

# **BEREC Report on Alternative Voice and SMS Retail Roaming Tariffs and Retail Data Roaming Tariffs**

**February 2011**

## 1. Overview

This BEREC Report on 'Alternative Retail Voice and SMS Roaming Tariffs and Retail Data Roaming Tariffs' presents the results of the second survey of retail roaming tariffs. It was undertaken by the Body of European Regulators in Electronic Communications (BEREC).

The Report covers the tariffs reported by respondent operators that were available for consumers in the period from 1 July 2010 to 30 September 2010. The Report also includes data from the previous survey conducted in the same period of 2009<sup>1</sup>.

Operators from almost all European Member States reported tariffs for the purpose of this survey (alternative voice and SMS retail roaming tariffs are not available in a few countries). Although nearly the same amount of operators responded to the 2009 and 2010 surveys (79 and 84 operators respectively), the number of tariffs reported increased by 144%, from 330 to 806.

The biggest increases in the number of retail roaming tariffs reported compared to the last survey were for data-only tariffs and unregulated voice-only tariffs. Although the number of reported voice-only tariffs more than doubled, the BEREC International Roaming Benchmark Report<sup>2</sup> indicates that the percentage of consumers with a subscription to an unregulated voice roaming tariff only increased slightly in the last two years, up to the end of June 2010.

Considering SMS-only tariffs, the number of tariffs is rather small compared to voice and data-only tariffs. But most of the SMS-only tariffs and bundles including SMS offer savings compared to the Euro-SMS-tariffs or are at least the same price as the regulated Euro-SMS cap of €0.11.

Regarding billing units, compared to the previous survey, operators reported more tariffs with smaller billing increments for data roaming tariffs<sup>3</sup>. The pattern is not so clear for alternative voice tariffs.

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<sup>1</sup> BEREC report on Alternative Retail Voice and SMS Roaming Tariffs and Retail Data Roaming Tariffs, [http://erg.eu.int/doc/berec/bor\\_10\\_13.pdf](http://erg.eu.int/doc/berec/bor_10_13.pdf)

<sup>2</sup> BEREC International Roaming Benchmark Report January – June 2010, [http://www.erg.eu.int/doc/berec/bor\\_10\\_50.pdf](http://www.erg.eu.int/doc/berec/bor_10_50.pdf)

<sup>3</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>

## 2. Background

Regulation 544/2009 of 18 June 2009 on international roaming<sup>4</sup> requires all operators in the EU to offer customers regulated voice and SMS retail roaming tariffs, which must comply with maximum price caps (known as the Eurotariff and the Euro-SMS tariff). The Regulation also provides that operators may offer alternative, i.e. unregulated, retail roaming tariffs alongside. The Regulation does not provide for a regulated retail data roaming tariff.

In March 2010, BEREC published the results of a survey of the alternative retail voice and SMS tariffs and the retail data roaming tariffs offered by operators in the European Union in the period 1 July 2009 – 30 September 2009<sup>5</sup>. BEREC has now repeated this survey, covering the same period in 2010 (1 July – 30 September).

For both surveys, BEREC produced a standard questionnaire, which NRAs sent to their operators. It covered retail tariffs that can be used both inside and outside of the EU/EEA, but excluded the Eurotariff, Euro-SMS tariff and tariffs for roaming outside of the EU/EEA only. This report also includes the results from the first survey carried out in September 2009.

The results of these surveys form part of BEREC's advice to the Commission on the functioning of the Roaming Regulation. According to Regulation 544/2009, the Commission is required to produce a full report on the functioning of the Regulation by June 2011<sup>6</sup>.

This report gives an overview of 806 reported tariffs: alternative retail voice and SMS roaming tariffs, retail data roaming tariffs and retail multi-service roaming tariffs<sup>7</sup>, provided by 84 operators from 23 countries, all of which offer roaming services (see Figure 1). Tariffs that

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<sup>4</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>5</sup> BEREC report on Alternative Retail Voice and SMS Roaming Tariffs and Retail Data Roaming Tariffs, [http://erg.eu.int/doc/berec/bor\\_10\\_13.pdf](http://erg.eu.int/doc/berec/bor_10_13.pdf)

<sup>6</sup> BEREC has not sought to conclude whether the alternative voice and SMS tariffs offer final prices below the Eurotariff and Euro-SMS tariff caps. In addition to the per-unit price, this depends on many factors including the size of any subscription or voice call set-up charge, voice billing units, and a customer's patterns of use. For bundles, the final price per unit will also depend on how much of the bundle the consumer actually uses.

<sup>7</sup> The report only covers the tariffs that were submitted by the operators that responded to the BEREC questionnaire. Therefore this is not necessarily a complete list of all alternative retail voice and SMS roaming tariffs, data roaming tariffs or multi-service bundles.

are offered to both prepaid and postpaid customers are counted twice for the purposes of this report. Compared to the previous survey conducted in 2009, while only 5 more operators responded to the 2010 survey, 144% more tariffs were reported (in 2009, 330 tariffs were reported by 79 operators from 24 countries).

Chapters two to four deal with the number and characteristics of the alternative retail voice and SMS tariffs, retail data roaming tariffs, and retail multi-service roaming bundles reported. Figures 2, 6 and 7 summarise the numbers of each type of service reported in response to the questionnaire. The second chapter also draws on data from the BEREC International Roaming Benchmark Reports to consider the proportion of enabled roaming subscribers with a subscription to alternative retail voice roaming tariffs instead of the Eurotariff, as shown in Figures 3 - 5. The topic of billing units for alternative voice tariffs and for data roaming tariffs is addressed in Chapter five.

