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## Working Document

**Subject: Implementation of the European emergency number 112 –  
Results of the fourth data-gathering round**

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## **Introduction**

This Report provides an analysis of the replies submitted by Member States to the Questionnaire on the Implementation of 112 (document COCOM10-21 Final) in the context of the fourth data gathering exercise. This follows the first three exercises that resulted in the publication of COCOM Reports COCOM08-17 Final (with Annex) in July 2008, COCOM09-11 Final (with Annex) in March 2009 and COCOM10-09 REV1 (with Annex) in March 2010.

Further to discussions at the 40<sup>th</sup> COCOM meeting on 17 June 2010, this fourth 112 Questionnaire was distributed to COCOM delegations on 3 August 2010 with the deadline of 10 November 2010 to submit replies. A draft Report was presented for discussion and comments at the 42<sup>nd</sup> COCOM meeting on 16 December 2010. The present final Report integrates the comments and additional information submitted by COCOM delegations after that COCOM meeting. It covers all Member States and in addition includes the replies of Norway.

This Report follows the structure of the Questionnaire and is accompanied by the Annex providing a more detailed overview of the information provided by the responding Member States in a harmonised manner. It covers the information submitted by all Member States with the exception of Belgium, which did not submit its reply. Moreover, several of the responses received were not complete or indicated explicitly that certain data was not available, in particular concerning quality of call handling criteria. As agreed, the COCOM observer delegations from Candidate and EEA Countries were also invited to submit replies to this questionnaire.

This Report was published on 11 February 2011, the next 'European 112 day' (more information on the Commission's '112' website: <http://ec.europa.eu/112>). The country-specific information published on the '112' website was adjusted at the same time. On the same date, also the original replies sent by the responding States were published on the COCOM Circa website as in the previous exercise.

This COCOM data-gathering exercise will continue on an annual basis with a view to publish its results on future 'European 112 days'. As it was the case with the previous three data-gathering exercises, the Commission services will analyse the experience of this fourth exercise and will review the Questionnaire for the next data-gathering round, which will be presented to delegations at one of the next COCOM meetings in 2011.

The 'core' questions of this and the first data-gathering exercises will also remain in the future questionnaires. Therefore, Member States are encouraged to pursue their efforts of putting in place the necessary systems for providing data based on measurements of the actual performance of telecoms operators and PSAPs in these areas. The results from the first rounds have permitted a comparison of the performance of Member States over time to some extent and such comparison is included in this Report. However, for the moment, such comparative analysis is still limited by the fact that some information is still missing in the replies of several Member States. This fourth exercise continues to demonstrate some improvement in terms of comprehensiveness of responses; therefore it is expected that the comparability of results will continue to improve in the next years.

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## 1. ACCESS TO 112

### 1.1. Availability of 112 and information to (PATS) VoIP customers

As regards availability of 112, in the light of the regulatory framework, i.e. Article 26 of the Universal Service Directive, the fourth Questionnaire asked whether operators are required (not only by legislation but by any other act establishing such an obligation on them) to ensure access to 112 for users of VoIP services recognised as Publicly Available Telephone Services (PATS)<sup>1</sup>. Out of the **28** countries (27 Member States and **Norway**) that replying to the questionnaire, **26** confirmed that such legal requirements exist. **Hungary** responded negatively, while **Greece** has not responded<sup>2</sup>.

### 1.2. Non-PATS VoIP service providers – obligation to inform end users

More affirmative responses were given to the second question of this chapter about the obligation of VoIP providers (as in the previous exercise, the question referred only to non-PATS, given that access to 112 should normally be provided by all operators providing PATS) to inform their customers in case access to 112 is not provided. **Seven** Member States informed that such requirement existed. In addition, the **United Kingdom** indicated that such information obligation applied to non-PATS VoIP providers that allowed calls from PSTN, **France** and **Austria** indicated that no such obligation exists because all VoIP operators must provide access to 112, and **Finland** replied that, despite the absence of legal requirements, this was recommended to the operators.

