

**BEREC International Roaming  
Compliance Report  
(Regulation (EU) No 531/512 of the  
European Parliament and of the Council of  
13 June 2012 on roaming)**

**30 September 2013**

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## I. EXECUTIVE SUMMARY AND MAIN FINDINGS

### 1 *Methodology*

The third BEREC compliance report informs about whether mobile operators across the EU EEA area comply with the provisions set out in the 2012 roaming regulation (third roaming regulation).

BEREC prepared a detailed questionnaire to take account of the obligations set out in the roaming regulation as well as the new provisions, which were introduced in the third roaming regulation. Those questions did not address obligations to be implemented only by 1 July 2014.

BEREC received 152 responses from 29 countries (including two EEA countries) in total. 100 responses came from MNOs and 52 from MVNOs. The difference in the number of responses received from MNOs and MVNOs partly result from questions that were specifically addressed to MNOs, such as questions on supplying a reference offer.

NRAs also supplied valuable input as they reported infringement cases or disputes between operators.

### 2 *Main findings*

BEREC can report an overall high level of compliance with the new roaming regulation. This report shows that the vast majority of mobile network operators comply with the obligation to provide wholesale access for other MNOs, MVNOs and resellers. Access seekers mostly used their existing wholesale bilateral roaming agreements, which explain why the reference offers provided by the MNOs were rarely requested, although those were mostly provided on time. BEREC is aware that, according to responses from MVNOs, there is some potential for discriminatory conduct and misuse of market power in the domestic market from host MNO, such as trading domestic prices for contract terms for wholesale resale roaming or in some specific cases not allowing MVNOs to make use of the wholesale roaming access reference offer.

BEREC also notes that the new regulated wholesale and retail roaming tariffs are available to access seekers and to customers and switching between alternative data tariffs and the euro-data tariff does not seem to be a problem with most operators. There is also a high level of compliance with regard to billing of data, with the exception of MMS billing, where some cases have been found on applying a different billing model than the ones considered in the regulation or applying prices above the cap.

Furthermore, BEREC sees that customers are well informed about their roaming consumption despite some initial delays in extending the bill-shock measures to non-EEA countries, as already happened when the bill-shock regulation entered into force for intra-EU data traffic. Some further work may be needed by operators to technically adapt the techniques to provide the transparency measures to new devices such as tablets. In some very specific cases, BEREC has identified also issues with potential non-fulfilment of the regulation applying alternative tariffs by default to new customers without a deliberate selection of them by customers.

Operators also complied with the obligation to provide measure to prevent inadvertent roaming in border areas. The report shows that customers are generally informed on how to avoid inadvertent roaming. BEREC is not surprised to see this outcome as inadvertent roaming had always been in BEREC's focus even before the regulation included a specific legal provision. This document refer to specific measures to prevent inadvertent roaming reported by some of operators that can be considered as good practices to be adopted.

In summary, BEREC welcomes the overall high compliance with the provisions set out in the roaming regulation. Not, there are some areas, where NRAs are recommended to closely monitor compliance. The outcome of the questionnaire shows that in a few cases MVNOs and resellers face difficulties in accessing wholesale resale roaming services and are threatened with unfavourable conditions for their domestic wholesale or the unregulated services. In some other cases the retail or wholesale prices for MMS were above the caps, and some operators did not apply the Eurotariff as the default tariff but instead applied alternative tariffs to their customers without a deliberately choice by the customers. Furthermore in a few cases the bill shock measures were not provided outside the EU EEA area particularly where the host MNO did not support this at the wholesale level.

## II. INTRODUCTION

The compliance reports are a series of documents that BEREC publishes to monitor whether the mobile operators comply with the provisions set out in the Roaming Regulation. The first two reports were initiated by the 2009 Roaming Regulation. With the third Roaming Regulation EU 513/2012, which came into force on 1 July 2012 for the EU-member states<sup>1</sup>, a number of new obligations applied that required action on the part of the mobile operators. In accordance with Article 16 of this Regulation, NRAs are required to monitor and supervise compliance. In particular NRAs are expected to make up-to-date information on the application of this Regulation available as well as to monitor the developments of the wholesale and retail caps for voice, SMS and data roaming.

The first compliance report of September 2009 revealed that mobile operators failed to meet some of the obligations set out in the 2009 Regulation. Some operators still charged their customers for receiving roaming voicemail messages when they were abroad and were expected to change this practice as this was not allowed according to the provisions. The second compliance report of September 2010 which checked also compliance with the requirements that came into force in March 2010, found a high overall compliance rate. Mobile operators reported various technical and commercial challenges particularly with regard to implementing the bill shock measures. Nevertheless, operators managed to generally fulfill the obligations.

The current Regulation, which is in place since 1 July 2012, incorporates some significant changes, some of them clearly to be considered technically challenging for mobile operators. These changes include an obligation for MNO to grant wholesale roaming access, which in particular allows MVNOs and resellers to request wholesale resale roaming access. Another substantive change relates to the obligation for all mobile operators to offer retail roaming services separate from domestic services (decoupling) from 1<sup>st</sup> July 2014. Some changes were also made with regard to the price caps, where the Regulation sets out a new glide path for wholesale and retail voice, SMS and data prices, and for the first time a price cap for retail data roaming services. The Regulation also provides for an application of the transparency measures for EEA consumers travelling outside the EEA area (including the extension of the bill-shock measure) and provisions for handling inadvertent roaming.

Particularly in light of the aforementioned changes, BEREC considered it necessary to ensure that the new provisions in the current Regulation are met by the mobile operators. In this regard, BEREC developed a new standardized questionnaire that each individual NRA sent to its national mobile operators. This questionnaire covered the wholesale access obligations, the availability of the new regulated wholesale and retail roaming tariffs, the implementation of the transparency and bill shock measures, and the implementation of provisions relating to inadvertent roaming.

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<sup>1</sup> The Roaming Regulation also applies to the European Economic Area (EEA) Member States Norway, Iceland and Liechtenstein as from 7 December (Norway and Liechtenstein) and 21 December (Iceland) 2012.

### III. SUMMARY OF PREVIOUS REPORTS

Following the publication of regulation (EC) No 544/2009 on international roaming on 18<sup>th</sup> June 2009<sup>2</sup>, BEREC launched two compliance questionnaires for operators in September 2009 and September 2010. The results obtained from these questionnaires were analyzed and conclusions were drawn in two compliance reports published by BEREC on March 2010<sup>3</sup> and May 2011<sup>4</sup>.

The results obtained from both exercises showed that in general there was a good level of compliance with the 2009 Roaming Regulation and that operators undertook timely initiatives to find technical and commercial solutions where they encountered implementation difficulties.

The first questionnaire sent in September 2009 was responded to by 126 operators across the EU and addressed questions related to the implementation of the retail caps for voice and SMS, billing units applied for voice traffic, provision of customer information (an SMS sending informing about tariffs when entering a member state), compliance with wholesale caps for all services, as well as status on the implementation of obligations that were to enter into force on March, 2010.

The level of compliance reported by operators was in general fine. However, the date for the questionnaire was 3 months after the regulation entered into force, and BEREC found that some operators did not yet comply with part of the provisions such as adapting to the new billing units for voice and most of them were preparing the implementation of obligations to enter into force in 2010.

The second questionnaire was sent one year later, in September 2010, covering the same regulatory issues as well as the implementation of the bill-shock measures for roaming inside the EEA, and not charging for leaving voice mail messages in the customer's mail box both of which entered into force in July 2010.

A total of 113 operators responded to this second questionnaire. According to the summary of findings from this second report, in general the level of compliance with the new additional measures that entered into force in July 2010 is high. Operators that did not comply on September 2009 with the provisions on transparency of retail charges were compliant in September 2010, with the exception of two MVNOs that were experiencing delays in the implementation. Regarding the bill-shock measure, almost all operators confirmed compliance, with some exceptions pointing to specific technical problems for prepaid customers and MMS services. Operators highlighted various technical and commercial challenges, including the application of the bill-shock measure for VPNs and MMSs, as well as the availability of certain devices to receive SMS notifications and the time and resources required to implement this type of provision.

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<sup>2</sup> Regulation (EC) No 544/2009 of the European Parliament and of the Council of 18 June 2009 amending Regulation (EC) No 717/2007 on roaming on public mobile telephone networks within the Community and Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:167:0012:0023:EN:PDF>

<sup>3</sup> BEREC Roaming Compliance Report

([http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/?doc=173](http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/?doc=173))

<sup>4</sup> BEREC International Roaming Compliance Report

([http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/?doc=221](http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/?doc=221))

## IV. INFORMATION COLLECTED BY BEREC

This new exercise on monitoring compliance with the 2012 roaming regulation has been based on a questionnaire sent to operators in June 2013, almost one year after the regulation entered into force. It must be noted that not all the provisions in the regulation entered into force on 1<sup>st</sup> of July of 2012. Provisions related to the publication of reference offers for wholesale access entered into force on 1 January 2013 and provisions related to the separate sale of roaming will enter into force on 1 July 2014.

The questionnaire sent to operators was focused on new provisions included in the 2012 regulation that had already entered into force on 1 July 2012. Specifically, the questionnaire addressed the following issues:

- *Wholesale access obligations* set out in Article 3 including the publication of reference offers to be produced by MNOs. Operators were asked also about the links for their reference offers. BEREC has also included questions for MVNOs in order to double check availability and use of the wholesale resale access offers by MVNOs. Annex 2 includes all the reported links to reference offers that can be useful for all the sector and regulatory authorities to access in a quick way to existing published reference offers.
- *Availability of new regulated wholesale and retail roaming tariffs*: the questionnaire addresses regulatory issues related to the new regulated data retail eurotariffs, as well as application of wholesale caps. Although provisions on MMS were already included in the 2009 regulation, regulatory issues related with MMS were not checked in the previous compliance report and BEREC decided to monitor them this time to get a complete view.
- *Transparency measures*: The questionnaire checks that operators are still fulfilling the transparency measures to send an SMS when customers enter a member state, as well as some additional provisions included in the 2012 regulation.
- *Bill-shock measure*: the questions on bill-shock focus on the new provisions regarding the extension of the bill-shock measure when customers are roaming outside the EEA.
- *Inadvertent roaming*: BEREC has also explored the information that is to be provided by operators to customers on inadvertent roaming, as well as other measures taken by operators to protect customers against inadvertent roaming that can be considered as a good source of best practices in this area.

BEREC has received a total of 152 responses from operators along most of the EEA (29 countries, including two EEA countries that are not part of the EU, but members of the EEA). Of these 151 responses, 100 of them correspond to MNOs and 52 correspond to MVNOs. Some questions were addressed only to MNOs (for example, information about reference offers), others were just for MVNOs (for example, on the use of wholesale resale access reference offers) and most of them were addressed to both types of market actors. The set of operators covers most of the MNOs and a very relevant share of MVNOs along the EEA.