**Figure 1: Number of operator respondents and number of reported alternative retail voice and SMS tariffs and retail roaming data tariffs, by country**

Country	Number of operators reporting tariffs		Number of reported tariffs		Country	Number of operators reporting tariffs		Number of reported tariffs	
	2009	2010	2009	2010		2009	2010	2009	2010
Austria	5	4	31	44	Italy	7	10	31	94
Belgium	3	3	27	37	Latvia	1	3	1	17
Bulgaria	2	2	10	26	Lithuania	2	2	2	2
Cyprus	2	no tariffs	2	no tariffs	Malta	3	3	12	38
Czech Republic	3	3	15	33	Netherlands	5	3	26	55
Denmark	3	4	3	11	Poland*	2	2		
Estonia		no tariffs		no tariffs	Portugal	3	4	17	41
Finland		no tariffs		no tariffs	Romania	3	3	17	27
France	6	6	25	55	Slovakia	≥1	3	2	40
Germany	5	4	14	65	Slovenia	5	4	18	23
Greece	2	3	9	40	Spain	5	5	33	62
Hungary	2	3	6	11	Sweden	≥1	3	10	21
Ireland	3	2	4	28	UK	4	5	16	36
					<b>Total reported</b>	<b>79</b>	<b>84</b>	<b>331</b>	<b>806</b>

\* no new tariffs in 2010

### 3. Alternative Voice and SMS Retail Roaming Tariffs

About one third (279 tariffs) of all the tariffs reported by the operators of the EU Member States are voice and SMS tariffs (either single or bundled tariffs). That represents an increase of 180% on the 2009 survey, when 100 such tariffs were reported. Tariffs that are offered to both prepaid and postpaid customers are counted twice for the purposes of this report. Most (193 tariffs) are voice-only, unregulated tariffs. There are only a few countries where operators also offer unregulated SMS-only roaming tariffs. The number of such tariffs reported per country is available in Figure 2.

For voice, including voice-only tariffs and the voice element of voice and SMS bundles, some of these alternative tariffs offer per minute prices that are below the maximum Eurotariff caps for calls made or calls received (€0.39 and €0.15<sup>8</sup> per minute respectively)<sup>9</sup>. Some tariffs offer per minute prices below the Eurotariff caps when the customer roams on partner networks or preferred networks, while the per minute price for roaming on other networks is more expensive than the Eurotariff caps. Two operators from one group reported that they offer the customer's domestic tariff when roaming on partner networks in five countries and use of the domestic allowance when roaming. In some instances, there is no per minute charge for calls received, although a subscription or call set-up charge may apply.

In addition to the per-minute price, whether in practice these alternative tariffs offer cheaper voice calls than the Eurotariff caps depends on various factors including the size of any subscription or call set-up charge, billing units, and call statistics such as a customer's average call length, peak and off peak use, or travel patterns. In Q2 2010 the European average price billed per minute for alternative voice roaming services in the EU/EEA was €0.391 per minute for calls made and €0.156 for calls received. The equivalent values for the Eurotariff were €0.381 and €0.164<sup>10</sup>.

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<sup>8</sup> Eurotariff caps (calls made and received) as of 1 July 2010. Before 1 July 2010, the regulated cap for calls made was €0.43 and for calls received €0.19.

<sup>9</sup> In Q2 2010, the European average retail price per minute based on billed minutes for voice calls made (Eurotariff and alternative voice roaming tariffs) was €0.384 and for calls received was €0.161. See BERECA International Roaming Benchmark Report January – June 2010, [http://www.erg.eu.int/doc/berec/bor\\_10\\_50.pdf](http://www.erg.eu.int/doc/berec/bor_10_50.pdf).

<sup>10</sup> See ERG International Roaming Benchmark Report January 2010 – June 2010, [http://www.erg.eu.int/doc/berec/bor\\_10\\_50.pdf](http://www.erg.eu.int/doc/berec/bor_10_50.pdf).

**Figure 2: Number of reported alternative retail voice and SMS roaming tariffs, including voice and SMS bundles <sup>11</sup>**

Country	Voice & SMS tariffs reported	Voice only tariffs reported	SMS only tariffs reported	Bundles Voice & SMS reported	Country	Voice & SMS tariffs reported	Voice only tariffs reported	SMS only tariffs reported	Bundles Voice & SMS reported
	2009	2010				2009	2010		
Austria	11	16	0	3	Italy	11	20	4	0
Belgium	8	9	0	2	Latvia		0	0	0
Bulgaria	4	7	1	2	Lithuania	2	2	0	0
Cyprus					Malta	1	9	9	0
Czech Republic	2	8	5	1	Netherlands	13	14	2	8
Denmark	1	3	0	1	Poland				
Estonia					Portugal	4	9	2	2
Finland					Romania	4	3	0	0
France	6	11	1	2	Slovakia	2	11	4	4
Germany		12	7	5	Slovenia	5	3	1	1
Greece	5	7	2	0	Spain	6	17	0	0
Hungary	3	5	2	3	Sweden	5	6	0	2
Ireland		9	2	0	UK	7	12	1	7
					<b>Total reported</b>	<b>100</b>	<b>193</b>	<b>43</b>	<b>43</b>

BEREC notes that some alternative roaming offers are likely to offer better value than the regulated Eurotariff caps for longer voice calls only, since a significant call set-up charge or billing unit applies. It is also fairly common for alternative voice tariffs to be billed on a per-minute basis for calls made and received (60/60 seconds), whereas the Eurotariff for calls made is billed with a maximum initial billing interval of 30 seconds followed by per second billing (30/1), and per second billing only for calls received (1/1) (see Chapter 5).

