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Dear Mr Chauveau,

In response to your letter of 16 September 2010, reference ECC PT1(10)170_Annex 30, GSMA Europe is pleased to provide the following contribution on Mobile Broadband in response to the ECC PT1 questionnaire.

The importance of mobile broadband for continued economic growth and development is well understood. When the issue of Mobile Service spectrum for IMT was considered by WRC-07, there were less than 30 million UMTS/HSPA connections in Europe. Today there are 115 million UMTS/HSPA connections. The total number is expected to grow to over 200 million users by the start of year 2012, including the first LTE connections. It is clear that mobile broadband will continue to grow rapidly in the region.

The GSMA collects a substantial amount of data regarding wireless communications. GSM has gone from a niche product to over 4.5 billion GSM and 3GSM connections in 20 years and the Wireless Intelligence service¹ contains well over 5 million data points that reflect much of that growth from a connections, operational and financial perspective. Unfortunately, the data that is currently available reflects minutes of use and SMS messages primarily, in addition to ARPU, SACs and other metrics, but does not yet include mobile broadband data traffic.

GSMA has started to collect this data but an insufficient amount of data is yet available to be able to anonymise and extrapolate into any specific statistics.

Nevertheless, we are able to offer ECC PT1 the following guidance:

The current amount of mobile broadband data traffic varies considerably from one country to another, with an overall range of more than an order of magnitude, but with operators' figures typically now in the 100's of TB per million mobile broadband users per month and some significantly exceeding the highest figures that have been submitted by national administrations in their earlier submissions. We therefore consider that the spread of values of mobile broadband traffic usage per pop that has been identified to date in the survey results from national administrations (ECC PT1(10)170 Annex 29) as being conservative.

¹ <u>https://www.wirelessintelligence.com/Index.aspx</u>



- The number of subscribers using mobile broadband is typically around 20% of the total customer base, but again this varies considerably from country to country.
- TeliaSonera, released figures on data use on their networks in November 2010. The publicly quoted TeliaSonera figures benchmark closely to other user figures from around the world showing:
 - An average smartphone user consumes upward of 375 MB of data per month.
 - 3G modems use an average of 5 GB of bandwidth per month.
 - LTE user are consuming 15 GB of data per month.

Wireless Intelligence publishes a range of reports and forecasts, relevant figures on network deployments and forecasted deployments are:

- There are currently 147 HSPA networks in Europe, including 40 HSPA+ networks.
- The latest set of global LTE network forecasts and assumptions 2010-2015 was published on 10 December 2010.
 - There are already 15 live LTE networks with a further 170 planned by the end of 2015.
 - LTE connections will surpass the 1 million mark in the first half of 2011 and will reach 300 million by 2015
 - LTE network migration is being initially driven by operators in Western Europe and North America, which account for a combined 70 percent of global LTE connections in 2010.
 - Wireless Intelligence forecasts that global LTE connections will reach 350,000 by year-end 2010

Finally, there is much additional anecdotal evidence that has been reported publicly, which the GSMA consider should be taken into account during the ECC PT1 work on this issue, including:

- The CEO of one major international operator has confirmed that the amount of data traffic is set to grow by a factor of 10 in the next 2 years².

² Orange CEO Stephane Richard, reported in NamNews 10/12/2010, speaking at Le Web conference in Paris, "he said mobile internet traffic will increase ten-fold in the next two years due to the increased sales of smartphones using Google's operating system Android."

- TeliaSonera stated³ "Today, seven out of ten customers in Sweden are buying a smartphone with higher usage and average revenue per user as a result," said Lars Nyberg, TeliaSonera's President and CEO.
- Vodafone (Vittorio Colao) "We expect smartphone sales in Europe to grow from 32 percent today to more than 70 percent" by 2013
- Deutsche Telekom pointed to strong progress in its mobile segment, where service revenue rose 5 percent and mobile data revenue was up nearly 27 percent. Smartphones accounted for 53 percent of all handsets sold.
- France Telecom results Oct '10 Revenue from mobile services in France rose by 2.1 percent to EUR2.74 billion. This growth was attributed to the success of new offers on data services and the continued development of smartphones." Data services represented 31.7 percent of network revenues in the third quarter of 2010, an increase of 5 points compared with the third quarter of 2009
- KPN Belgium The operator says that 60 percent of its new customers now buy smartphones.

Table 1 shows Wireless intelligence forecasts for European WCDMA and HSPA subscriber numbers. It is forecasted that these subscriber numbers will pass 500 million by Q3 2014, up from 114 million in Q3 2010.

| Number of Co HSPA | onnections, WCDMA | | | ` | | | |
|----------------------|--|------------|-------------|-------------|-------------|-------------|-------------|
| - | Q3 2008 | Q3 2009 | Q3 2010 | Q3 2011 | Q3 2012 | Q3 2013 | Q3 2014 |
| Europe: Eastern | 2,284,257 | 9.040.255 | 19,160,963 | 33,392,827 | 55,405,918 | 91,553,990 | 141,901,802 |
| Europe: | , , | -,, | , , | , , | , , | , , | , , |
| Western | 28,170,268 | 56,310,363 | 95,540,908 | 151,050,361 | 222,732,319 | 304,146,750 | 361,233,855 |
| | 30.454.525 | 65,350,618 | 114.701.871 | 184.443.188 | 278,138,237 | 395,700,740 | 503,135,657 |
| Wireless | Intelligence 20/12/20 Calculated da |)10 | , - ,- | - , -, | -,, - | ,, - | ,, |
| Table 1 | | | | | | | |