As it was already pointed out in the previous reports, an ordinary subscriber might not be aware of the different status of his/her chosen telecoms provider (PATS or non-PATS); therefore information about the availability of 112 is quite relevant, in particular when the relevant operator is a non-PATS provider and does not ensure access to 112. Obviously, there is no need to inform when all VoIP providers ensure access to 112.

An overview of the replies is provided in Table 1 of the Annex.

### 1.3. Availability of 112 when out of coverage of home mobile network

The third question focused on the possibility for domestic mobile users to access 112 when they are out their home network coverage by using another available domestic mobile network. This facility, which sometimes is referred to as ‘national 112 roaming’, may be particularly relevant in areas of the national territory with limited mobile network coverage, for example, in areas where only one of the country’s several mobile network providers has rolled out its network.

In their replies to the previous questionnaire almost all Member States reported that it was possible for their domestic mobile users to access 112 when they were out of their home network coverage by using another available domestic mobile network. There were,

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<sup>1</sup> Article 26 of the Universal Service Directive as amended by the "Citizens' Rights" Directive [Directive 2009/136/EC, OJ L 337, 18.12.2009] provides for an **extended range** of providers of electronic communications services which have to enable calls to 112. This change will be reflected in future questionnaires.

<sup>2</sup> Latvia confirmed this feature this year, while Hungary had confirmed it in the previous exercise.

however, exceptions and an update on this important facility was therefore requested. Countries were also invited to indicate if this facility is only available for customers of some mobile operators and if it is subject to any restrictions.

The new replies indicated a similar situation as the one recorded in the previous exercise: out of the 28 countries that provided answers to this question, almost all - **27** confirmed that such 'national 112 roaming' is available. **Slovakia** specified that this feature is only available for the users of one operator onto the network of another operator.

#### **1.4. Availability of 112 from mobile handsets without SIM cards**

By way of complementary information, the countries were invited to indicate whether SIM-less 112 calls were allowed. Out of the 28 Member that provided this information, SIM-less 112 calls were reported possible in **21** Member States (the same as in the previous exercise). The remaining seven respondents that do not provide this facility are **Bulgaria, Germany** (in both these countries the facility was removed in 2009), **Belgium, France, Romania, Slovenia, and the United Kingdom.**

#### **1.5. National emergency numbers**

The respondents were also invited to update the information as regards the existence of national emergency numbers, distinguishing between numbers, which are advertised as national emergency numbers, and previous emergency numbers that are no longer advertised as emergency numbers but are maintained in service, for example in order to provide additional safety for users who may know only the previous emergency number(s).

**Four** Member States - **Denmark, the Netherlands, Romania and Finland**<sup>3</sup> have replied that 112 is, accordingly, their *sole* emergency number.

The remaining majority of Member States can be divided into three groups as regards the existence of emergency numbers:

- First, there are **five** Member States with a *single additional* national emergency number to be used for all emergencies – **Cyprus, Ireland, Portugal**<sup>4</sup>, **Sweden** and **the United Kingdom**. Portugal and Sweden indicated that their respective national numbers are no longer advertised.
- Second, **five** Member States have *one additional* national emergency number for one of the main emergency services. These are **Belgium, Germany, Estonia, Luxembourg and Slovenia.**
- Finally, the remaining **14** countries<sup>5</sup> – **Bulgaria, the Czech Republic, Greece, Spain, France, Italy, Hungary, Austria, Poland, Latvia, Lithuania**<sup>6</sup>, **Malta, and Slovakia,**

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<sup>3</sup> Finland pointed out that 10022 that had been in use was ongoing a phasing out process, and it would be taken out of use.

<sup>4</sup> In Portugal there has been also a special number 117 dedicated to forest protection – no longer advertised.

<sup>5</sup> Belgium had also indicated in the reply to the first questionnaire that it was in the same category but it has not replied to the current one.