Compared to the previous report on unregulated voice and SMS tariffs, where most of the tariffs reported included SMS tariffs which were above the Euro-SMS cap and only a few tariffs which were below the cap (€0.11 excluding VAT), the results of the current survey show that almost 40% of the alternative tariffs reported (SMS-only tariffs and bundles for voice and SMS) offer SMS prices that are the same as the Euro-SMS tariff charged at the maximum cap. Another 40% of retail SMS prices are below the cap. The remaining alternative tariffs (14) include SMS prices that are above the cap, see Figure 3. The average

<sup>11</sup> Countries with missing values did not report any voice or SMS tariffs. That does not necessarily mean that there are no alternative voice or SMS tariffs available.

retail price per roaming SMS within the EU/EEA for Q2 2010 was €0.096 (regulated) and €0.117 (unregulated)<sup>12</sup>.

Operators do not only offer voice and SMS tariffs that are charged per unit (metered tariffs), but also bundles of minutes and SMS included in a fee for a specified period. This could, for example, be a holiday offer valid for one or two weeks, or a monthly bundle. Again, whether a bundle offers lower per-unit prices than the Eurotariff caps or the Euro-SMS caps will depend on the customer's usage patterns. Large bundles often offer lower per-unit prices than smaller bundles, assuming the entire bundle is used; the final price per unit will depend on how much of the bundle the consumer actually uses.

**Figure 3: Number of alternative SMS tariffs reported (including bundles) with prices equal, below or above the regulated cap**

Country	Number of SMS tariffs (ex VAT)			Country	Number of SMS tariffs (ex VAT)		
	= 11 Eurocent	> 11 Eurocent	< 11 Eurocent		= 11 Eurocent	> 11 Eurocent	< 11 Eurocent
Austria		3		Italy		2	2
Belgium				Latvia			
Bulgaria			1	Lithuania			
Cyprus				Malta	8	1	
Czech Republic		1	2	Netherlands	3		3
Denmark				Poland			
Estonia				Portugal			2
Finland				Romania			
France			1	Slovakia	6	2	
Germany	2	1	4	Slovenia			1
Greece			2	Spain			
Hungary		2	1	Sweden			
Ireland	4	2		UK	2	1	6
				<b>Total reported</b>	<b>25</b>	<b>15</b>	<b>25</b>

Data collected for the BEREC Benchmark Reports<sup>13</sup> up to Q2 2010 indicates that the percentage of enabled roaming subscribers<sup>14</sup> with a subscription to an alternative voice roaming tariff, as opposed to the Eurotariff, was fairly low. The percentage grew slightly from

<sup>12</sup> See ERG International Roaming Benchmark Report January 2010 – June 2010, [http://www.erg.eu.int/doc/berec/bor\\_10\\_50.pdf](http://www.erg.eu.int/doc/berec/bor_10_50.pdf).

<sup>13</sup> See BEREC International Roaming Benchmark Reports, [http://www.erg.eu.int/doc/berec/bor\\_10\\_50.pdf](http://www.erg.eu.int/doc/berec/bor_10_50.pdf)

<sup>14</sup> 'Enabled roaming subscriber' means a customer that is able to make and / or receive a call while abroad. It is not equivalent to the number of subscribers that used the roaming service in practice, in the relevant period.

1 January 2010 to 30 June 2010 for prepaid users, and for post-paid users the percentage of alternative tariff subscribers fell slightly from 1 January 2010 to 30 June 2010 (Figures 4 and 5). The EU average for prepaid and postpaid subscribers is gradually growing from quarter to quarter and at the end of Q2 2010 more than 10% of the total amount of enabled roaming subscribers took an alternative tariff. When considering these percentages it is important to bear in mind that the regulated voice and SMS tariffs (Eurotariff and Euro-SMS tariffs) are the default roaming tariffs, although operators may promote alternative tariffs; some operators do not offer any alternative tariffs for voice or SMS roaming; and the percentages are calculated using the number of enabled roaming subscribers, which will include customers who did not actually use the roaming service in the relevant period.

The EU/EEA average proportion of pre-paid customers with a subscription to an alternative voice tariff at the end of June 2010 was about 8%. However, almost all of the countries have a percentage below the average, while one large country and one smaller country have a percentage significantly above, which increases the average. Overall, there seem to be fewer alternative tariff offers for pre-paid customers than post-paid customers. The lower overall proportion of pre-paid to post-paid customers and the lower average usage and spending by pre-paid customers, in most countries, are likely to play a role.

The EU/EEA average proportion of post-paid customers<sup>15</sup> that use an alternative tariff is quite stable with 14% at the end of June 2010. Of the 29 countries with data, as at 30 June 2010, 11 countries have a percentage of subscribers to alternative tariffs at or above the average, of which 7 countries reported over 20% of customers with subscriptions to alternative tariffs.