The information gathered from operators has been complemented with information provided by NRAs on known infringement of the regulations and disputes among operators on the application of the 2012 International Roaming Regulation.

## V. WHOLESALE ACCESS OBLIGATION

### 1. Summary of provisions in the regulation

According to Article 3 of the Regulation, mobile network operators (MNOs) must meet all reasonable requests for wholesale roaming access, comprising direct wholesale roaming access and wholesale roaming resale access. Direct access means that the retail provider contracts directly with a foreign EEA visited network for the purpose of allowing roaming customers to access the roaming services of the retail provider in that foreign country. It is worth noting that “direct” access is not necessarily physical. The concept also includes the possibility of a direct charging agreement between retailer and visited network operator, in conjunction with physical access negotiated with a host MNO. Resale access means that retail providers base their retail service on the wholesale service aggregating roaming coverage in the entire EEA and provided by an MNO usually, but not necessarily, in the end user’s home country.

While Article 3 is drafted in general terms, it is expected that most direct access agreements will be broadly in line with the classical wholesale roaming agreements negotiated between MNOs. The existing access agreements between MNOs, on the one hand, and MVNOs/resellers, on the other hand, are (to the extent that they deal with roaming) generally domestic commercially agreed resale agreements. As from 1 July 2012, the roaming aspects of these agreements fall within the scope of Article 3 when the MVNO/reseller request to be applied the wholesale resale access reference offer. Moreover, requests for other variants of direct or resale access must be met, provided only that they are reasonable, irrespective of whether the access seeker is an MNO, MVNO or reseller without systems.

A wholesale roaming access obligation should cover access to all the components necessary to enable the provision of roaming services within the boundaries of the regulated caps, such as: network elements and associated facilities; relevant software systems including operational support systems; information systems or databases for pre-ordering, provisioning, ordering, maintaining and repair requests, and billing; number translation or systems offering equivalent functionality; mobile networks and virtual network services. For additional components requested by access seekers, MNOs are allowed to charge fair and reasonable prices.

On 27 of September, BEREC published a document<sup>5</sup> that contains guidance relating to the operation of Article 3 in practice. It describes the main obligations for MNOs (and corresponding rights of access seekers) concerning the provision of roaming access services.

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<sup>5</sup> See “BEREC GUIDELINES ON ROAMING REGULATION (EC) NO 531/2012 (THIRD ROAMING REGULATION) (Articles 4 and 5 on Separate Sale of Roaming Services)”; [http://berec.europa.eu/eng/news\\_consultations/whats\\_new/1527-berec-published-new-guidelines-on-articles-4-and-5-of-the-roaming-regulation](http://berec.europa.eu/eng/news_consultations/whats_new/1527-berec-published-new-guidelines-on-articles-4-and-5-of-the-roaming-regulation)



## 2. Summary of the responses received from operators

*Question for MNOs: Did you publish your reference offers for wholesale direct access and wholesale resale access on the 1st of January 2013 and make them available to undertakings requesting wholesale roaming access? Please provide the links on your website to the document(s) containing the reference offers for wholesale direct access and wholesale resale access.*

Almost all respondents confirmed that they had met this requirement. Links to the reference offers of operators are listed in Annex 1 of this document. Only a small number of operators responded that they had not been able to publish the reference offer on time, but that they since had published it. One operator answered that they were still working on the reference offer and planned to publish it in July 2013. Another operator stated that it was not commercially feasible for them to implement wholesale access in a small coverage area; therefore they had not published a reference offer. However upon request, an offer would be created.

*Question for MNOs: Are you supplying the minimum set of wholesale roaming services required to allow a retail provider with its own systems for handling all retail functions to provide a retail roaming service of satisfactory quality within the boundaries of the regulated caps and are these services listed in the reference offer? The minimum set shall include in particular:*

- i) Access to the wholesale roaming services provided by visited network operators with which the MNO has a wholesale roaming access agreement*
- ii) Access to transit services used by the MNO for its own roaming business*
- iii) Access to all information on end-user usage*
- iv) Access to all wholesale functions and facilities provided by the MNO and used to supply its own retail roaming business, in particular contract negotiation and implementation, signaling, authentication, data clearing, billing interconnect, fraud handling, provisioning, Global Roaming Exchange, IP Exchange*

All of the MNOs that published a reference offer answered that it contained the minimum set offers required to allow a retail provider to provide retail roaming services. Furthermore, they answered that all of the above mentioned wholesale services were within the regulated caps.

- a. Question for MNOs: If you have received requests for wholesale roaming access, have you refused any of them? If yes, please list the objective criteria used in each case.*

Most of the operators replied that they had not received any request. Only a few reported that they had been approached and with a sole exception, all of them had granted access. The operator that refused the request argued that the level of traffic estimated by the applicant had been too low, so that it would not have been able to recover its implementation costs within a reasonable period of time.

- b. Question for MVNOs: Have you contracted regulated wholesale roaming services from an MNO based on its Reference Offer? If so, please name the applicable MNO and list*

*which services are delivered within the caps of the regulation and which services, if any, are delivered on agreement of an additional fee.*

A few providers answered that roaming services at wholesale level had been negotiated individually with each operator and were not based on reference offers. Some light MVNOs as well as resellers answered that the services were still delivered on the basis of the existing contracts with national host MNOs. According to the responses from MVNOs, a number of host MNOs deny any obligation to offer roaming services on the basis of Art. 3 and deny the obligation to offer roaming services on the basis of wholesale caps according to Art. 3. Some others (always according to MVNOs responses) are threatening that if the light MVNO requested roaming access on the basis of Art. 3, this would lead to disadvantages for the light MVNO for the access to unregulated services (domestic services etc.).

- c. Question for MVNOs and MNOs: When requesting wholesale roaming access did you receive the draft contract within a month and was the wholesale access granted within 3 months of signing the contract?*

Access seekers answered that in general the contracts had been provided within one month. In one case testing took longer, so the 3 month period could not be met. One operator stated that "European operators seem to refer to work overload and prioritizing issues and it has been so far not possible to gain any access for roaming in EU based on the latest regulation during year 2013".

### **3. Summary of the feedback given by NRAs**

BEREC asked NRAs if they were aware of any non-compliance issues or if there are/were any disputes or infringement cases. One NRA replied that they had a complaint with regard to compliance with Art 3: an MNO refused wholesale roaming access to an MVNO, because the MVNO did not want to supply any information on estimated volumes and traffic flows. The regulator intervened and told the MVNO that the access provider had the right to ask for this kind of information. Since then, the NRA in question heard nothing further from the MVNO.

Another NRA reported to have a complaint from a foreign operator for not being able to reach an agreement for direct wholesale roaming access. In particular, the foreign operator argued that the mobile operator only offered connectivity through an international hub, which presumably would make the applicant incur extra costs. The complaint was filed shortly after the publication of the BEREC Guidelines on the application of Article 3 where it was clarified that the party requesting to connect via a hub will carry the additional costs for the other party. Once the content of the Guidelines was known, the access provider offered the foreign operator connection to the hub free of charge, conditional only on verification that the operator and any of its potential customers would belong to countries of the European Union.

## 4. Conclusions

In general BEREC is satisfied with compliance with Art 3 of the Roaming Regulation, as almost all of the operators met the deadline for the publication of the reference offer. But although there exists a wholesale access obligation and there is a high level of compliance, the responses to the questionnaire show that as of now it is not requested by reseller and light MVNOs. Either they already had individually negotiated contracts for domestic as well as roaming services, or they fear that if they make use of the reference offer this would result in worse conditions for unregulated services. Although the provisions on wholesale resale access reference offers were recently introduced and it takes time to renew MVNOs contracts covering many different issues apart from roaming. NRAs have no options to solve these problems within a dispute resolution procedure according to Art. 17 of the Roaming Regulation. A certain spillover effect might indeed occur when applying for regulated caps. BEREC recommends the Commission to take a close look at this effect of current regulation in article 3. Furthermore BEREC advises operators to contact NRAs in case they are not able to make use of the wholesale resale access obligations. In any case, BEREC will regularly monitor if MVNOs are able to exert their right to access wholesale resale access service at regulated prices.

## VI.AVAILABILITY OF THE NEW REGULATED WHOLESALE AND RETAIL ROAMING TARIFFS

### 1. Summary of new provisions in the regulation

According to Article 13 of the Regulation, maximum retail charges for regulated data roaming services apply for roaming providers. From 1 July 2012, a euro-data tariff of EUR 0.70 (excluding VAT) per megabyte is applied. This tariff was lowered to EUR 0.45 (excluding VAT) per megabyte on 1 July 2013. Not counting customers who have deliberately chosen a different roaming data offer, the euro-data tariff must apply to all customers. All customers shall be informed individually about the euro-data tariff that was in effect from 1 July 2012, while customers who have already chosen a specific roaming offer shall be reminded of the conditions applicable to this offer. Customers should also be informed about the possibility of switching within one working day to or from the euro-data tariff.

Data shall be charged on a per-kilobyte basis, except for MMS messages that can be charged on a per-unit basis. Charging MMS on a per-unit basis, the retail charge may not exceed the euro-data tariff.

### 2. Summary of the responses received from operators

*Question for all operators: Did you apply to all customers (including new ones) who did not choose a specific roaming data offer on the 1st of July 2012 a default euro-data tariff according to the conditions set out in Article 13(1, 2, 4) of the Roaming Regulation? If not, please list and explain when you implemented the above mentioned euro-data tariff and its' level.*

Overall, respondents who offer international roaming services gave a positive response to this question. One provider has applied the euro-data tariff from 1 January 2013 but has compensated the customers for the period where the tariff was higher than the euro-data tariff.

*Question for all operators: Pursuant to Article 13 (1, 6) all customers should have been informed about the use of the euro-data tariff. All customers that have subscribed to a special roaming tariff/package should similarly have been informed about the switching time of one working day as set out in Article 13(5). Did you inform your customers according to the provisions set out in Article 13(1, 6)? Please list how and when.*

Roaming providers have provided the information to their customers. The preferred medium is the providers' website but informing the customers individually via SMS and invoices has also been used by many providers. A few providers have informed their (postpaid) customers via a letter. Only one provider did not inform its customers.

*Question for all operators: Are roaming customers able to switch within one working day upon receipt of their request to or from a euro-data tariff according to the rights set out in Article 13(5)? If applicable please state the success rate.*

Some of the roaming providers did not offer alternative tariffs and thus do not consider switching. The majority of roaming providers that offer alternative tariffs report that in close to all instances, the roaming customer is able to switch within one working day. The customers are in most cases able to notify the roaming provider of the switch via customer service, SMS or web portal. One provider offers a mobile application where the customer can initiate the switch. One provider stated that roaming customers are not able to switch within one working day.