<sup>6</sup> Lithuania specified that '112' was allocated as single emergency response number in the national numbering plan and that the national emergency numbers are used in a transition period.

as well as **Norway** have specific national emergency numbers for each of the three main emergency services and some of them also for other services (such as for maritime or mountain rescue). **Bulgaria, Italy, Latvia, Lithuania, Malta** and partially **Spain** and **Norway** have indicated that their national emergency numbers are no longer promoted.

In addition, some countries have reported additional national numbers for other specific emergency services. Among those, **Austria** appears to have the longest list of distinct numbers for specific emergency services. Moreover, **Spain** has several different numbers for certain emergency services that are managed at national, regional or local level. In the case of **Latvia** and **Lithuania**, their two-digit national emergency numbers are only available from fixed networks.

In conclusion, it can be observed that few more Member States than previously have indicated that '112' has become either the only emergency number (**four** Member States) or the main emergency number (with the national emergency numbers becoming 'legacy numbers' – **seven** Member States<sup>7</sup>). A detailed overview of the Member State responses concerning national emergency numbers is available in Table 1 in the Annex.

As regards the new question relating to the ratio between the calls to 112 and the other national emergency numbers that was proposed by a delegation in the COCOM meeting of 17 June 2010, only eight Member States were able to provide partial or complete information. The ratio varies greatly (e.g. from 4% in the United Kingdom to 81% for mobile calls in Spain). We expect that future data gathering exercises provide better information to enable meaningful comparison.

#### **1.6. Access to 112 by means other than voice communication**

Finally, another new question was added in the light of the public interest towards enhanced access to emergency services by disabled users - enquiring on access to 112 by means other than voice communication.<sup>8</sup> Out of the 28 replies received, 7 mentioned the existence of alternative means to voice to contact **112**, as follows:

- In **Denmark, Spain** (partially), **Luxembourg, Sweden** and **the United Kingdom**<sup>9</sup> 112 services can be contacted by means of SMSs. In the United Kingdom this service is operational but officially in trial status. Estonia mentioned that SMS is planned to be available as of the end of 2011.
- **Germany, Estonia, Spain** (partially), and **Luxembourg** mentioned fax.
- In **Spain** also chat is available, whereas in **the United Kingdom** – text relay using appropriate terminals.

Out of the remaining 21 Member States that provided negative replies, **Italy, Poland, Slovenia**, and **Finland** mentioned that there are either plans or ongoing trials to introduce in the near future alternative means (such as SMS, video) to contact 112 services.

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<sup>7</sup> Portugal and Sweden, as well as Bulgaria, Italy, Latvia, Lithuania, Malta.

<sup>8</sup> Article 26 of the Universal Service Directive as amended by the "Citizens' Rights" Directive [Directive 2009/136/EC, OJ L 337, 18.12.2009] provides for additional protection for disabled users.

<sup>9</sup> In Sweden and the United Kingdom, prior registration is required to be able to use these services.

At the same time, **the Netherlands, Portugal, Slovenia, Finland** and **Norway** pointed out that there are alternative numbers (other than 112) available to receive emergency text or SMSs.

## **2. CALL HANDLING**

### **2.1. Introduction**

This part of the Questionnaire consists of questions on unsuccessful call attempts and call set-up times, which aim at evaluating the performance of telecoms operators and networks, as well as of questions on response times to emergency calls and handling of calls in foreign languages, which aim at evaluating the performance of PSAPs. This fourth questionnaire also included a question relating to the state of play and the response to hoax/false calls which appear to affect a number of emergency call systems.

The ratio of measurements-based responses (using the methodology of ETSI standards EG 202 057-1/2/3) to those based on estimates is similar to that of the previous exercise.

As performance measurements clearly produce a lot more reliable data than estimates, the Questionnaires specifically invited the Member States to indicate ‘estimated’ results only in the case if ‘measured’ results were not available. In case of providing estimates, Member States were invited to present them in the same format as measured results, which would improve their comparability. For these reasons, even if it is difficult to compare the performance between the responding Member States (mainly due to the different methodology applied), it is nevertheless possible to observe the developments in each country that provided relevant replies to the successive questionnaires.