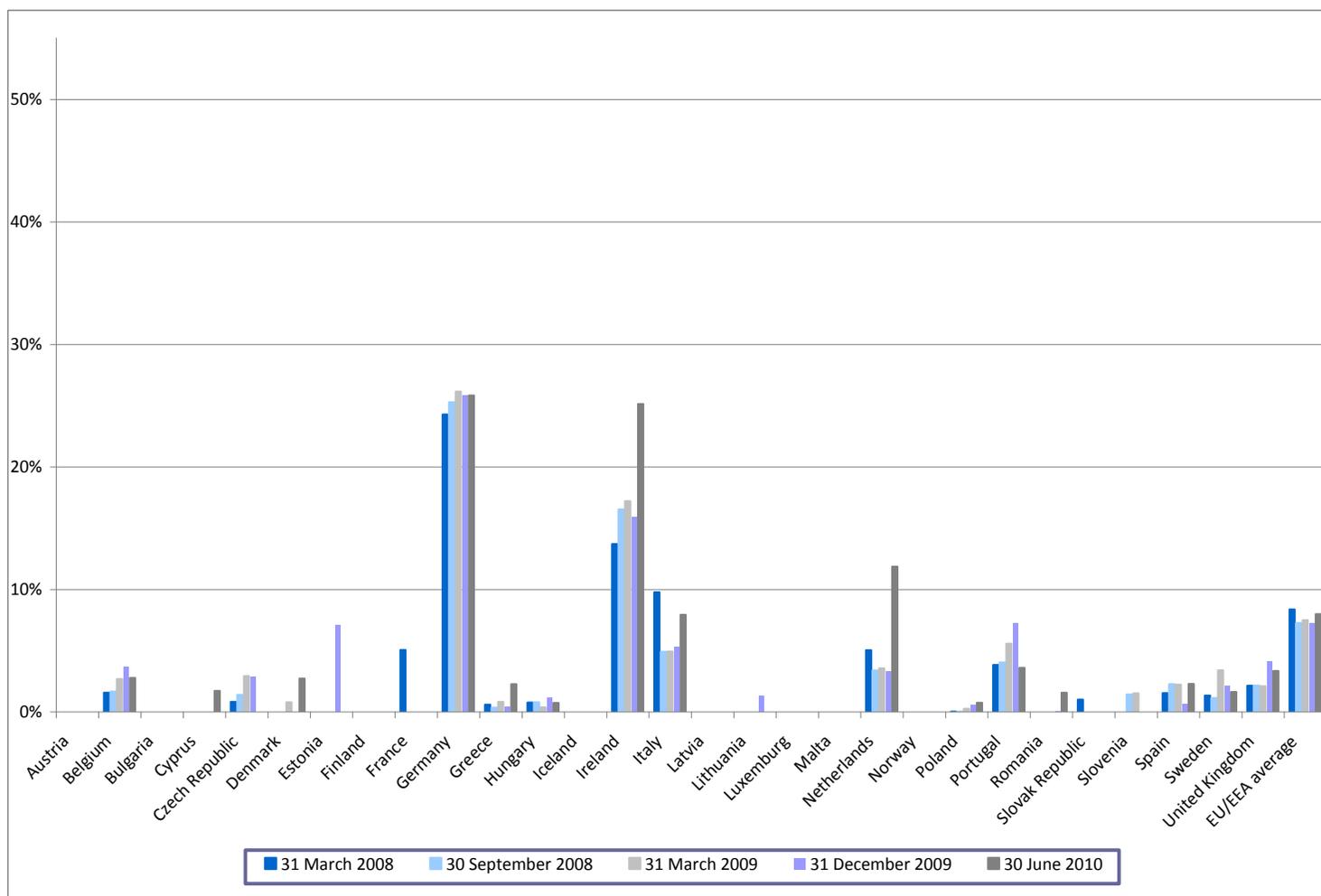
The EU/EEA average of non-Eurotariff subscription for pre-paid and post-paid users was about 10% at the end of June 2010, again with significant variations by country; see figure 6.

(The Euro-SMS was introduced in July 2009. BEREC does not have data on the proportion of subscriptions to the Euro-SMS to date).