- d. Do you bill the data roaming in kilobytes units? Please list which billing method is used to round up to Kilobytes and if there is a distinction made between upstream and downstream data roaming.*

Almost all roaming providers bill their customers in kilobytes. The rounding to kilobytes is done rounding either up, down or mathematically. There seems to be a slight trend in favor of rounding up. No provider reported that there is a distinction between upstream and downstream data roaming. One provider responded that data is billed in kilobytes units but also responded that 5,45 € cent is charged per started 100 kilobytes. For technical reasons one provider charges some of its customers in 3 kilobytes increments, but state that this has no negative customer impact because customers would only be charged 1 penny at most per data session for each 3 kilobytes increment.

*Question for all operators: A MMS message can either be billed per kilobyte or per message. Do you comply with this provision of the regulation? Please list the method you are using to charge MMS messages by explaining how you would bill an MMS containing more than 1MB of data.*

*For MMS messages billed on a per unit basis, do you apply a maximum retail charge of 70 eurocents excluding VAT or in equivalent currency? If not please state when and how do you plan to comply with this provision.*

The majority of the roaming providers that offer MMS state that they comply with the regulation. There is a fairly even split between charging per kilobyte and charging per unit. Some operators apply a fixed charge plus a per kilobyte charge. In addition, some operators apply different billing methods depending on whether the MMS is originated or terminated.

Two operators have a setup charge and also a per kilobyte charge resulting in a MMS (of 1 megabyte) charge above the euro-data tariff. Another operator has charged above the euro-data tariff but will from 1 July 2013 charge all MMS at the regulated tariff of 1 megabyte. Several operators charge above the euro-data tariff, and one of these operators was due to update prices to meet the regulation in July 2013 while others state that their host operator charges wholesale prices above the euro-data tariff resulting in retail prices above the euro-data tariff.

Based on the responses given, it is apparent that there is a large difference between operators in the allowed maximum size of a MMS. Many operators do not allow a size exceeding 300 kilobytes. Some operators have a maximum of 1 megabyte while others allow MMS larger than 1 megabyte. Some of these operators charge the large MMS as if it had a maximum of 1 megabyte while others charge more than one MMS, either charging for two MMS or the additional kilobytes contained in the MMS.

Some operators report to charge MMS well below the euro-data tariff.

*Question for MVNOs: Does your host operator bill you wholesale roaming tariffs within regulated caps? If not, please specify the services supplied which are not being delivered within the regulated cap prices.*

A minority of operators believe they are priced above the regulation for incoming calls and other unregulated services, i.e. these services are not fair and reasonably priced according to the Article 3 guidelines. Some also believe that MMS is priced above the euro-data tariff. Also, an operator is waiting for a reply from its host operator about the size of the wholesale charge which the operator believes is above the regulated tariff.

### **3. Summary of the feedback given by NRAs**

Some of NRAs were approached by operators asking if an alternative roaming tariff by default could be allowed for some of the national bundles. The operators thought that the alternative tariffs would be the best choice for their customers and cheaper than the euro tariff. The NRAs believe that the euro tariff has to be set by default.

Another NRA had an issue with an operator that by default applied other tariffs than the euro tariff to its customers. The customers had no option of selecting the euro tariff when signing the contract for some new domestic tariffs. The NRA has opened an infringement procedure, currently still open, as it is considered that the selection of any alternative tariff must be done

in a deliberate way by the customer, who must have the right to select the Eurotariff at the moment of contracting any domestic tariff.

#### **4. Conclusions**

By now, in general the euro-data tariff has been applied to all customers, who did not deliberately choose alternative roaming data tariffs. Customers were also in general informed about the use of the euro-data tariff. Those operators that offer alternative tariffs report that switching to and from the euro-data tariff in the majority of cases takes place in one working day. The billing of data is done in kilobytes.

For MMS billing there is less homogeneity between operators. Some operators apply a charge combining a set up charge and a volume charge that is not compatible with the regulation, and others have charged above the tariffs set out in the regulation. Therefore, the billing of MMS by operators should be closely monitored by NRAs, especially to ensure that the charges applied for MMS services do not exceed the euro-data tariff.

The feedback from some NRAs implies that some operators are interested to combine their national bundles with alternative roaming tariffs as default, or even to offer just an alternative tariff for new domestic tariffs. Offering lower prices than regulated roaming tariffs is welcome, but must be done without conditions relating to the bundles, usage etc. in order to comply with the regulation, customers must have the right to select the Eurotariff at the moment of contracting a new domestic tariff, and in general, customers must deliberately select alternative tariffs. This development should be monitored by NRAs.

## **VII. TRANSPARENCY MEASURES**

### **1. Summary of provisions in the regulation**

1. Voice and SMS: In summary, according to the Article 14 of the Regulation, each mobile operator is obliged to provide each customer (except where they have actively opted out of this) automatically with basic personalized pricing information on the roaming charges they will incur when making or receiving a call or when sending an SMS message when they enter a Member State other than that of their domestic provider. This information must comprise the maximum charges, in the local currency, which the customer will incur for these services. It shall also include a free phone number to obtain more detailed information on accessing emergency services by dialing 112 free of charge. Similar information is to be provided to roaming customers travelling to a country outside the EEA.

Customers will also have the right to request and receive, free of charge, more detailed personalised information on voice and SMS charges, and the transparency provisions of the Regulation.

When roaming subscriptions are taken out, roaming providers shall provide all users with full information on roaming charges including the applicable euro-voice tariff and euro-SMS tariff, including the conditions for their use in a clear and unbiased manner. They shall also send a reminder at reasonable intervals thereafter to all customers who have opted for another tariff.

2. Data: In summary, according to Article 15 of the Regulation, roaming providers shall ensure -both before the start of a contract and after it has ended - that their customers are

informed of the charges for using regulated data services so as to enable them to assess the financial consequences of such use and to monitor and control their expenditure.

In addition, where appropriate, roaming providers shall notify customers - both before the start of a contract and after it has ended – of the risk of automatic and uncontrolled data roaming connection and download. They shall also notify customers free of charge and in a clear manner how to switch off any automatic data roaming connections in order to avoid uncontrolled consumption of data roaming services.

An automatic message shall inform the customer that the latter is roaming and shall provide basic, personalized tariff information on the charges in the local currency in the home country, expressed in price per megabyte, except where the customer has notified the roaming provider that he does not require that information. Such information shall be delivered to the customer free of charge via an SMS message, e-mail or pop up window on the mobile device every time the customer a) enters another Member State and b) initiates data roaming services.

Each roaming provider shall also provide to all its roaming customers the opportunity to opt in to a free service which provides information on the accumulated data consumption expressed either in volume or in the currency of billing for regulated data roaming services and which guarantees that, without the customer's explicit consent, the total spent does not exceed the default 50 euro financial limit or other pre-specified limits. Limits may also be expressed in volumes, provided that the customer is informed in advance of the corresponding volume amounts. Customer shall be free to opt in to limits other than the default 50 euro limit.

When the financial or volume limit would otherwise be exceeded, a notification shall be sent to the customer's mobile device to indicate the procedure to be followed to continue or cease using data roaming services and if no response is received those services shall cease to be provided and charged for.

For travelers outside the European Union, the same requirements apply except in the case that the visited network operator in the visited country outside the EEA does not allow the roaming provider to monitor its customers' usage in real time.

## **2. Summary of the responses received from Operators**

*Question for all operators: Were you able, on 1 July 2012, to: Continue providing basic personalized information via SMS within EEA and also extending this provision outside the EEA? If not, explain why.*

*Question for all operators: Were you able, on 1 July 2012, to: Continue offering the customer with each electronic transparency message the possibility to stop this transparency service for free and in an easy manner? If not please explain why.*

According to operators' returns, the extension of the transparency measures to non-EEA countries and the option to opt out of such transparency measures freely and easily have been generally implemented. However, a number of partial exceptions were reported even by operators who regarded themselves as compliant with the regulation.

One MNO reported a three month delay in implementing the new transparency provisions, and another one MVNO reported that it had not been able to provide pricing information for

all non EEA countries. One MNO also reported not having implemented the transparency for business customers, on the grounds that they use but do not pay for the services and it also did not offer the facility to stop transparency messages. Operator deals directly with the fleet manager to set different cut-off limits.

In general, operators reported that they had continued to provide basic, personalized pricing information via SMS within the EEA and that they had extended this outside the EEA.

Of those operators who reported non-compliance on extending the basic personalized information via SMS to countries outside of the EEA, one operator reported that it was “difficult” to provide such personalized information by SMS, another MNO reported that such information was provided by its web portal to avoid too lengthy an SMS message and three MVNOs reported that such data was not provided by their host MNO.

Two operators had implemented this provision one year late and two others were likely to become fully compliant only in the second half of 2013.

Of the nine operators who had not been able to offer a service to stop transparency messages, one pleaded, for one it saw this change as technically too difficult and four other MVNOs reported that their host was unable to provide this service, two set out to do it in a different way (i.e. via a web portal or at the start of the contract) and one gave no reason.

*Question for all operators: Do you supply the information on applicable roaming charges to remind customers with alternative tariffs and do you inform your customers with alternative tariffs when one of these tariffs gets charged in a sufficiently detailed way for them to be able to decide if it is beneficial for them to switch to the Euro tariff since the 1st July 2012? Please state in which manner you comply with this provision.*

Overall, where operators offer alternative tariffs, all of the operator returns report compliance with this provision. Various means are used to notify customers of changes to alternative roaming tariffs including SMS messages, newsletters, billing invoices, e-mail, point of sale information and/or web pages. Some operators do not offer alternative tariffs.

*Question for all operators: Have you extended the mechanisms you supply to consumers guaranteeing that their monthly expenditure on data roaming does not exceed a specified limit for a specified period of time also to countries outside the EEA as from 1st July 2012? Please state if and how the mechanism you have implemented might differ from the ones you supplied within the EEA with regard to the requirements of Article 15 section 3. Furthermore please state if applicable why it was implemented later, at which time it was implemented and what measures did you take to make sure customers didn't suffer negative consequences from any implementation after 1st of July 2012.*

The vast majority of operators implemented these measures on time (a few had already implemented the provision prior to the regulation) and using the same means as apply to roaming customers within the EEA area. A small minority were late in their implementation due to technical issues combined with the notice given between finalising and applying the regulation. In cases where temporarily a different limit or no limit was applied to customers



roaming outside the EEA, arrangements were made to compensate customers for additional charges incurred.