Hopefully those Member States, which are not yet in the position to carry out such performance evaluation, will follow best practice in this area and will also progressively introduce the necessary capabilities, thus further increasing the quality of their data.

However, as suggested by one of the delegations in its written comments, the technical aspects of obtaining relevant / comparable data concerning calls to 112 across Member States are to be discussed in the EGEA group.

An overview of Member States’ replies to these questions is provided in Table 2 of the Annex.

### **2.2. Unsuccessful call attempts**

‘Unsuccessful call’ was defined in the Questionnaire as a call attempt, properly dialled following dial tone, where neither called party busy tone, nor ringing tone, nor answer signal, is recognised at the access of the calling user within 30 seconds for fixed origination calls or 40 seconds for mobile origination calls from the instant when that last digit of the destination subscriber number is received by the network. The measurement method suggested this time for this call handling criterion was the percentage of unsuccessful emergency calls solely.

In total, **21** Member States<sup>10</sup> and **Norway** reported on their unsuccessful call ratio, among which **10** countries – **Bulgaria, Czech Republic, Ireland, Spain, France, Cyprus,**

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<sup>10</sup> Data is not available in Italy, The Netherlands, Poland, Romania, and Sweden, whilst Belgium has not replied to the questionnaire.

**Luxembourg** (for a part of operators), **Malta**, **Slovenia** and **Norway** – provided data based on measurements, which ranged from 0.007% (fixed) and 0.003% to 1.13% (mobile) in **Cyprus**, 0.07% (fixed) and 0.60% (mobile) in **Spain**, 0.39% in **Malta**, 0.56% (fixed) and 0.06% (mobile) in the **Czech Republic**, 0.44% (fixed) and 0.28% (mobile) in **Bulgaria**, 0.46% (all calls) in **Slovenia**, 0.94% in **Ireland**, 0% to 3% (various operators) in **Luxembourg**, 5.19% to 35.88% in various departments of **France**<sup>11</sup>, and 16.87% in **Norway**.

The estimated unsuccessful call ratio in the other respondent Member States ranged from 0% in **Denmark** and 3% in **Germany** to 10% in **Hungary** and **Latvia**, 14.93% in **Lithuania**, 20% (one operator) in **Luxembourg**, whereas some Member States estimated their unsuccessful call ratio to be satisfactory or low (**Finland** and **the United Kingdom**) mainly due to the preferential treatment given to emergency calls.<sup>12</sup>

The figures are generally comparable to those included in the previous report. When made available, measuring parameters such as the period in which the measuring was pursued and the number of calls assessed were included in Table 2 of the Annex.

### 2.3. Call set-up time

Call set-up time was defined as the period starting when the address information required for setting up the call is received by the network and finishing when the called party busy tone or ringing tone or answer signal is received by the calling user. Regarding this call handling criterion, it was suggested to provide data on the average call set-up time in seconds and the time in seconds within which the fastest 95% of emergency calls are set up, the same as for the previous report.<sup>13</sup>

In total, **19** Member States<sup>14</sup> reported on call set-up times, among which **eight** countries – **Bulgaria**, **Czech Republic**, **Ireland**, **Spain**, **Luxembourg** (some operators), **Cyprus**, **Malta**, and **Slovenia** – provided data based on measurements, according to which the average call set-up time ranged from 0.68 sec. (fixed) and 0.71 sec. (mobile) in the **Czech Republic**, 0.38 sec. (fixed) and 2 to 5 sec. (mobile) in **Luxembourg**, 1.90 sec. (fixed) and 3.12 sec. (mobile) in **Spain**, 1.49 sec. (fixed) and 2.86 sec. (mobile) in **Bulgaria**, 1.9 sec. (fixed) and 5.8 sec. (mobile) in **Cyprus**, 2.79 sec. (all calls) in **Slovenia**, 2.19 sec. in **Malta** (all calls), 3.13% in **Ireland** (all calls).