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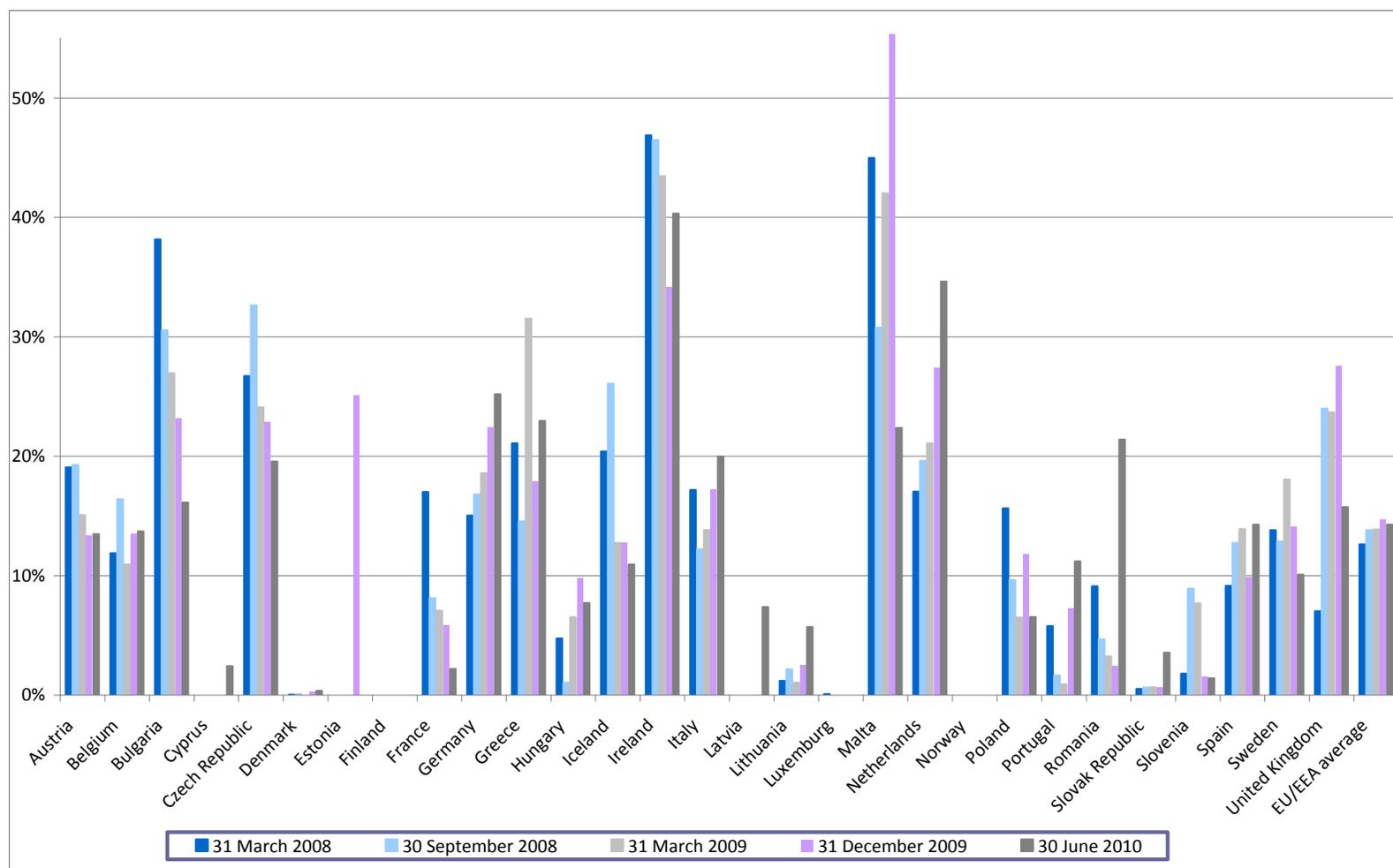
<sup>15</sup> The data for postpaid customers includes 'special corporate customers', which are customers who have negotiated a bespoke tariff for roaming that is not available to individual customers. This will slightly increase the proportion of postpaid users shown to be on an alternative tariff, but not to a significant extent.

**Figure 4: Proportion of EU/EEA enabled roaming subscribers with a subscription to an alternative voice tariff: Pre-paid**



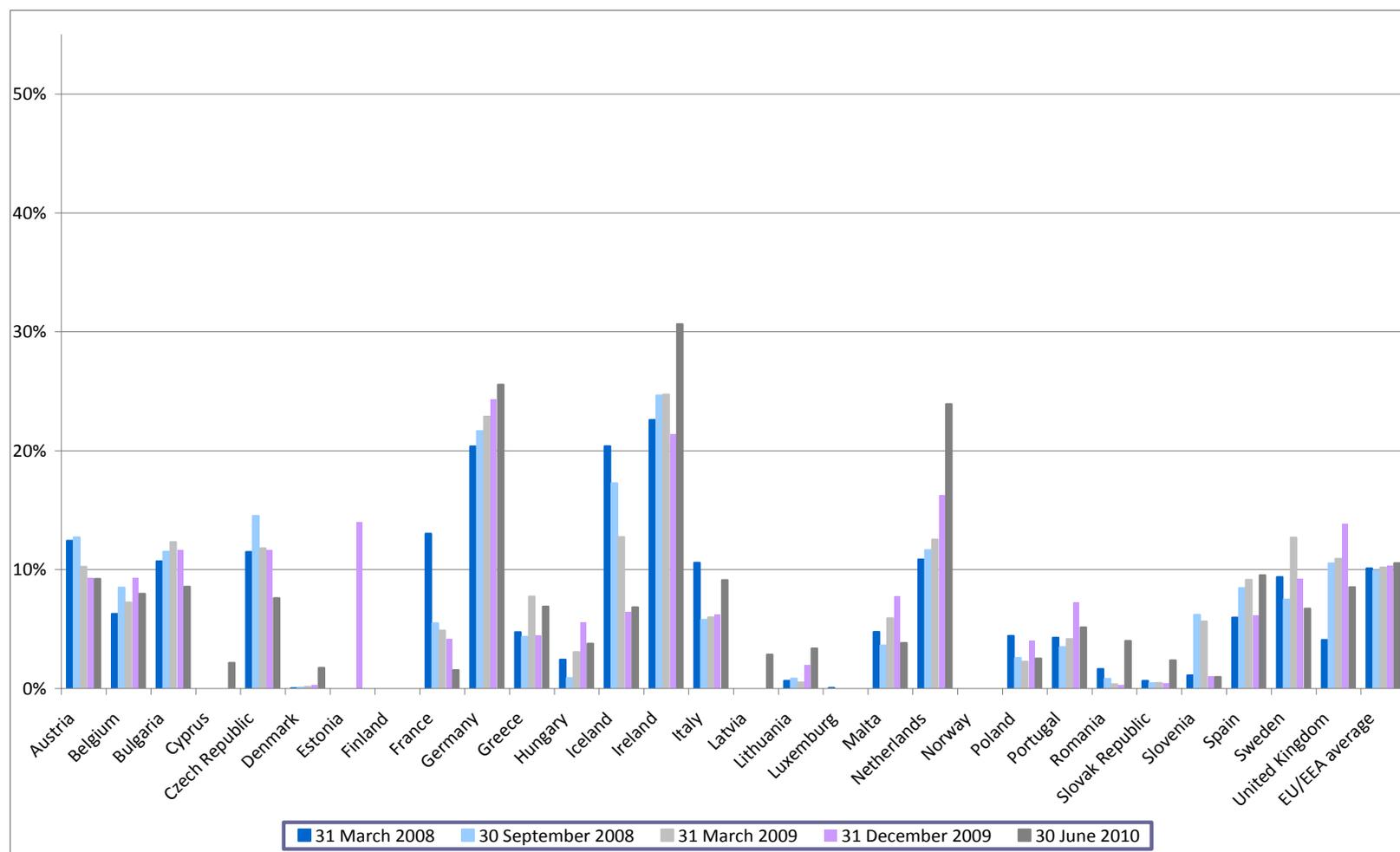
**EU/EEA average:** 31 March 2008: 8.42%; 30 Sept 2008: 7.26%; 31 March 2009: 7.49%; 30 Dec 2009: 7.25%; 30 June 2010: 7.98%