Table 2 below outlines Q3 2010 WCDMA and HSPA subscriber numbers by market for the European markets and indicates the date of the first commercially available network in each market,

³ All references from Mobile Business Briefing quoting from public company statements released in Q3 2010

Wireless Intelligence HSPA subscriber numbers by market

| | HSPA MOBILE BROADBAND LAUNCH DATE | Q3 2010 |
|--------------------|--|------------|
| Andorra | Q4 2007 | 1,551 |
| Austria | Q1 2006 | 3,052,294 |
| Belgium | Q2 2006 | 663,706 |
| Cyprus | Q2 2007 | 160,153 |
| Denmark | Q4 2006 | 1,645,342 |
| Finland | Q2 2006 | 2,160,053 |
| France | Q2 2006 | 11,457,995 |
| Germany | Q1 2006 | 13,806,606 |
| Gibraltar | Q4 2008 | 1,933 |
| Greece | Q2 2006 | 3,164,045 |
| Guernsey | Q4 2007 | 13,604 |
| Iceland | Q4 2007 | 105,287 |
| Ireland | Q4 2006 | 1,167,204 |
| Isle of Man | Q4 2005 | 4,497 |
| Italy | Q1 2006 | 19,396,938 |
| Jersey | Q4 2006 | 5,197 |
| Liechtenstein | Q1 2007 | 1,980 |
| Luxembourg | Q3 2007 | 71,372 |
| Malta | Q2 2007 | 55,100 |
| Netherlands | Q2 2006 | 2,947,206 |
| Norway | Q2 2007 | 917,145 |
| Portugal | Q2 2006 | 3,177,575 |
| Spain | Q2 2006 | 12,412,283 |
| Sweden | Q4 2006 | 3,794,438 |
| Switzerland | Q2 2006 | 1,745,179 |
| United Kingdom | Q1 2006 | 13,742,581 |
| Armenia | Q2 2009 | 50,541 |
| Belarus | Q4 2009 | 240,430 |
| Bulgaria | 21 2006 | 472,616 |
| Croatia | Q2 2006 | 633,234 |
| Czech Republic | Q2 2006 | 1,120,347 |
| Estonia | Q2 2006 | 28,619 |
| Hungary | Q2 2006 | 785,399 |
| Latvia | Q3 2006 | 82,247 |
| Lithuania | Q4 2006 | 181,150 |
| Macedonia | Q3 2008 | 134,302 |
| Moldova | Q4 2008 | 202,521 |
| Montenegro | Q2 2007 | 131,505 |
| Poland | Q4 2006 | 4,070,655 |
| Romania | Q2 2006 | 1,062,668 |
| Russian Federation | Q3 2008 | 8,685,755 |
| Serbia | Q1 2008 | 74,991 |
| Slovakia | Q3 2006 | 522,001 |
| Slovenia | Q1 2007 | 270,891 |
| Tajikistan | Q2 2007 | 18,846 |
| Ukraine | Q4 2007 | 132,203 |
| Uzbekistan | Q1 2009 | 257,538 |
| Table 2 | . 2000 | 201,000 |

As stated the GSMA has started to collect this data on mobile broadband and hopes, in the future to be able to provide further details. In the meantime, we hope the data contained in this contribution is helpful for your deliberations.

Yours Sincerely,

R. Ercale

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About GSMA Europe

The GSMA represents the interests of the worldwide mobile communications industry. Spanning 219 countries, the GSMA unites nearly 800 of the world's mobile operators, as well as more than 200 companies in the broader mobile ecosystem, including handset makers, software companies, equipment providers, internet companies, and media and entertainment organisations. The GSMA is focused on innovating, incubating and creating new opportunities for its membership, all with the end goal of driving the growth of the mobile communications industry. In the European Union the GSMA represents over 100 operators providing more than 600 million subscriber connections across the region. For more information on GSMA, please visit: Mobile World Live, the new online portal for the mobile communications industry, at www.mobileworldlive.com, GSMA corporate website at www.gsmworld.com, and GSMA Europe at www.gsmeurope.org.

Annex 1 – ECC PT1 questions

Question 1

Please provide most recent information related to existing licensed mobile broadband deployments (excluding license exempt e.g. Wi-Fi) in your country related to

- 1a) The amount (bytes) of mobile broadband data traffic per given time period e.g. per hour, per day, per month (the amount can be either total amount of data per country or averaged per population)
- 1b) What is the mobile broadband penetration i.e. the amount of subscribers per country using mobile broadband data
- 1c) Please provide any other information of mobile broadband traffic deployments in your country

Question 2

Please provide information about the development of licensed mobile broadband deployments during past five years, especially:

- 2a) Development of mobile broadband data traffic, including deployment of systems
- 2b) Number of mobile broadband data users/subscriptions

Question 3

Please provide possible expectations, estimates and plans for future licensed mobile broadband data in your country.

Question 4

Please provide average speed per user on licensed mobile broadband network(s) in your country.