*Questions for all operators: Are you experiencing difficulties with any customer segments like corporate, types of tariff or customer devices for which it is particularly difficult to comply with the Regulation, or will be in the future? Please list why, and the steps you are taking/plan to take to protect customers from bill shock in these cases.*

Some operators experience difficulties in communicating with tablets including I-Pad users which do not support SMS especially where no associated e-mail address is known. The problem of how to communicate with private networks emerges in certain responses which can be overcome as customers migrate to a new Access Point Network. In addition, many corporate customers do not like the anti-bill shock measures and request for them to be switched off. Where anti-bill shock measures are not currently possible discussions are taking place e.g. on push SMS with handset manufacturers.

*Question for all operators Do you supply an SMS service, or any other means of notification, without undue delay and free of charge to inform consumers using a bill-shock measure that this bill-shock measure isn't available when they enter a country outside the EU where real time monitoring isn't possible? If applicable please list the countries and networks involved and how the notification is provided.*

In general, bill shock warnings are available outside the EEA and in many cases operators notify that data roaming is only extended outside the EEA boundaries if real time monitoring is in place which allows cut off limits to be applied.

### **3. Summary of the feedback given by NRAs**

There was not any substantial additional feedback by the NRAs apart from the individual operator responses. One NRA reported that it received 19 complaints since 1 July 2012 most of them related to transparency issues but that most of them did not indicate potential non compliance with the roaming regulation. This NRA has been checking operator web sites and asked for clarifications regarding data unitization, data tariffs and the extension of data anti-bill shock mechanisms outside the EU.

### **4. Conclusions**

The operator returns indicate a high level of current compliance, despite initial delays to the implementation of the extension of the anti-bill shock data limit to non EEA countries. However certain problems remain and further compliance work is needed especially on the facility for a customer to choose to stop receiving anti-bill shock transparency messages and communicating with tablet users and corporate customers using other devices.

## VIII. INADVERTENT ROAMING

### 1. Summary of provisions in the Regulation

According to the Articles 14 and 15 of the Regulation, roaming providers shall take reasonable steps to protect their customers from paying roaming charges for inadvertently accessed roaming services while situated in their home Member State. This shall include informing customers on how to avoid inadvertent roaming in border regions.

### 2. Summary of the responses received from operators

- a. Are you supplying information to consumers how to prevent inadvertent roaming in border areas? Please list how are you supplying this information?*

The majority of the respondents confirmed that they are supplying the relevant information to consumers about how to prevent inadvertent roaming. Only a small number of operators responded that they had not been able to inform their customers.

In most cases the information is on the operator's web site, and it is provided for customers by phone in their services desks. Some operators have reported to have produced brochures on how to avoid inadvertent roaming that are available in their web site and points of sale.

In general, operators provide information recommending switching to manual mode, informing also about how to turn-off/on roaming in devices and about specific tariffs when available for border areas and possibilities given by the operator to bar specific networks. Part of them has reported on specific training about inadvertent roaming to personal responsible of customer care.

One of the operators have also notified about sending specific information in the welcome SMS to customers living nearby the border on how to restrict temporary or permanently roaming services.

- b. Do you take other measures, apart from informing customers, to protect customers against inadvertent roaming or bill-shock surprises caused by inadvertent roaming? If yes, please describe.*

Less than half of the MNOs and only a few of the MVNOs confirmed that they are taking specific measures against inadvertent roaming. The following are the measures cited by operators to protect customers against inadvertent roaming:

- Coordination with neighboring operators to plan the radio network, as well as optimizing location and power in border areas.
- Offering the possibility to customers to explicitly request blocking (barring) the use of networks in neighboring countries to avoid inadvertent roaming. Some operators report also that in border areas roaming services are not activated by default for customers living in these border areas.
- Use of border roaming gateways to prevent registration on foreign networks where home coverage is available. One of the operators reported also to use steering tools

to identify when customers are connecting to border base stations in a foreign network from the same group to prevent customer's terminal to from connecting to these base stations when the customer is in a border area.

- Information about being connected to a foreign network in the landing page for customers when using data roaming services.
- Offering specific tariffs with relevant discounts for neighboring countries where the operator has also footprint from an operator part of the group, as well as offering daily tariffs limiting the use of roaming services to avoid inadvertent roaming.
- Checking regularly in the terminal if the HPMN is available and redirecting if so to the home site.
- Sending customers e-mails when detecting abnormal high use and/or refunding inadvertent roaming charges in a case by case basis.

### **3. Summary of the feedback given by NRAs**

There was not any additional feedback by the NRAs besides the collection of the individual operator's responses.

### **4. Conclusions**

See below.

## **IX. CONCLUSIONS AND RECOMMENDATIONS**

Overall BEREC is satisfied that there is a high level of compliance with the new Roaming Regulation, particularly as the new Regulation contains substantive changes compared to the previous Regulations, such as wholesale access obligations for mobile network operators, the separate sale of roaming services, a price cap for retail data roaming services, the application of transparency measures for customers travelling outside the EU EEA area, provisions to avoid inadvertent roaming and new price caps for wholesale and retail roaming services. Hence, one has to bear in mind that this compliance report does not cover the decoupling obligations that will enter into force only on 1 July 2014.

#### *Wholesale access obligation*

At the wholesale level mobile operators across the EEA area mostly comply with the provisions set out in the current Roaming Regulation. Apparently demand for the reference offers, which all include the required set of facilities is quite low. Nevertheless mobile operators including MVNOs and resellers are reported to have access to wholesale roaming services, partly via their existing roaming agreements. Those existing roaming agreements obviously include specific terms and conditions, which are not set out in the reference offers. It seems that a number of host MNO may be denying that they have any obligation to offer

wholesale roaming services based on Article 3 of the Regulation and the application of the wholesale caps.

BEREC also notes that MVNOs and resellers can be subject to unfavorable conditions for unregulated services (e.g. domestic services) when negotiating wholesale roaming agreements based on the wholesale access obligation pursuant to Article 3 of the Regulation.

#### *Availability of the new regulated wholesale and retail roaming tariffs*

Overall there is a high level of compliance in the supply of wholesale and retail data offers as well as on the switching time between alternative data tariffs and the euro-data tariff. Operators also complied with the provisions of the Regulation with regard to billing of data, which is required to be in kilobytes. Only billing of MMS is performed differently among operators, whereby some operators levy set-up and volume charges, or set charges above the price caps. BEREC assumes that operators offer their customers MMS as a euro-data tariff by default, which of course cannot exceed the retail data price caps set out in the Regulation. In this regard, the MMS tariffs outlined above are expected to be part of alternative tariff offers, which operators are allowed to charge at different prices than the retail price caps.

Regarding wholesale billing of data, some operators believe that wholesale resale prices are not charged on fair and reasonable grounds as is set out in Article 3 of the Regulation. This practice is not in line with the Regulation and does not support the aim of the Regulation to allow profitable market entry for MVNO and resellers. BEREC advises operators to contact their NRA if such practice occurs.

BEREC is aware that some operators consider their alternative retail tariffs to be more favorable for their customers than the euro tariff and therefore are interested on offering them as the default tariff instead of the euro-tariff. The provisions in the Regulation require operators to apply a euro tariff for voice, SMS and data services to new customers who did not opt deliberately for an alternative roaming tariff. It makes sense for the provision on retail data roaming to refer to *new* customers as those are the ones facing a variety of tariff offers and are not aware of tariffs that may be price capped. Existing customers are better protected, because they are either set to the default euro tariff or have already deliberately selected an alternative tariff. A retail euro tariff was first introduced with the current Regulation and the provisions for the retail euro tariffs for voice and SMS roaming refer to existing customers. BEREC recommends NRAs to refer to Articles 8(3), 10(4), 13(4) should an operator set an alternative roaming tariff by default.

#### *Transparency measures*

The operator returns indicate a high level of current compliance, despite initial delays to the implementation of the extension of the anti-bill shock data limit to non EEA countries. However certain problems remain and further compliance work is needed especially on the facility for a customer to choose to stop receiving anti-bill shock transparency messages and communicating with tablet users and corporate customers using other devices.

#### *Inadvertent roaming*

BEREC was always concerned about customers inadvertently roaming in border areas and therefore included this topic in its benchmark data reports regularly. The new Roaming

Regulation now contains for the first time provisions for mobile operators to avoid inadvertent roaming for customers staying in border areas. BEREC understands that most mobile operators have already taken measures to inform their customers on how to avoid inadvertent roaming. This is reflected in most of the responses received from the operators. Only very few operators cannot notify their customers or block data roaming by default. Some others even refund their customers or deployed border roaming gateways to prevent inadvertent roaming. Most operators do not take any other measures than notifying their customers.

BEREC considers that customers are adequately informed on how to avoid inadvertent roaming as operators use various means to provide such information to their customers. Overall BEREC sees a high level of compliance with regard to the provisions on inadvertent roaming.

BEREC welcomes the steps that operators have taken to comply with the requirements set out in the new Roaming Regulation on time, and strongly encourages all operators to do so, also with regard to the provisions that will apply from 1 July 2014. BEREC is available to provide guidance to operators on complying with the Regulation, and work together to ensure a consistent approach across the EEA area.

The results of this and future compliance surveys will inform BEREC's input to the European Commission's review of the Regulation due to 30 June 2016 and a following report to be submitted every two years thereafter.

Finally, BEREC recommends monitoring of the following issues identified as potential non-fulfillments of the regulation:

- MVNOs/resellers prevented from exerting their right to use wholesale resale access reference offers.
- Retail or wholesale prices for MMS traffic above the cap for the corresponding Eurotariff.
- Non-availability of the Eurotariff when selecting specific domestic tariffs or by default application of alternative roaming tariffs without customer selecting them deliberately.
- Specific cases of non-provision of the bill-shock measure outside the EEA, especially when a MVNO has no support for that by the hosting MNO.