**Figure 5: Proportion of EU/EEA enabled roaming subscribers with a subscription to an alternative voice tariff: Post-paid**



**EU/EEA average:** 31 March 2008: 12.63%; 30 Sept 2008: 13.81%; 31 March 2009: 13.86%; 30 Dec 2009: 14.67%; 30 June 2010: 14.27%

**Figure 6: Proportion of EU/EEA enabled roaming subscribers with a subscription to an alternative voice tariff: average of Pre-paid and Post-paid**



**EU/EEA average:** 31 March 2008: 10.13%; 30 Sept 2008: 9.91%; 31 March 2009: 10.18%; 30 Dec 2009: 10.30%; 30 June 2010: 10.54%

## 4. Data Roaming Retail Tariffs

Data-only roaming tariffs are available in most of the EU Member States. In response to the BEREC questionnaire, operators reported 388 data-only roaming tariffs (see **Error! Reference source not found.7**), more than double the 171 tariffs reported in 2009, which is the largest increase reported for any tariff type. Tariffs that are offered to both prepaid and postpaid customers are counted twice for the purposes of this report. The variety of the tariffs reported is larger than that of the alternative voice and SMS roaming tariffs.

**Figure 7: Number of reported retail data-only roaming tariffs**<sup>16</sup>

Country	Number of data-only roaming tariffs reported		Country	Number of data-only roaming tariffs reported	
	2009	2010		2009	2010
Austria	10	18	Italy	13	57
Belgium	19	26	Latvia		13
Bulgaria	5	14	Lithuania		
Cyprus	2		Malta	10	10
Czech Republic	9	17	Netherlands	3	19
Denmark	1	7	Poland		
Estonia			Portugal	13	20
Finland			Romania	12	17
France	18	16	Slovakia		15
Germany	4	26	Slovenia	13	16
Greece	4	25	Spain	20	34
Hungary	1	1	Sweden	5	12
Ireland		9	UK	9	16
			<b>Total reported</b>	<b>171</b>	<b>388</b>

Operators reported bundles of a certain volume of data for a monthly charge, holiday bundles (similar to the voice tariffs) that are valid for a week and bundles that are valid for one day or 48 hours. Operators also reported smaller bundles designed to address the needs of the Smartphone users who mainly consume mobile e-mail<sup>17</sup>.

<sup>16</sup> Countries with missing values did not report any data roaming tariffs. That does not necessarily mean that there are no tariffs available.

<sup>17</sup> Some data bundles switch to linear charging at the end of the bundled volume. For roaming bundles that include data services, there may be a linear data charge in addition to the overall subscription charge (as is the case for voice and SMS).

There are significant differences in price per MB for the tariffs reported. Prices for data roaming services differ between Member States, among operators in the same Member State, and between tariffs from the same operator. There are various reasons for these price differences: to cater for different data services (i.e. mobile broadband, mobile Internet, mobile e-mail); the larger bundles reported offer lower prices per MB than smaller bundles, assuming all data is used; reported post-paid tariffs are usually cheaper per MB than pre-paid tariffs, although a regular subscription applies to post-pay; and reported tariffs for roaming on-net are usually cheaper per MB than roaming off-net, as operators are able to internalise the associated wholesale costs of on-net roaming.

