulation, information on surcharges for international roaming tariffs and some advice on how to safely use data roaming (bill shock and/or advice on how to switch off roaming). Most NRAs prepared some FAQs as well, reflecting the most pressing issues. Some NRAs also published a press release just before the summer holidays to inform consumers

⁸ <https://www.ocu.org/tecnologia/internet-telefonía/informe/roaming-tarifas/>

about the roaming tariffs or published a press release when the transitional period came into force in April 2016.

BEREC also asked whether NRAs provided up-to-date information comparing tariffs for international roaming from different operators on their websites. 26 % of the responding NRAs actually provide such information and supplied a link, which was in most cases the same link which leads to the general recommendations for customers. As is the case for operators in the previous section, it turns out that obtaining a comprehensive overview of all the different tariff plans is also quite difficult for NRAs. NRAs supply general information about the Roaming Regulation and the charges to be applied, and in some cases supply links to the websites of providers where customers can find international roaming tariffs. Only a few NRAs provide a price comparison tool for roaming charges.

Three NRAs (10 %) have produced a publicly available report or an overview on the comparison of international roaming tariffs, mostly offering some additional background analysis on the comparison between the regulated tariff and alternative tariffs. The number of NRAs providing such reports on the comparison of roaming tariffs has decreased by 50 %, probably due to the transition to the RLAH+ regime. The transition from the Euro tariff to a RLAH+ model might obviate the need to compare roaming tariffs, as the roaming prices have decreased significantly. 13 % of the NRAs provide applications available for customers which let them select the appropriate roaming tariff based on the estimated roaming consumption.

4.3 Guidance for customers to estimate data traffic

Choosing the appropriate tariff can be difficult when dealing with such a wide variety of tariffs offered on the market. Therefore, it is important that customers can estimate their consumption of data traffic in order to be able to make an informed choice.

A customer may estimate data usage based on for example usage patterns or the need for different services while travelling abroad. In order to be able to make an informed decision of the most suitable roaming tariff, the user should have the information which is necessary to estimate their likely consumption of roaming services.

Although estimating the consumption of voice and SMS services can be difficult, understanding the relation between the consumption of roaming call minutes or SMS and the price to be paid, is in general easier compared to estimating the consumption of data services.

In the case of data, calculating the consumption is quite complex since each different data service or application may require a distinct amount of data consumption. For example, even if a user manages to forecast the number of emails expected to be received in a certain period,

the amount of traffic may deviate from the estimate depending on, for example, on the size of attachments to emails.

BEREC considers that the customers' ability to estimate the consumption of roaming traffic is essential for them to be able to compare international roaming tariffs and select the most suitable tariff. Hence, any tools for estimating data usage in advance which may be provided by NRAs, operators, consumer associations and other organizations would support customers in choosing the best tariff corresponding to their usage patterns.

In order to review the users' access to the information necessary for making informed decisions, BEREC asked whether NRAs and operators offered information, applications or other tools to estimate the consumption of services.

Around 13 % of responding NRAs reported having published applications to help customers to estimate the data traffic consumption of Internet services (e.g. web browsing, e-mails, specific applications etc.). Around 11 % of responding NRAs reported that consumer associations or other organizations provided these applications in their Member State. Around 13 % of NRAs reported providing applications for customers to select the appropriate tariff based on an estimation of consumption. Those NRAs and consumer associations which have published information concerning international roaming tariffs usually provide general instructions and information on the use of data roaming services and the tariffs of providers.

Around 33 % of the responding operators reported that they provide information or tools for estimating data consumption and around 7 % reported providing applications for selecting the most adequate tariffs based on consumption.