The estimated average call set-up time in the other respondent Member States ranged from 0.5 – 1.5 sec. in **Hungary** to 5.34 sec. in **Lithuania**, most Member States indicating an estimated average of 1-5 sec. or a satisfactory / low call set-up time (**Finland** and **the United Kingdom**).

The figures are generally comparable to those included in the previous report. When available, measuring parameters such as the period in which the measuring was pursued and the number of calls assessed were included in Table 2 of the Annex.

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<sup>11</sup> Referred to as *lost calls*.

<sup>12</sup> Two categories of estimates can therefore be distinguished among the replies of the respondents: those below 1% and those above 10%, difference which cannot be accounted for at this point.

<sup>13</sup> Only the first parameter appears in this report and the Annex, as for the moment a limited number of respondents made available data relating to the fastest 95% of emergency calls.

<sup>14</sup> Data is not available in Denmark, Greece, France, the Netherlands, Poland, Romania, Sweden, and Norway, whilst Belgium has not replied to the questionnaire.



## 2.4. Response time to emergency calls

'Response time' was defined as the duration from the moment when the address information required for setting up the call is received by the network to the moment when the PSAP human operator answers the call. According to the relevant ETSI standard, the Member States were invited to indicate the percentage of emergency calls answered within 20 seconds. However, in order to improve comparability of the results among countries, the third questionnaire requested information according to both ETSI methods, i.e. percentage of calls answered within 20 seconds and the average response time.

In total, **23** Member States, as well as **Norway** reported on call response times. The majority – **19** – Member States were able to provide data based on measurements<sup>15</sup>, which rank them in the following order as regards the percentage of calls answered in 20 seconds: the **Czech Republic** (100%), **Estonia** (100%), **Greece** (100%), **Ireland** (99.96%), **the United Kingdom** (99.6%, and more than 95% in 5 sec.), **Romania** (97.41%), **Latvia** (97%), **Slovenia** (95.68%), **Spain** (95.18%), **Sweden** (93%), **Austria** (91%, and 65% within 5 sec.) and **Slovakia** (81.96%). The measurements provided by the remaining three countries in this category followed a different methodology: **Finland** reported on the percentage of calls answered within 30, 10 and 5 seconds (97, 92 and 76% of calls respectively), **Malta** – (54.41% in 15 sec. and 61.89% in 30 sec.), **Cyprus** (93.23% for fixed) and **the Netherlands** (98% - mobile).

As regards the average response time based on measurements, the following data was reported: **Czech Republic** (0.047 sec.), **Ireland** (0.2 sec.), **Bulgaria** and **Latvia** (3 sec.), **the United Kingdom** (less than 5 sec.), **Romania** (5 sec.), **Sweden** (6.9 sec.), **Slovenia** (7.43 sec.), **Estonia** (8.5 sec.), **Greece** and **Malta** (9 sec.), **Slovakia** (9.53 sec.), **Austria** (11 sec.), **Luxembourg** – per operator (6.66 to 12 sec.), **the Netherlands** (3.5 sec - mobile), **Cyprus** (7.5 sec. for one fixed operator) as well as **Norway** (9.44 sec.) and **Austria** (11 sec.).

The estimated call response time in the other respondent Member States ranged from 93% of calls answered within 20 sec. (10-19 sec. on average) in **Poland**, 95% of calls answered within 20 sec. (5-20 sec. on average) in **Germany**, 4 sec. on average in **Spain**, 92.77% of calls answered within 20 sec. in **Lithuania** (8.53 sec on average), 99% of calls answered within 20 sec. – one centre (5 sec. one centre and 11.24 sec. on average) in **Portugal**, 5-10 sec. in **Hungary** (20-30 sec. for automated answering machine).

As compared to the previous exercise slight improvements of the measured results could be observed for some countries (such as **Estonia**, **Greece**, **Ireland**, **Spain**, **Austria**, **Slovakia**) and for some remained stable (**the United Kingdom**, **Romania**, **Latvia**, **Sweden**). Two more Member States are now providing measured results. However, as mentioned above, currently it is difficult to compare in absolute terms the performance of the respondents since the parameters used by each country – such as the measurement period, number of PSAPs and number of calls taken into account – were different.