## X. ANNEX 1: LINKS TO REFERENCE OFFERS

Country	Operators and links to Reference Offers
<b>Austria</b>	<ul style="list-style-type: none"> <li>A1 Telekom: <a href="http://wholesale.telekom.at/Content.Node/internationalproducts/roaming/Reference-Offer-for-Wholesale-Roaming-Access-final.pdf">http://wholesale.telekom.at/Content.Node/internationalproducts/roaming/Reference-Offer-for-Wholesale-Roaming-Access-final.pdf</a></li> <li>Hutchinson 3G Austria: <a href="https://www.drei.at/portal/de/bottomnavi/ueber-drei/wholesale/downloads/">https://www.drei.at/portal/de/bottomnavi/ueber-drei/wholesale/downloads/</a></li> <li>T-Mobile (Direct Access): <a href="http://www.t-mobile.at/pdf/business_agbs/Reference-offer-wholesale-direct-access.pdf">http://www.t-mobile.at/pdf/business_agbs/Reference-offer-wholesale-direct-access.pdf</a></li> <li>T-Mobile (Wholesale Resale Access): <a href="http://www.t-mobile.at/pdf/business_agbs/Wholesale-Roaming-Resale-Access-Offer.pdf">http://www.t-mobile.at/pdf/business_agbs/Wholesale-Roaming-Resale-Access-Offer.pdf</a></li> </ul>
<b>Belgium</b>	<ul style="list-style-type: none"> <li>Belgacom: <a href="http://www.belgacomwholesale.be/wholesale/en/jsp/dynamic/product.jsp?dcrName=nws_roaming">http://www.belgacomwholesale.be/wholesale/en/jsp/dynamic/product.jsp?dcrName=nws_roaming</a></li> <li>KPN: <a href="http://www.kpngroupwholesale.be/content/roaming-access">http://www.kpngroupwholesale.be/content/roaming-access</a></li> <li>Mobistar: <a href="http://corporate.mobistar.be/go/en/network/Mobile_network/Interconnection.cfm">http://corporate.mobistar.be/go/en/network/Mobile_network/Interconnection.cfm</a></li> </ul>
<b>Bulgaria</b>	<ul style="list-style-type: none"> <li>Globul: <a href="http://www.globul.bg/eng/roaming_reference.html">http://www.globul.bg/eng/roaming_reference.html</a></li> <li>Mobiltel: <a href="https://media.mtel.bg/private/pdf/general/Reference-offer-for-Wholesale-Roaming-Access-vs-30May2013.pdf">https://media.mtel.bg/private/pdf/general/Reference-offer-for-Wholesale-Roaming-Access-vs-30May2013.pdf</a></li> <li>Vivacom (Direct Access): <a href="http://www.vivacom.bg/FileHandler.ashx?section=aboutus&amp;filelocid=490&amp;location=general_conditions_articles&amp;lang=bg-BG&amp;isOffline=False">http://www.vivacom.bg/FileHandler.ashx?section=aboutus&amp;filelocid=490&amp;location=general_conditions_articles&amp;lang=bg-BG&amp;isOffline=False</a></li> <li>Vivacom (Wholesale Resale Access): <a href="http://www.vivacom.bg/FileHandler.ashx?section=aboutus&amp;filelocid=489&amp;location=general_conditions_articles&amp;lang=bg-BG&amp;isOffline=False">http://www.vivacom.bg/FileHandler.ashx?section=aboutus&amp;filelocid=489&amp;location=general_conditions_articles&amp;lang=bg-BG&amp;isOffline=False</a></li> </ul>
<b>Cyprus</b>	<ul style="list-style-type: none"> <li>CYTA (Direct Access): <a href="http://www.cytawholesale.com.cy/wholesale2010/page.php?pageID=44&amp;mpath=/4/63/80">http://www.cytawholesale.com.cy/wholesale2010/page.php?pageID=44&amp;mpath=/4/63/80</a></li> <li>CYTA (Wholesale Resale Access): <a href="http://www.cytawholesale.com.cy/wholesale2010/page.php?pageID=27&amp;mpath=/4/63/62">http://www.cytawholesale.com.cy/wholesale2010/page.php?pageID=27&amp;mpath=/4/63/62</a></li> <li>MTN: <a href="http://www.mtn.com.cy/en/support/legal/">http://www.mtn.com.cy/en/support/legal/</a></li> </ul>
<b>Czech Republic</b>	<ul style="list-style-type: none"> <li>Telefónica Czech Republic (Direct Access): <a href="http://www.o2.cz/public_part/71/84/360297_461060_Direct_Wholesale_Roaming_Access_Agreement_1_1_2013_TO2_CZ_DOC">http://www.o2.cz/public_part/71/84/360297_461060_Direct_Wholesale_Roaming_Access_Agreement_1_1_2013_TO2_CZ_DOC</a></li> <li>Telefónica Czech Republic (Wholesale Resale Access): <a href="http://www.o2.cz/public_part/b0/e6/360299_461080_ROWRA.zip">http://www.o2.cz/public_part/b0/e6/360299_461080_ROWRA.zip</a></li> <li>T-Mobile Czech Republic (Direct Access): <a href="http://www.t-mobile.cz/dcpublish/TMCZ_Reference_offer.pdf">http://www.t-mobile.cz/dcpublish/TMCZ_Reference_offer.pdf</a></li> <li>T-Mobile Czech Republic (Wholesale Resale Access): <a href="http://www.t-mobile.cz/dcpublish/RAO_Reference_Offer_for_Wholesale_Roaming_Resale_Access.pdf">http://www.t-mobile.cz/dcpublish/RAO_Reference_Offer_for_Wholesale_Roaming_Resale_Access.pdf</a></li> <li>Vodafone Czech Republic (Direct Access): <a href="http://www.vodafone.cz/_sys_/FileStorage/download/1/487/vfcz_direct-access-agreement-summary_20122102_public.pdf">http://www.vodafone.cz/_sys_/FileStorage/download/1/487/vfcz_direct-access-agreement-summary_20122102_public.pdf</a></li> </ul>

Country	Operators and links to Reference Offers
	<ul style="list-style-type: none"> <li>Vodafone Czech Republic (Wholesale Resale Access): <a href="http://www.vodafone.cz/_sys_/FileStorage/download/1/489/vfcz_wholesale_access_resale_service_list_20122012_public.pdf">http://www.vodafone.cz/_sys_/FileStorage/download/1/489/vfcz_wholesale_access_resale_service_list_20122012_public.pdf</a></li> </ul>
<b>Denmark</b>	<ul style="list-style-type: none"> <li>Hutchinson 3G (Direct Access): <a href="http://www.tre.se/Global/2012/Om3/Hi3G_Direct_reference_offer_SE_2013-02-27.pdf">http://www.tre.se/Global/2012/Om3/Hi3G_Direct_reference_offer_SE_2013-02-27.pdf</a></li> <li>Hutchinson 3G (Wholesale Resale Access): <a href="http://www.tre.se/Global/2012/Om3/Hi3G_Resale_reference_offer_SE_2013-02-27.pdf">http://www.tre.se/Global/2012/Om3/Hi3G_Resale_reference_offer_SE_2013-02-27.pdf</a></li> <li>Telenor (Direct Access): <a href="http://www.telenor.dk/Images/Direct_Wholesale_Roaming_Access_Agreement_20_Dec_2_tcm69-135666.pdf">http://www.telenor.dk/Images/Direct_Wholesale_Roaming_Access_Agreement_20_Dec_2_tcm69-135666.pdf</a></li> <li>Telenor (Wholesale Resale Access): <a href="http://www.telenor.dk/Images/Mobile-Service-Provider-Agreement_tcm69-133455.PDF">http://www.telenor.dk/Images/Mobile-Service-Provider-Agreement_tcm69-133455.PDF</a></li> <li>Telia: <a href="http://telia.dk/omtelia/kontakt/wholesale/wholesale-roaming-access">http://telia.dk/omtelia/kontakt/wholesale/wholesale-roaming-access</a></li> <li></li> </ul>
<b>Estonia</b>	<ul style="list-style-type: none"> <li>Elisa (Direct Access): <a href="http://www.elisa.com/en/docimages/attachment/Direct%20Wholesale%20Roaming%20Access%20Reference%20Offer.pdf">http://www.elisa.com/en/docimages/attachment/Direct%20Wholesale%20Roaming%20Access%20Reference%20Offer.pdf</a></li> <li>Elisa (Wholesale Resale Access): <a href="http://www.elisa.com/en/docimages/attachment/Elisa_Wholesale_Resale_Reference_Offer.pdf">http://www.elisa.com/en/docimages/attachment/Elisa_Wholesale_Resale_Reference_Offer.pdf</a></li> <li>EMT: <a href="https://www.emt.ee/en/firmast/tehniline-vorguinfo">https://www.emt.ee/en/firmast/tehniline-vorguinfo</a></li> <li>Tele2: <a href="http://www.tele2.ee/klienditeenindus/sideettevotjale.html">http://www.tele2.ee/klienditeenindus/sideettevotjale.html</a></li> </ul>
<b>Finland</b>	<ul style="list-style-type: none"> <li>DNA Oyj: <a href="http://www.dna.fi/en/businesscustomers/Sivut/ServicesforTeleoperators.aspx">http://www.dna.fi/en/businesscustomers/Sivut/ServicesforTeleoperators.aspx</a></li> <li>Elisa Oyj (Direct Access): <a href="http://www.elisa.com/en/docimages/attachment/Direct%20Wholesale%20Roaming%20Access%20Reference%20Offer.pdf">http://www.elisa.com/en/docimages/attachment/Direct%20Wholesale%20Roaming%20Access%20Reference%20Offer.pdf</a></li> <li>Elisa Oyj (Wholesale Resale Access): <a href="http://www.elisa.com/en/docimages/attachment/Elisa_Wholesale_Resale_Reference_Offer.pdf">http://www.elisa.com/en/docimages/attachment/Elisa_Wholesale_Resale_Reference_Offer.pdf</a></li> <li>TeliaSonera: <a href="http://www.sonera.fi/operaattoreille/sonera+operator+business/operaattoreille/verkkovierailun+tukkutason+viitetarjous">http://www.sonera.fi/operaattoreille/sonera+operator+business/operaattoreille/verkkovierailun+tukkutason+viitetarjous</a></li> </ul>
<b>France</b>	<ul style="list-style-type: none"> <li>Bouygues (Direct Access): <a href="http://www.corporate.bouyguetelecom.fr/wp-content/uploads/2013/04/BT_RO_DRA-final_avril-13.pdf">http://www.corporate.bouyguetelecom.fr/wp-content/uploads/2013/04/BT_RO_DRA-final_avril-13.pdf</a></li> <li>Illiad (Free Mobile): <a href="http://www.iliad.fr/documentation/FMDwra2013.pdf">http://www.iliad.fr/documentation/FMDwra2013.pdf</a></li> <li>Orange (Direct Access): <a href="http://orange.com/en/networks/documentation/documentation">http://orange.com/en/networks/documentation/documentation</a></li> <li>Orange (Wholesale Resale Access): <a href="http://orange-en-france.orange.fr/docs/Offre_de_reference_Services_d_itinerance_internationale_de_gros_EEE.pdf">http://orange-en-france.orange.fr/docs/Offre_de_reference_Services_d_itinerance_internationale_de_gros_EEE.pdf</a></li> <li>Orange Caraïbe: <a href="http://www.orangecaraibe.com/documents/offre_d_acces_de_gros_aux_services_d_itinerance.pdf">http://www.orangecaraibe.com/documents/offre_d_acces_de_gros_aux_services_d_itinerance.pdf</a></li> <li>SFR (Direct Access): <a href="http://www.sfr.com/nous-connaitre/publications-sfr/02282013-1400-reference-offer-roaming">http://www.sfr.com/nous-connaitre/publications-sfr/02282013-1400-reference-offer-roaming</a></li> <li>SFR (Wholesale Resale Access): <a href="http://www.sfr.com/nous-connaitre/publications-sfr/07012013-1207-offre-de-reference-sfr-dacces-la-revente-de-services">http://www.sfr.com/nous-connaitre/publications-sfr/07012013-1207-offre-de-reference-sfr-dacces-la-revente-de-services</a></li> </ul>
<b>Germany</b>	<ul style="list-style-type: none"> <li>E-Plus Mobilfunk : <a href="http://eplus-gruppe.de/wp-content/uploads/2012/04/Standardangebot-für-den-">http://eplus-gruppe.de/wp-content/uploads/2012/04/Standardangebot-für-den-</a></li> </ul>