Considering the tariffs reported, prices for one MB within a data-only bundle are relatively low. The lowest price is around €0.001/MB, presuming all of the included volume is used. Prices between around €0.001 and around €0.5 per MB are commonly reported, again presuming the full bundle is used. In most cases, the lowest prices are for daily bundles for post-pay customers. Weekly, monthly and yearly bundles are also available. The data-only bundles reported are frequently aimed at mobile broadband and mobile Internet use.

There are also tariffs where consumers can use their domestic allowance when roaming on a partner network, with no additional roaming charges. The offer covers 5 EU countries.

There is then a tail of reported tariffs of over €10 per MB, with a small number that are particularly high at around €25 per MB. These are mostly older, pre-pay or/and off-net tariffs, and are often aimed at mobile e-mail and WAP, which generally consume lower volumes of data.

The average price billed per MB for all types of off-net data roaming within the EU/EEA in Q2 2010, as indicated by the BEREC International Roaming Benchmark Report,<sup>18</sup> was €2.51 per MB for postpaid and €3.93 for prepaid. The average wholesale cap set by the Roaming Regulation is €0.80 per MB for the year 1 July 2010 – 30 June 2011. BEREC will report on average wholesale and retail data prices for Q3 2010 – Q4 2010 in spring 2011 (bearing in mind that the alternative tariffs survey, subject of this report, was run in the last month of Q2 and part of Q3 2010).

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<sup>18</sup> See ERG International Roaming Benchmark Reports [http://www.erg.eu.int/documents/docs/index\\_en.htm](http://www.erg.eu.int/documents/docs/index_en.htm)

## 5. Retail Roaming Bundles (voice, SMS, MMS, data)

Operators also offer tariffs where all services (voice, SMS, MMS and data services) are included. The number of such tariffs reported in response to the BEREC questionnaire is listed in Figure 8. There was a decrease in the number reported, from 61 in 2009 to 50 in 2010.

**Figure 8: Number of reported multi-service retail roaming bundles<sup>19</sup>**

Country	Number of bundles (voice, SMS & data)		Country	Number of bundles (voice, SMS & data)	
	2009	2010		2009	2010
Austria	10	3	Italy	7	0
Belgium		0	Latvia	1	
Bulgaria	1	2	Lithuania		0
Cyprus			Malta	1	0
Czech Republic	4	0	Netherlands	10	12
Denmark	1	0	Poland		
Estonia			Portugal		0
Finland			Romania	4	3
France	1	12	Slovakia		0
Germany	10	8	Slovenia		0
Greece		0	Spain	7	3
Hungary	2	0	Sweden		1
Ireland	2	6	UK		0
			<b>Total reported</b>	<b>61</b>	<b>50</b>

Bundles for voice, SMS and data is the only tariff category where operators reported less tariffs in 2010 (50 tariffs) than in 2009 (61 tariffs). These tariffs are either charged per unit for each service (metered tariffs) or they contain a bundle of voice minutes, SMS and data, which are valid for a specified period of time (e.g. a day, week or month). As with the alternative voice tariffs and data-only tariffs, roaming services may be cheaper if the customer is roaming on their home operator's preferred network or partner network, or can only be used on such networks.

Whether these alternative tariffs offer cheaper voice calls than the Eurotariff caps or Euro-SMS caps in practice will depend on various factors including any voice call set-up charges, voice and

<sup>19</sup> Countries with missing values did not report any tariffs. That does not necessarily mean that there are no tariffs available.

data billing units, and statistics such as a customer's average voice call or data session length, peak and off peak use, travel patterns, the bundle price and how much of the bundle the consumer uses in practice.

## 6. Billing Units

This chapter provides an overview of the billing units used by the operators for alternative retail voice roaming services and retail data roaming services.

### 6.1. *Voice roaming – billing units*

Figure 9 and Figure 10 show how many tariffs apply each type of billing unit. Tariffs that are offered to both prepaid and postpaid customers are counted twice for the purposes of this report. The Eurotariff may be billed with up to a minimum charge of 30 seconds, followed by per second billing for calls made (30/1), and per second billing only for calls received (1/1). For alternative voice roaming tariffs, the smallest billing unit reported is one second followed by another second (1/1), while the largest billing increment reported is one minute followed by another minute (60/60). BEREC notes that the billing units for calls received are generally smaller than the ones for calls made.

In 2010, 63 (either single or bundled) of the reported tariffs apply the maximum Eurotariff billing units for calls made (30/1), and 80 (either single or bundled) tariffs for calls received (1/1). This represents an increase on 2009 (37 and 50 reported tariffs, respectively).

For calls made, operators reported 38 (either single or bundled) tariffs with per second billing. 148 tariffs have billing units other than the ones listed below, compared to 62 in 2009. Most of these have per minute billing (60/60), while a smaller amount have billing increments of 60/1 for calls made.

For calls received, as for calls made, quite a lot of tariffs (151) have billing units other than those listed below, a significant increase on 2009 when 27 were reported. Most of those have billing units of a minute (60/60), but there are also a significant amount of tariffs that have no charge at all for calls received, or the same billing unit as for domestic calls is applied.