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<sup>15</sup> Some of these respondents were only able to provide measurements based on only one of the two methods.

## 2.5. Calls in foreign languages

The state of play in relation to handling emergency calls in foreign languages is similar to the one reported in the previous two exercises. Most of the responding Member States have specified whether answering of the 112 calls in the relevant language is provided in all of the country's 112 PSAPs (**Poland** has also indicated the precise number of PSAPs using a relevant language). An overview of Member States' replies to these questions is provided in Table 2 in the Annex.

Among the **26** Member States, and **Norway**, which provided information on the language issue, **23** Member States<sup>16</sup> (apart from **the United Kingdom** and **Ireland**) reported on the ability of their PSAPs to handle directly calls in English (**Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Greece, Spain, France, Cyprus, Italy, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Romania, Slovenia, Finland** and **Sweden**) plus **Norway**. Out of these Member States, **Belgium, Bulgaria, the Czech Republic, Germany, Spain, Lithuania, Austria, and Poland** indicated that English may not be available in all cases in all PSAPs and its availability depends on the linguistic resources of the PSAPs; transfer to other PSAP may also be available. **Slovakia** pointed out that calls in English can be forwarded for processing to another (central) PSAP where competent staff is available. In **France** recourse to interpretation is available.

112 calls in French are answered in **13** countries (apart from France and Luxembourg) - **Belgium, Bulgaria** (by call transfer to another PSAP if necessary), the **Czech Republic** (language support), **Germany** (subject to availability/transfer in the border region), **Greece, Ireland Italy, Romania** (direct calls), **Spain** and **Norway** (may not be available in all PSAPs), the **Netherlands** (most of the time), **Slovakia** (by transfer), **Finland** (by involving interpretation service).

112 calls in German are answered in **13** States (apart from Germany, Austria and Luxembourg) – **Belgium, Bulgaria, Hungary, Italy, the Netherlands** and **the Czech Republic** (by call directly or by transfer to another PSAP if necessary), **Spain, Lithuania, Norway** (may not be available in all PSAPs), **Poland** (26 PSAPs can handle such direct calls), **Romania** (by transfer), **Slovakia** (by transfer) and **Finland** (by involving interpretation service).

112 calls in Italian are answered in **four** Member States (apart from Italy) – **Czech Republic** (language support), **Spain** (some PSAPs), **Slovenia** and **Romania** (by call transfer to another PSAP if necessary), whereas Russian is available at least through interpretation services in **eight** Member States (**the Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia** and **Finland**).

A number of Member States have indicated the ability of their PSAPs to answer calls in the languages of their neighbouring EU countries. Thus, calls in Polish can be handled by PSAPs in **Lithuania, Slovakia** (in PSAPs of certain areas), **Germany** (along the Polish border), **Ireland**; calls in Hungarian – in **Romania** (by call transfer to another PSAP if necessary), **Slovenia** (in PSAPs of certain areas) and **Slovakia** (in PSAPs of certain areas); calls in Czech - in **Slovakia** and **Poland** (4 PSAPs); calls in Slovak – in **Poland** (3 PSAPs), calls in Italian – in **Slovenia** (in PSAPs of certain areas) and **Romania** (by call transfer to another PSAP if necessary), calls in Portuguese – in **Spain** (may not be available in all PSAPs), calls in Slovenian – in **Italy** and calls in Finnish - in **Estonia**.

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<sup>16</sup> Relevant information or facility is not yet available in **Portugal**.

Languages of the neighbouring EU countries are also catered for by **German** and **Hungarian** PSAPs in border areas. Furthermore, in **Italy** and **Romania** the PSAPs can handle calls also in Spanish (by call transfer to another PSAP if necessary).

The **United Kingdom** indicated that its PSAPs can have recourse to interpretation services covering 170 languages; **Swedish** PSAPs can have recourse to an interpretation service covering several languages, the same as **French** PSAPs.