Country	Operators and links to Reference Offers
	<ul style="list-style-type: none"> <li>• <a href="#">Großkundenroamingzugang-2.pdf</a></li> <li>• T-Mobile: <a href="http://www.t-mobile.de/business/eu-referenzangebot/0,24513,27736-_,00.html">http://www.t-mobile.de/business/eu-referenzangebot/0,24513,27736-_,00.html</a></li> <li>• Telefonica O2: <a href="http://www.telefonica.de/page/18084/wholesale-roaming-access.html">http://www.telefonica.de/page/18084/wholesale-roaming-access.html</a></li> <li>• Vodafone: <a href="http://www.vodafone.de/unternehmen/standardangebot-roaming.html">http://www.vodafone.de/unternehmen/standardangebot-roaming.html</a></li> </ul>
Greece	<ul style="list-style-type: none"> <li>• Cosmote: <a href="http://www.cosmote.gr/cosmoportal/page/T37/xml/Company_articleadvanced_articleadvanced_Termination/section/Network">http://www.cosmote.gr/cosmoportal/page/T37/xml/Company_articleadvanced_articleadvanced_Termination/section/Network</a></li> <li>• Vodafone: <a href="http://www.vodafone.gr/portal/client/cms/viewCmsPage.action?pageId=11584">http://www.vodafone.gr/portal/client/cms/viewCmsPage.action?pageId=11584</a></li> <li>• Wind: <a href="http://www.wind.gr/gr/wind/gia-tin-etaireia/diasundesiplirofories-gia-tilepikoinoniakous-parohous/hondriki-periagogis/">http://www.wind.gr/gr/wind/gia-tin-etaireia/diasundesiplirofories-gia-tilepikoinoniakous-parohous/hondriki-periagogis/</a></li> </ul>
Hungary	<ul style="list-style-type: none"> <li>• Magyar Telekom: <a href="http://www.telenor.hu/upload/letoltes/roaming/WRA_Refereencia%20Ajanlat%20(2).pdf">http://www.telenor.hu/upload/letoltes/roaming/WRA_Refereencia%20Ajanlat%20(2).pdf</a></li> <li>• Telenor: <a href="http://www.telenor.hu/upload/letoltes/roaming/WRA_Refereencia%20Ajanlat%20(2).pdf">http://www.telenor.hu/upload/letoltes/roaming/WRA_Refereencia%20Ajanlat%20(2).pdf</a></li> <li>• Vodafone: <a href="http://www.vodafone.hu/common/popup/letoltes/ReferenceOffer.pdf">http://www.vodafone.hu/common/popup/letoltes/ReferenceOffer.pdf</a></li> </ul>
Ireland	<ul style="list-style-type: none"> <li>• Meteor: <a href="http://www.eircomwholesale.ie/Products/Traffic/Documents/Unilateral-Access-Roaming-Agreement/">http://www.eircomwholesale.ie/Products/Traffic/Documents/Unilateral-Access-Roaming-Agreement/</a></li> <li>• O2: <a href="http://www.o2online.ie/o2/about-o2/">http://www.o2online.ie/o2/about-o2/</a></li> <li>• Three: <a href="http://www.three.ie/about3/roaming_reference_offer/index.html">http://www.three.ie/about3/roaming_reference_offer/index.html</a></li> <li>• Vodafone (Direct Access): <a href="http://www.vodafone.ie/download?id=BAU019020">http://www.vodafone.ie/download?id=BAU019020</a></li> <li>• Vodafone (Wholesale Roaming Access): <a href="http://www.vodafone.ie/download?id=BAU019022">http://www.vodafone.ie/download?id=BAU019022</a> and <a href="http://www.vodafone.ie/download?id=BAU019021">http://www.vodafone.ie/download?id=BAU019021</a></li> </ul>
Italy	<ul style="list-style-type: none"> <li>• H3G: <a href="http://www.tre.it/3italia/offerta-wholesale">http://www.tre.it/3italia/offerta-wholesale</a></li> <li>• Telecom Italia: <a href="http://www.wholesale.telecomitalia.com/it/catalogo/-/catalogo_aggregatore/article/3103562?_2_WAR_nwscatalogoportlet_redirect=%2fit%2fcatalogo%2f-%2fcatalogo_aggregatore%2farticle%2f36741&amp;_2_WAR_nwscatalogoportlet_resourcePrimKey2=3103562&amp;p_r_p_564233524_act">http://www.wholesale.telecomitalia.com/it/catalogo/-/catalogo_aggregatore/article/3103562?_2_WAR_nwscatalogoportlet_redirect=%2fit%2fcatalogo%2f-%2fcatalogo_aggregatore%2farticle%2f36741&amp;_2_WAR_nwscatalogoportlet_resourcePrimKey2=3103562&amp;p_r_p_564233524_act</a></li> <li>• Vodafone: <a href="http://www.wholesale.vodafone.it/">http://www.wholesale.vodafone.it/</a></li> <li>• Wind: <a href="http://www.windgroup.it/fileadmin/Materiale/PDF/Sustainability/Wind_WRAOffer_01012013.pdf">http://www.windgroup.it/fileadmin/Materiale/PDF/Sustainability/Wind_WRAOffer_01012013.pdf</a></li> </ul>
Latvia	<ul style="list-style-type: none"> <li>• Bite LV: <a href="http://www.bite.lv/sites/default/files/public/Direct%20Wholesale%20Roaming%20Access%20Agreement_Latvia_17%2012%202012.pdf">http://www.bite.lv/sites/default/files/public/Direct%20Wholesale%20Roaming%20Access%20Agreement_Latvia_17%2012%202012.pdf</a></li> <li>• LMT (Direct Access): <a href="http://static.lmt.lv/lmt/files/pamatpiedavajums_viesabonesanai_lmt_tikla_v1.pdf">http://static.lmt.lv/lmt/files/pamatpiedavajums_viesabonesanai_lmt_tikla_v1.pdf</a></li> <li>• LMT (Wholesale Resale Access): <a href="http://static.lmt.lv/lmt/files/pamatpiedavajums_viesabonesanas_talakpardosanai_v1.pdf">http://static.lmt.lv/lmt/files/pamatpiedavajums_viesabonesanas_talakpardosanai_v1.pdf</a></li> <li>• Tele2: <a href="http://www.tele2.lv/privatpersonam/tele2/operatoriem2/">http://www.tele2.lv/privatpersonam/tele2/operatoriem2/</a></li> </ul>
Liechtenstein	<ul style="list-style-type: none"> <li>• Mobilkom: <a href="http://wholesale.telekom-austria.com/Content.Node/internationalproducts/roaming/Reference-Offer-for-Wholesale-Roaming-Access-final.pdf">http://wholesale.telekom-austria.com/Content.Node/internationalproducts/roaming/Reference-Offer-for-Wholesale-Roaming-Access-final.pdf</a></li> </ul>
Lithuania	<ul style="list-style-type: none"> <li>• Bite: <a href="http://www.bite.lt/files/pub/bite_lt9/lt/pdf/Direct_Wholesale_Roaming_Access_Agreement_Lithuania_17.12.2012.pdf">http://www.bite.lt/files/pub/bite_lt9/lt/pdf/Direct_Wholesale_Roaming_Access_Agreement_Lithuania_17.12.2012.pdf</a></li> <li>• Omnitel (Direct Access): <a href="http://www.omnitel.lt/uploads/files/dir528/dir26/dir1/13_0.php">http://www.omnitel.lt/uploads/files/dir528/dir26/dir1/13_0.php</a></li> </ul>