**Figure 9: Number of tariffs reported with a certain billing unit for retail roaming voice calls made<sup>20</sup>**

Country	1/1		30/1		30/30		60/30		other	
	Prepaid	Postpaid	Prepaid	Postpaid	Prepaid	Postpaid	Prepaid	Postpaid	Prepaid	Postpaid
Austria									3	18
Belgium			1	6					1	1
Bulgaria				3						8
Cyprus										
Czech									2	7
Denmark									1	2
Estonia										
Finland										
France	2	4		8				1		7
Germany			1	4				2	3	15
Greece				1					2	4
Hungary			1	2					3	2
Ireland			1	1			2	2	2	3
Italy	2	2	3	3				1	4	4
Latvia										
Lithuania		1		1						
Malta			4	4						1
Netherlands		1		1					1	32
Poland										
Portugal			1	1			1	2		5
Romania									2	4
Slovakia			3	10						2
Slovenia									1	3
Spain	4	16								
Sweden			1	1				2		5
UK	6		1				3			
<b>TOTAL</b>	<b>14</b>	<b>24</b>	<b>17</b>	<b>46</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>10</b>	<b>25</b>	<b>123</b>
<b>Total 2010</b>	<b>38</b>		<b>63</b>		<b>0</b>		<b>16</b>		<b>148</b>	
<b>Total 2009</b>	<b>22</b>		<b>37</b>		<b>17</b>		<b>13</b>		<b>62</b>	

<sup>20</sup> The table only consists of the tariffs for which billing units were reported in response to the BEREC questionnaire.

Figure 10: Number of tariffs reported with a certain billing unit for retail roaming voice calls received<sup>21</sup>

Country	1/1		30/1		30/30		60/30		other	
	Prepaid	Postpaid	Prepaid	Postpaid	Prepaid	Postpaid	Prepaid	Postpaid	Prepaid	Postpaid
Austria									3	18
Belgium	1	6							1	1
Bulgaria		3								8
Cyprus										
Czech									2	7
Denmark									1	3
Estonia										
Finland										
France	2	12						1		7
Germany	1	1							3	20
Greece				1					2	4
Hungary									2	2
Ireland	2	2							3	3
Italy			3	3				1	4	4
Latvia										
Lithuania										
Malta	3	3							1	2
Netherlands		1							1	23
Poland										
Portugal	1	1						1	1	6
Romania									2	4
Slovakia	3	10								2
Slovenia									1	3
Spain	4	16								
Sweden		2							1	6
UK		6	6							
<b>TOTAL</b>	<b>17</b>	<b>63</b>	<b>9</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>28</b>	<b>123</b>
<b>Total 2010</b>	<b>80</b>		<b>13</b>		<b>0</b>	<b>0</b>	<b>3</b>		<b>151</b>	
<b>Total 2009</b>	<b>50</b>		<b>6</b>		<b>8</b>		<b>61</b>		<b>27</b>	

<sup>21</sup> The table only consists of the tariffs for which billing units were reported in response to the BEREC questionnaire.

## **6.2. Data roaming – billing units**

Figure 11 shows the number of reported data roaming tariffs that apply a certain billing unit per country. Tariffs that are offered to both prepaid and postpaid customers are counted twice for the purposes of this report. Almost all of the operators that replied to the questionnaire offer tariffs that are charged according to the amount of data used. 45 (single or bundled) reported tariffs are charged by the time used, of which 26 are offered by Spanish operators. This represents an increase from 2009, when just 3 time-based tariffs were reported.

Of those reported, the billing units for (single or bundled) data roaming tariffs charged by the volume used ranged from 1kB up to 1 MB. A billing unit of 1 MB was reported for 11 tariffs in two countries (6 in Portugal and 5 in Spain), compared to 3 such tariffs reported in 2009. The billing unit reported most frequently by the operators that responded is 10 kB increments (139 tariffs, up from 42 reported in 2009). Also common are billing increments for data roaming services of 100 kB (99 tariffs reported compared to 76 in 2009) and 1 kB (73 tariffs reported; a significant increase on 2009 when 23 such tariffs were reported).

**Figure 11: Number of reported tariffs (either single or bundled) with a certain billing unit for retail data roaming services<sup>22</sup>**

Country	1 kB	10 kB	20 kB	25 kB	30 kB	50 kB	64 kB	100 kB	0.5 MB	1 MB	duration
Austria					3	5		13			
Belgium	10	7						6			3
Bulgaria					5			11			
Cyprus											
Czech Republic		11						5			
Denmark	2	1				2		2			
Estonia											
Finland											
France	4	13			6						2
Germany	9	9				4		10			2
Greece	3	14						8			0
Hungary		2						6			4
Ireland	16										
Italy	17	13						3			
Latvia	3	5						2			
Lithuania											
Malta	1	2					1	2			
Netherlands		21	3					2	4		
Poland											
Portugal		3			1			10		6	4
Romania		17						3			
Slovakia		13						2			
Slovenia						3		12			
Spain	2	2						2		5	26
Sweden	1	6				2					4
UK	5										
<b>TOTAL 2010</b>	<b>73</b>	<b>139</b>	<b>3</b>	<b>0</b>	<b>15</b>	<b>16</b>	<b>1</b>	<b>99</b>	<b>4</b>	<b>11</b>	<b>45</b>
<b>TOTAL 2009</b>	<b>23</b>	<b>42</b>	<b>8</b>	<b>0</b>	<b>4</b>	<b>24</b>	<b>2</b>	<b>76</b>	<b>5</b>	<b>3</b>	<b>3</b>

<sup>22</sup> The table only consists of the tariffs for which billing units were reported in response to the BEREC questionnaire.