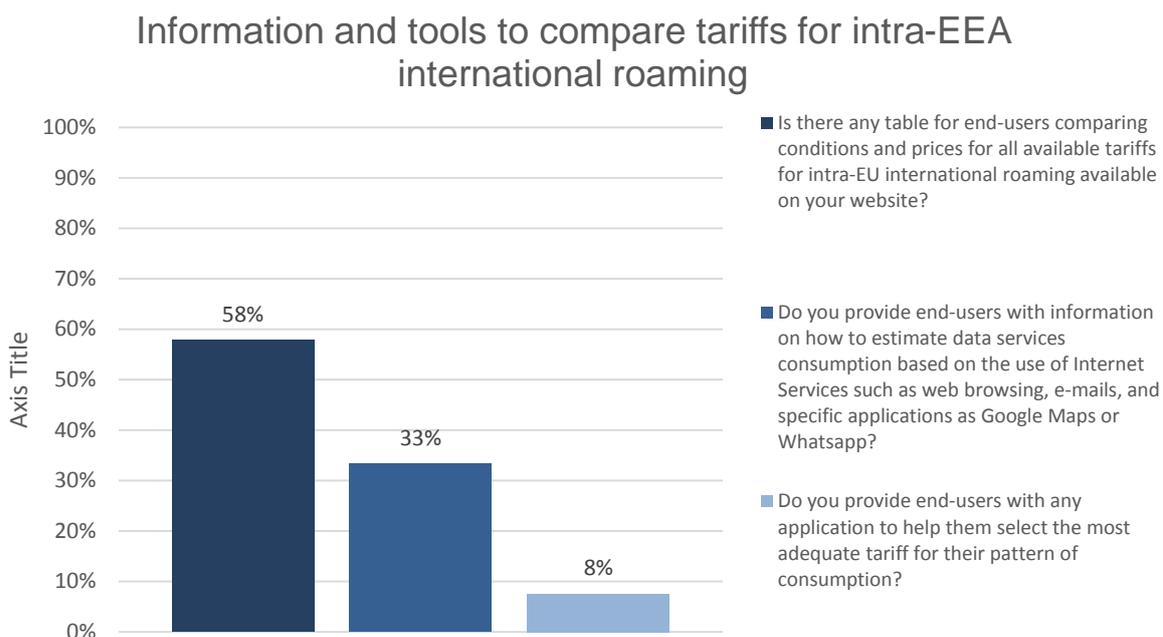


Figure 15: Information and tools to compare tariffs for intra-EEA international roaming

In conclusion, although some operators provide information and tools to estimate data consumption and to help customers choose the most adequate roaming tariff for their respective needs, such services and applications are not very common. However, such tools, general advice and other information allowing customers to estimate consumption of data traffic increase transparency and efficiency in the market as customers can make better informed decisions.

Although the providers' websites are an adequate place for customers to access these types of tools, BEREC encourages NRAs, consumer associations and other organizations to provide tools and information for users to estimate their mobile data consumption additionally.

Annex 1: Questionnaire sent to NRAs

1. Identification		
Name of the NRA:		
Country:		
Contact person (name):		
Contact person (e-mail):		
2. Questions on transparency		
2.1. Complaints on transparency (received from July 2015)		
	Yes/No	Total number of complaints (if Yes)
Have you received complaints from end-users on transparency issues?		
If yes, please select the relevant issues from the list below		
End-users who were not aware about being on an alternative tariff	Yes/No	Number of complaints
Lack of welcome-SMS		
Cut-off limit for data did not activate as end-user expected		
End-user was not informed of charges applying outside EEA		
Roaming in planes/ships		
Other? If so, please provide details below:		

3. Information available to end-users on the NRA website facilitating comparison of tariffs (made public from May 2016)	
	Yes/No
Is there updated information on your website comparing tariffs for international roaming services provided by different operators?	
If yes, please provide the link	
	Yes/No
Have you produced any publicly available report which compares international roaming tariffs?	
If yes, please provide the link	
	Yes/No
Do you publish any set of general recommendations for end-users in order to help them select the most adequate international roaming tariff?	
If yes, please provide the link	
	Yes/No
Is there any application provided by your NRA available for end-users to decide on which type of tariff to select based on estimation of consumption for international roaming?	
If yes, please provide the link	
	Yes/No
Does your NRA provide any application or information for end-users to estimate data services consumption based on the use of Internet Services such as web browsing, e-mails, and specific applications as Google Maps or Whatsapp?	
If yes, please provide the link	

4. Information available to end-users provided by consumer associations or other organizations facilitating comparison of tariffs (made public from May 2016)	
Do consumer associations or any other organization provide tables or any other information comparing tariffs for international roaming from different operators?	Yes/No
If yes, please provide the link	
<hr/>	
Have consumer associations or any other organization produced any publicly available report which compares international roaming tariffs?	Yes/No
If yes, please provide the link	
<hr/>	
Have consumer associations or any other organization published any set of recommendations for end-users in order to help them select the most adequate international roaming	Yes/No
If yes, please provide the link	
<hr/>	
Is there any application provided by consumer associations or any other organization available for end-users to decide on which type of tariff to select based on an estimation of their consumption for international roaming?	Yes/No
If yes, please provide the link	
<hr/>	
Do consumer associations or any other organization provide any application or information for end-users to estimate data services consumption based on the use of Internet Services such as web browsing, e-mails, and specific applications as Google Maps or Whatsapp?	Yes/No
If yes, please provide the link	
<hr/>	

5. Any other input that can be considered useful by the NRA
Please, include any additional information that you consider useful for the BEREC report on transparency and comparability of tariffs
<div style="border: 1px solid black; height: 100px; width: 100%;"></div>

Annex 2: Questionnaire sent to Operators

1. Identification

Name of the provider

Country

Type of provider (mark with a cross in the corresponding cell)

<input type="checkbox"/>	MNO
<input type="checkbox"/>	Full MVNO
<input type="checkbox"/>	Light MVNO/Reseller

2. Structure of tariffs for international roaming (intra-EU)

2.1 Structure of default regulated tariffs according to Article 6e (1)
Please, respond Yes/No in the corresponding cells.