Country	Operators and links to Reference Offers
	<ul style="list-style-type: none"> <li>• Omnitel (Wholesale Resale Access): <a href="http://www.omnitel.lt/uploads/files/dir528/dir26/dir1/7_0.php">http://www.omnitel.lt/uploads/files/dir528/dir26/dir1/7_0.php</a></li> <li>• Tele2: <a href="http://www.tele2.lt/GSM_specifikacijos.html">http://www.tele2.lt/GSM_specifikacijos.html</a></li> </ul>
Luxembourg	<ul style="list-style-type: none"> <li>• Orange (Direct Access): <a href="http://www.orange.lu/static/pdf/Direct_Wholesale_Roaming_Access_Agreement_V0.1.pdf">http://www.orange.lu/static/pdf/Direct_Wholesale_Roaming_Access_Agreement_V0.1.pdf</a></li> <li>• Orange (Wholesale Resale Access): <a href="http://www.orange.lu/static/pdf/Wholesale_Roaming_Resale_Access_Agreement.pdf">http://www.orange.lu/static/pdf/Wholesale_Roaming_Resale_Access_Agreement.pdf</a></li> <li>• P&amp;T: <a href="http://www.pt.lu/portal/lang/en/interconnect/pid/4900">http://www.pt.lu/portal/lang/en/interconnect/pid/4900</a></li> <li>• Tango: <a href="http://www.tango.lu/page.php?url=professionnel/aidesupport/wholesale">http://www.tango.lu/page.php?url=professionnel/aidesupport/wholesale</a></li> </ul>
Malta	<ul style="list-style-type: none"> <li>• Go: <a href="http://www.go.com.mt/Default.aspx?ID=2252">http://www.go.com.mt/Default.aspx?ID=2252</a></li> <li>• Melita: <a href="http://www.melita.com/business/products-services/mobile/wholesale-mobile-services/">http://www.melita.com/business/products-services/mobile/wholesale-mobile-services/</a></li> <li>• Vodafone: <a href="https://www.vodafone.com.mt/wholesaleroaming">https://www.vodafone.com.mt/wholesaleroaming</a></li> </ul>
Netherlands	<ul style="list-style-type: none"> <li>• KPN (Direct Access): <a href="http://www.kpn-wholesale.com/en/our-products/data-networks/physical-access/m/mobile-access.aspx">http://www.kpn-wholesale.com/en/our-products/data-networks/physical-access/m/mobile-access.aspx</a></li> <li>• KPN (Wholesale Resale Access): <a href="http://www.kpn-wholesale.com/nl/onze-producten/zakelijk-eindgebruikers/mobiele-telefonie/r/roaming-resale-offer.aspx">http://www.kpn-wholesale.com/nl/onze-producten/zakelijk-eindgebruikers/mobiele-telefonie/r/roaming-resale-offer.aspx</a></li> <li>• T-Mobile: <a href="http://www.t-mobile.nl/corporate/htdocs/page/wholesale-roaming-access.aspx">http://www.t-mobile.nl/corporate/htdocs/page/wholesale-roaming-access.aspx</a></li> <li>• Vodafone: <a href="http://business.vodafone.nl/zakelijk/wholesale_roaming_access/">http://business.vodafone.nl/zakelijk/wholesale_roaming_access/</a></li> </ul>
Norway	<ul style="list-style-type: none"> <li>• Network Norway: <a href="http://www.networknorway.no/toppmeny/om_network_norway/wholesale_roaming_access">http://www.networknorway.no/toppmeny/om_network_norway/wholesale_roaming_access</a></li> <li>• Telenor: <a href="https://www.jara.no/produkter/mobil/directwholesaleroamingaccess/">https://www.jara.no/produkter/mobil/directwholesaleroamingaccess/</a></li> <li>• TeliaSonera: <a href="https://netcom.no/partner/wholesale-roaming-access">https://netcom.no/partner/wholesale-roaming-access</a></li> </ul>
Poland	<ul style="list-style-type: none"> <li>• T-Mobile: <a href="http://www.t-mobile.pl/pl/strona_korporacyjna/wspolpraca/operatorska">http://www.t-mobile.pl/pl/strona_korporacyjna/wspolpraca/operatorska</a></li> <li>• Orange: <a href="http://www.orange.pl/ocp-http/PL/Binary2/1985717/4066749977.pdf">http://www.orange.pl/ocp-http/PL/Binary2/1985717/4066749977.pdf</a></li> <li>• P4: <a href="http://p4.play.pl/resources/pdf/2012/Oferta_Referencyjna.pdf">http://p4.play.pl/resources/pdf/2012/Oferta_Referencyjna.pdf</a></li> <li>• Plus: <a href="http://www.plus.pl/indywidualna/regulaminy/Oferta_referencyjna_dotyczaca_hurtowego_dostepu_do_uslug_roamingu.pdf">http://www.plus.pl/indywidualna/regulaminy/Oferta_referencyjna_dotyczaca_hurtowego_dostepu_do_uslug_roamingu.pdf</a></li> </ul>
Portugal	<ul style="list-style-type: none"> <li>• Optimus: <a href="http://other.static2.optimus.pt/mediagallery.clix.pt/2013/06/12/2012_12_31_11_11_46_781_Oferta_de_referncia_Roaming_Optimus_281212_v1/2012_12_31_11_11_46_781_Oferta_de_referncia_Roaming_Optimus_281212_v1.pdf">http://other.static2.optimus.pt/mediagallery.clix.pt/2013/06/12/2012_12_31_11_11_46_781_Oferta_de_referncia_Roaming_Optimus_281212_v1/2012_12_31_11_11_46_781_Oferta_de_referncia_Roaming_Optimus_281212_v1.pdf</a></li> <li>• TMN (Direct Access): <a href="http://ptwholesale.telecom.pt/NR/rdonlyres/8A102B1B-9073-463C-AE0A-431DB446C3FD/1466274/TMNDirectWholesaleRoamingAccessReferenceOffer_v2_.pdf">http://ptwholesale.telecom.pt/NR/rdonlyres/8A102B1B-9073-463C-AE0A-431DB446C3FD/1466274/TMNDirectWholesaleRoamingAccessReferenceOffer_v2_.pdf</a></li> <li>• TMN (Wholesale Resale Access): <a href="http://ptwholesale.telecom.pt/NR/rdonlyres/8A102B1B-9073-463C-AE0A-431DB446C3FD/1466275/TMN_OfertadeRefernciadeAcessoGrossistaRevenda.pdf">http://ptwholesale.telecom.pt/NR/rdonlyres/8A102B1B-9073-463C-AE0A-431DB446C3FD/1466275/TMN_OfertadeRefernciadeAcessoGrossistaRevenda.pdf</a></li> <li>• Vodafone: <a href="http://wholesale.vodafone.pt/wholesale_en.html">http://wholesale.vodafone.pt/wholesale_en.html</a></li> </ul>
Romania	<ul style="list-style-type: none"> <li>• Cosmote: <a href="http://www.cosmote.ro/ro/wholesale.aspx?style=styles&amp;ns=-10000">http://www.cosmote.ro/ro/wholesale.aspx?style=styles&amp;ns=-10000</a></li> <li>• Orange Romania: <a href="http://www.orange.ro/produse-si-servicii/termeni-si-conditii/oferta-referinta-roaming/index.html">http://www.orange.ro/produse-si-servicii/termeni-si-conditii/oferta-referinta-roaming/index.html</a></li> <li>• RCS-RDS: <a href="http://www.rcs-rds.ro/interconectare">http://www.rcs-rds.ro/interconectare</a></li> <li>• Vodafone: <a href="https://www.vodafone.ro/termeni-si-proceduri-legale/interconectare/index.htm#tab-1">https://www.vodafone.ro/termeni-si-proceduri-legale/interconectare/index.htm#tab-1</a></li> </ul>

Country	Operators and links to Reference Offers
<b>Slovakia</b>	<ul style="list-style-type: none"> <li>• Orange: <a href="http://img.orange.sk/orange_sk/data/pravne/direct_wholesale_roaming.doc">http://img.orange.sk/orange_sk/data/pravne/direct_wholesale_roaming.doc</a></li> <li>• Telefonica: <a href="http://www.sk.telefonica.com/o-spolocnosti/referencne-ponuky-k-roamingu">http://www.sk.telefonica.com/o-spolocnosti/referencne-ponuky-k-roamingu</a></li> <li>• Telekom SK (Direct Access): <a href="http://www.telekom.sk/english/wholesale-roaming-access/direct-wholesale-roaming-access/">http://www.telekom.sk/english/wholesale-roaming-access/direct-wholesale-roaming-access/</a></li> <li>• Telekom SK (Wholesale Resale Access): <a href="http://www.telekom.sk/english/wholesale-roaming-access/wholesale-roaming-resale-access/">http://www.telekom.sk/english/wholesale-roaming-access/wholesale-roaming-resale-access/</a></li> </ul>
<b>Slovenia</b>	<ul style="list-style-type: none"> <li>• Si.mobil: <a href="http://www.simobil.si/sl/inside.cp2?cid=E645B99E-3180-6379-4DC5-C73A77AFDC3A&amp;linkid=content">http://www.simobil.si/sl/inside.cp2?cid=E645B99E-3180-6379-4DC5-C73A77AFDC3A&amp;linkid=content</a></li> <li>• T-2: <a href="http://www.t-2.net/nasveti-in-storitve/za-operaterje/ror">http://www.t-2.net/nasveti-in-storitve/za-operaterje/ror</a></li> <li>• Telekom Slovenije: <a href="http://www.telekom.si/za-operaterje/operatorski-dostop">http://www.telekom.si/za-operaterje/operatorski-dostop</a></li> <li>• Tušmobil: <a href="http://tusmobil.si/veleprodajni-dostop-za-gostovanje">http://tusmobil.si/veleprodajni-dostop-za-gostovanje</a></li> </ul>
<b>Spain</b>	<ul style="list-style-type: none"> <li>• Orange: <a href="http://acercadeorange.orange.es/UplImages/files/3555/direct_wholesale_roaming_access_agreement_osp_3e03ff9441fcb668df1c5c0ca.pdf">http://acercadeorange.orange.es/UplImages/files/3555/direct_wholesale_roaming_access_agreement_osp_3e03ff9441fcb668df1c5c0ca.pdf</a></li> <li>• Telefonica (Movistar): <a href="http://www.movistar.es/operadores/ServiciosRegulados/ficha/PRO_roaming?paramPestania=soporte&amp;posicionScroll=0">http://www.movistar.es/operadores/ServiciosRegulados/ficha/PRO_roaming?paramPestania=soporte&amp;posicionScroll=0</a></li> <li>• Vodafone: <a href="http://www.vodafone.es/conocenos/es/vodafone-espana/quienes-somos/legal-y-regulatorio/ofertas-de-referencia-de-roaming/">http://www.vodafone.es/conocenos/es/vodafone-espana/quienes-somos/legal-y-regulatorio/ofertas-de-referencia-de-roaming/</a></li> <li>• Yoigo: <a href="http://www.yoigo.com/preguntas/informacion_legal.php">http://www.yoigo.com/preguntas/informacion_legal.php</a></li> </ul>
<b>Sweden</b>	<ul style="list-style-type: none"> <li>• 3Sweden (Direct Access): <a href="http://www.tre.se/Global/2012/Om3/Hi3G_Direct_reference_offer_SE_2013-02-27.pdf">http://www.tre.se/Global/2012/Om3/Hi3G_Direct_reference_offer_SE_2013-02-27.pdf</a></li> <li>• 3Sweden (Wholesale Resale Access): <a href="http://www.tre.se/Global/2012/Om3/Hi3G_Resale_reference_offer_SE_2013-02-27.pdf">http://www.tre.se/Global/2012/Om3/Hi3G_Resale_reference_offer_SE_2013-02-27.pdf</a></li> <li>• Tele2: <a href="http://www.tele2.se/wholesale/roaming-access.html">http://www.tele2.se/wholesale/roaming-access.html</a></li> <li>• TeliaSonera: <a href="http://www.telia.se/foretag/priser/regleradettjanster/wholesaleroamingaccess">http://www.telia.se/foretag/priser/regleradettjanster/wholesaleroamingaccess</a></li> </ul>
<b>United Kingdom</b>	<ul style="list-style-type: none"> <li>• Everything &amp; Everywhere: <a href="http://explore.ee.co.uk/wholesale">http://explore.ee.co.uk/wholesale</a></li> <li>• O2: <a href="http://www.o2.co.uk/termsandconditions/business">http://www.o2.co.uk/termsandconditions/business</a></li> <li>• Three: <a href="http://wholesale.three.co.uk/?intid=topnav">http://wholesale.three.co.uk/?intid=topnav</a></li> <li>• Vodafone: <a href="http://www.vodafone.co.uk/about-this-site/terms-and-conditions/roaming-reference-offer/">http://www.vodafone.co.uk/about-this-site/terms-and-conditions/roaming-reference-offer/</a></li> </ul>

## XI.ANNEX 2: QUESTIONNAIRE SENT TO OPERATORS

The European Roaming Regulation (EU) No. 513/2012 which entered into force on 1st July 2012 introduces two structural measures: the access obligation on the wholesale level and separate sale of regulated retail roaming services. Complementary, the Regulation adds a retail data cap and extends the application of transparency measures and safeguard mechanism outside the EU.

These questions relate to prepaid and post paid customers (both residential and business customers including special Corporate). Where the answers for your company differ for these types of customers, please indicate how and why they differ.

		Articles in the Roaming Regulation	Yes	No	N.A.	If not compliant, please explain or describe	list requested info
<b>Section 1 Wholesale Access obligation</b>							
<b>Subsection 1.1 Questions for MNOs</b>							
1.1.1	Did you publish your reference offers for wholesale direct access and wholesale resale access on the 1 <sup>st</sup> of January 2013 and made it available to undertakings requesting wholesale roaming access? Please provide the links on your website to the document(s) containing the reference offers for wholesale direct access and wholesale resale access.	3.5					
1.1.2	Are you supplying the minimum set of wholesale roaming services required to allow a retail provider with its own systems for handling all retail functions to provide a retail roaming service of satisfactory quality within the boundaries of the regulated caps and are these services listed in the Reference offer? The minimum set shall include in particular: i. Access to the wholesale roaming services provided by visited network operators with which the MNO has a wholesale roaming access agreement ii. Access to transit services used by the MNO for its own roaming business iii. Access to all information on end-user usage iv. Access to all wholesale functions and facilities provided by the MNO and used to supply its own retail roaming business, in particular contract negotiation and implementation, signalling, authentication, data clearing, billing interconnect, fraud handling, provisioning, Global Roaming Exchange, IP Exchange	3.4 and 3.6					
1.1.4	If you have received requests for wholesale roaming access, have you refused any of them? If yes, please list the objective criteria used in each case	3.1 3.2					
<b>Subsection 1.2 Questions for MNOs, MVNOs and resellers</b>							
1.2.1	Have you contracted regulated wholesale roaming services from an MNO based on its Reference Offer? If so, please name the applicable MNO and list which services are delivered within the caps of the regulation and which services, if any, are delivered on agreement of an additional fee	3.4					
1.2.3	When requesting wholesale roaming access did you receive the draft contract within a month and was the wholesale access granted within 3 months of signing the contract?	3.6					
1.2.4	If you contracted services/components for wholesale access not covered by the Reference Offer did you receive the answer of the MNO within 2 months of receipt of the initial request?	3.7					
<b>Section 2 Availability of the new regulated wholesale and retail roaming tariffs</b>							
<b>Subsection 2.1 Default roaming data tariff (Questions for MNOs, MVNOs and resellers)</b>							
2.1.1	Did you apply to all customers (including new ones) who did not choose a specific roaming data offer on the 1st of July 2012 a default euro-data tariff according to the conditions set out in Article 13(1, 2, 4) of in Roaming Regulation? If not, please list and explain when you implemented the above mentioned euro-data tariff and its level.	13.1 1st paragraph, 13.2 and 13.4					
2.1.2	Pursuant to Article 13 (1, 6) all customers should have been informed about the use of the euro-data tariff. All customers that have subscribed to a special roaming tariff/package should similarly have been informed about the switching time of one working day as set out in Article 13(5). Did you inform your customers according to the provisions set out in Article 13(1, 6)? Please list how and when.	13.1 2nd paragraph and 13.6					
2.1.3	Are roaming customers able to switch within one working day upon receipt of their request to or from a euro-data tariff according to the rights set out in Article 13(5)? If applicable please state the success rate.	13.5					
2.1.4	Do you bill the data roaming in Kilobytes units? Please list which billing method is used to round up to Kilobytes and if there is a distinction is made between upstream and downstream data roaming	13.2 2nd paragraph					
<b>Subsection 2.2 MMS tariffing (Question for MNOs, MVNOs and resellers)</b>							
2.2.1	A MMS message can either be billed per kilobyte or per message. Do you comply with this provision of the regulation? Please list the method you are using to charge MMS messages by explaining how would you bill an MMS containing more than 1MB of data	13.2 2nd paragraph					
2.2.2	For MMS messages billed on a per unit basis, do you apply a maximum retail charge of 70 eurocents excluding VAT or in equivalent currency? If not please state when and how do you plan to comply with this provision.	13.2 2nd paragraph					
<b>Subsection 2.3 Wholesale roaming tariffs (Question for MVNOs and resellers)</b>							
2.3.1	Does your host operator bill you wholesale roaming tariffs within regulated caps? If not, please specify the services supplied which are not being delivered within the regulated cap prices.						
<b>Section 3 Transparency measures. (Questions MNOs, MVNOs and resellers)</b>							
<b>Subsection 3.1 Pricing information</b>							
3.1.1	Transparency measures formerly addressed in Article 6, section 1 of the old Regulation are amended in the new Regulation in Article 14, section 1. Were you able, on 1 July 2012, to: i. Continue providing basic personalized pricing information via SMS within EEA and also extending this provision outside the EEA? If not, explain why ii. Offering the customer with each electronic transparency message the possibility to stop this transparency service for free and in a easy manner? If not, please explain why.	14.1 1st, 2nd, 4th and last paragraph					
3.1.2	Transparency measures formerly addressed in Article 6, section 3 of the old Regulation are amended in the new Regulation in Article 14, section 3 on 1 July 2012. Do you supply the information on applicable roaming charges to remind customers with alternative tariffs and do you inform your customers on the roaming tariffs when one of these tariffs gets changed in a sufficiently detailed way for them to be able to decide if it is beneficial for them to switch to the Euro tariff since the 1 <sup>st</sup> of July 2012? Please state in which manner you comply with this provision.	14.3 last paragraph					
<b>Subsection 3.2 Billshock</b>							
3.2.1	Have you extended the mechanisms you supply to consumers guaranteeing that their monthly expenditure on data roaming services does not exceed a specified limit for a specified period of time also to countries outside the EEA as from 1 <sup>st</sup> of July 2012? Please state if and how the mechanism you have implemented might differ from the ones you supplied within the EEA with regard to the requirements of Article 15 section 3. Furthermore please state if applicable why it was implemented later, at which time it was implemented and what measures did you take to make sure customers didn't suffer negative consequences from any implementation after 1st of July 2012	15.6					
3.2.3	Are you experiencing difficulties with any customer segments like corporates, types of tariff or customer devices for which it is particularly difficult to comply with the Regulation, or will be in the future? Please list why, and the steps you are taking / plan to take to protect customers from bill shock in these cases.	Forward looking					
3.2.4	Do you supply an SMS service, or any other means of notification, without undue delay and free of charge to inform consumers using a billshock measure that this billshock measure isn't available when they enter a country outside the EU where real time monitoring isn't possible? If applicable please list the countries and networks involved and how the notification is provided	15.6					
<b>Section 4 Inadvertent roaming (Questions for MNOs, MVNOs and resellers)</b>							
4.1	Are you supplying information to consumers how to prevent inadvertent roaming in border areas? Please list how are you supplying this information?	15.5 and 14.4					
4.2	Do you take other measures, apart from informing customers, to protect customers against inadvertent roaming or billshock surprises caused by inadvertent roaming? If yes, please describe.	15.5 and 14.4					

## XII. ANNEX 3: LIST OF OPERATORS RESPONDING TO THE QUESTIONNAIRE

### ***Austria***

- A1 Telekom Austria
- Hutchison 3G
- T-Mobile

### ***Belgium***

- Belgacom
- KPN
- Mobistar
- Telenet

### ***Bulgaria***

- 4G Com
- Bulsatcom
- Globul
- Max Telecom
- Mobitel
- Vivacom

### ***Cyprus***

- Cytamobile-Vodafone
- MTN Cyprus Ltd.
- Primetel

### ***Czech Republic***

- Telefónica Czech Republic
- T-Mobile Czech Republic
- Vodafone Czech Republic

### ***Denmark***

- Lycamobile
- Hutchinson 3G
- TDC
- Telia
- Telenor

### ***Estonia***

- Elisa
- EMT
- Tele2
- TopConnect

### ***France***

- Afone
- Auchan Telecom
- Bouygues Telecom
- El Telecom (NRJ)
- Iliad (Free Mobile)
- Joe Mobile
- Lebara
- Numericable
- Omea (Virgin Mobile)
- Orange Caraïbe
- Orange France
- Orange Réunion
- Prixtel
- SFR
- Symacom
- Transatel

### ***Finland***

- AinaCom Oy
- Ålands Telekommunikation Ab
- DNA Oy
- Elisa Oyj
- Fujitsu Finland Oy
- Mundio Ltd
- TeliaSonera Finland Oyj

### ***Germany***

- Telekom Deutschland GmbH
- Drillisch
- E-Plus Mobilfunk GmbH & Co. KG
- Freenet
- Telefonica O2
- Vodafone

### ***Greece***

- Cosmote
- Vodafone
- Wind

**Hungary**

- Magyar Telekom
- Telenor
- Tesco Mobile
- Vodafone Hungary

**Ireland**

- Meteor
- O2
- Tesco
- Three
- Vodafone

**Italy**

- Coop
- Daily Telecom
- Hutchinson 3G
- PosteMobile
- Noverca
- TIM
- Tiscali
- Vodafone
- Wind
- Fastweb

**Latvia**

- Tele2
- Bite LV
- LMT

**Liechtenstein**

- Mobilkom
- Orange Liechtenstein
- Swisscom (Schweiz)
- Telekom Liechtenstein

**Lithuania**

- Bite
- Eurocom
- Omnitel
- Tele2
- Teledema

**Luxembourg**

- Luxgsm
- Orange
- P&T

- Tango

**Malta**

- Go Mobile
- Melita Mobile
- Redtouch Fone
- Vodafone Malta
- Yom

**Netherlands**

- Lebara
- Lycamobile
- KPN
- Tele2
- T-Mobile
- Vodafone

**Norway**

- Lycamobile
- Network Norway
- TDC
- Tele2
- Telenor
- TeliaSonera
- Ventelo

**Poland**

- Orange Poland
- P4
- Plus
- T-Mobile

**Portugal**

- CTT – Correios de Portugal S.A.
- Lycamobile Portugal Lda.
- Mundio Mobile (Portugal) Limited
- Optimus – Comunicações, S.A
- TMN – Telecomunicações Móveis Nacionais, SA
- Vodafone Portugal – Comunicações Pessoais, SA
- ZON TV Cabo Portugal S.A.

**Romania**

- Cosmote
- Orange Romania
- RCS-RDS

- Vodafone Romania

***Slovakia***

- Orange
- Telekom SK
- Telefonica

***Slovenia***

- Debitel
- Izi mobil
- Si.mobil
- T-2
- Telekom Slovenije
- Tušmobil

***Spain***

- Lycamobile
- Movistar
- Orange

- Vodafone
- Yoigo

***Sweden***

- 3Sweden
- Lycamobile
- Tele2
- TeliaSonera
- TDC

***United Kingdom***

- Everything & Everywhere
- O2
- Tesco
- Three
- Virgin
- Vodafone