	Available Yes/No	Comment
Domestic rate for roaming services	<input type="checkbox"/>	<input type="text"/>
Domestic rate for roaming services with an FUP	<input type="checkbox"/>	<input type="text"/>
Domestic rate + surcharge	<input type="checkbox"/>	<input type="text"/>
Only surcharge (regardless of the domestic rate)	<input type="checkbox"/>	<input type="text"/>

2.2 Structure of fixed periodic roaming tariffs according to Article 6e (1), subparagraph 4
Please see BEREC Guidelines 16-18 for further information
(http://berec.europa.eu/eng/document_register/subject_matter/berec/download/)

	Available Yes/No	Comment
Daily packages	<input type="checkbox"/>	<input type="text"/>
Weekly packages	<input type="checkbox"/>	<input type="text"/>
Monthly packages	<input type="checkbox"/>	<input type="text"/>
Other, please give a short description	<input type="checkbox"/>	<input type="text"/>

2.3 Structure of alternative tariffs according to Article 6e (3)
Please see BEREC Guidelines 19-22 for further information
(http://berec.europa.eu/eng/document_register/subject_matter/berec/download/)

	Available Yes/No	Comment
Daily packages	<input type="checkbox"/>	<input type="text"/>
Weekly packages	<input type="checkbox"/>	<input type="text"/>
Monthly packages	<input type="checkbox"/>	<input type="text"/>
Other tariffs, please give a short description	<input type="checkbox"/>	<input type="text"/>

3. Information provided by operators**3.1 Alternative tariffs**

Alternative tariffs and regulated tariffs	Yes/No, N/A
Do you inform end-users that have opted for alternative tariffs about the regulated tariff?	
If yes, how do you inform them:	Yes/No, N/A
Website	
On the mobile terminal via SMS or application	
Call center	
Personal page e.g. MyPage	
Point of sales	
Bill	
Other (comment box)	
If yes, how often do you remind the end-users of the regulated tariff? (comment box)	

Alternative tariffs	Yes/No, N/A
Are there any activation charges applied when switching between any of the tariffs?	
Also for tariffs limited in time, do you inform end-users about the tariffs/charges they have to pay for roaming services when their alternative tariff period ends?	
Regarding alternative roaming bundles, do you inform end-users using an alternative tariff (via SMS, website, etc.) about the charges applied for out-of-bundle consumption?	
Do you inform end-users actively when they reach the limits included in the bundle ?	
Please list any other means here:	

3.2 Switching between tariffs

Where do you provide information concerning switching between tariffs ?	Yes/No, N/A
Website	
Mobile terminal (e.g. via a short message)	
Call center	
Point of sales	
Any other mean (please specify)	
If "Any other mean" has been marked as "Yes", please describe	

3.3. Information for end-users about charges and consumption for intra-EU roaming

	Historical information (bill)		Real-time information	
	Charges	Volumes	Charges	Volumes
Do you provide separate itemized information on international roaming intra-EEA outgoing voice calls?				
Do you provide separate itemized information on international roaming intra-EEA incoming calls?				
Do you provide separate itemized information on international roaming intra-EEA SMS sending?				
Do you provide separate itemized information on international roaming intra-EEA data services?				

In case you are providing information for charges and/or volumes consumption, please, identify how this information is provided to end-users		
	Historical Yes/No, N/A	Real-time Yes/No, N/A
Website		
Interaction via the mobile terminal (e.g. via a short message)		
Call center		
Specific app available for installation in the terminal		
Any other means (please specify)		
If "Any other means" has been marked as "Yes", please describe		

4. Information and tools to compare tariffs for intra-EEA international roaming**4.1 Tables comparing all international roaming intra-EU tariffs**

	Yes/No, N/A
Is there any table for end-users comparing conditions and prices for all available tariffs for intra-EU international roaming available on your website?	
If yes, please, provide the link	

4.2 Tools for selecting the most adequate international roaming tariff based on estimation of consumption

	Yes/No, N/A
Do you provide end-users with any application to help them select the most adequate tariff for their pattern of consumption?	
If yes, please, provide the link	

4.3 Information for end-users on estimating data traffic consumption

	Yes/No, N/A
Do you provide end-users with information on how to estimate data services consumption based on the use of Internet Services such as web browsing, e-mails, and specific applications as Google Maps or Whatsapp?	
If yes, please, provide the link	

5. Any other input that can be considered useful by the provider