Finally, a number of Member States indicated that the call takers in PSAPs have at their disposal other means to deal with foreign language calls such as **Czech Republic** (linguistic support software), **Poland** (Multicom 112 programme), and **Belgium, Slovakia** (basic conversation phrases). **Italy** indicated that it has set-up multi-language 19 'operation rooms' managed by 'Arma dei Carabinieri' located in the main towns and tourist sites, which handle calls in foreign languages also by taking up calls transferred by other PSAPs.

## 2.6. Hoax/false calls

There were only **21** countries<sup>17</sup> that provided information on the hoax/false calls, and **14** that informed about the measures taken in relation to such calls. The ratio of hoax/false calls to the total number of calls still appears to vary considerably among the States: whereas in **Malta** the number of such calls is less than 14%, **Greece** reported 99.47%. Between these two extremes there are **Belgium** (25% 'silent calls'), **Austria** and **Sweden** (30%), **Germany** (1% to 25%, varying highly regionally and seasonally), **Czech Republic** and **Denmark** (75%), **Portugal** (77%) and **Slovakia** (82.95%). It is also worth noting that the majority of hoax/false calls come from SIM-less handsets (**Lithuania** and **Slovakia** more than 99%); this appears to have caused some countries to ban this feature. Some Member States informed about the proportion of various types of calls: silent, by mistake, mischievous. However, currently there are no common definitions or classifications to enable a sound comparison between various Member States.

The measures to reduce the number of hoax/false calls indicated by the Member States could be divided into two main groups.

- First, technical and organisational measures have been taken in a few countries to prevent hoax/false calls from reaching the PSAP in the first place. These include prioritisation of calls (**Spain**); in **Sweden** calls made from SIM-less handsets are separated from emergency roaming calls and routed to a dedicated PSAP, whereas in the **United Kingdom** a filter was put in place for silent calls. **Finland** has planned to open a separate number for enquiry calls that cannot be considered emergency calls.
- Second, there are both technical and legal measures to deal with individual cases of abuse. **Spain** has indicated the possibility, in the case of repeated hoax/false calls from one number, to put the caller (temporarily) on a 'blacklist'. In **Belgium**, SIM-cards from which emergency numbers are repeatedly abused may be deactivated. **Spain** and **the Netherlands** operate automatic warning messages and **the Netherlands** issue warnings also via SMS, while **Romania** is considering such a system. **Ireland** indicated that the offender may receive verbal/written warning and, if the abuse continues, the police services may get involved as this can be considered a criminal offence (the same is valid for **Germany** and **Finland**). The **Netherlands** also has indicated that penal sanctions may be imposed on offenders (in serious cases).

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<sup>17</sup> Seven respondents more than in the previous exercise.

**Bulgaria, Romania and Slovakia** have indicated that fines may be imposed (€ 638 in Slovakia).

Some countries (such as **Austria and Poland**) responded that no action is provided for by their legal/administrative frameworks to deal with hoax/false emergency calls.

Supplementary details as regards the situation in the countries that responded to this question are included in Table 2 of the Annex.

### 3. CALLER LOCATION

#### 3.1. Introduction

An overview of the relevant information taken from the replies is available in Table 3 (fixed caller location) and Table 4 (mobile caller location) in the Annex. As in the previous reports, this fourth Report also deals with caller location separately in relation to fixed and mobile calls using partially different sets of criteria for these two types of calls.

The two common questions for both types of calls were, firstly, the method used to provide caller location (i.e. either 'push' or 'pull' in the meaning of Commission Recommendation 2003/558/EC). The attention of the Member States was drawn to the fact that the application of 'push' method implies caller location data being provided and put at the disposal of the 112 call handler as soon as the call is answered, which would normally happen without delay.

If the method applied is 'Pull', i.e. caller location is provided upon specific request, the Questionnaire requested information on the time needed to provide it<sup>18</sup>, indicating whether this information is based on actual measurements or are estimates. For measurements, a preferred method for presenting results was proposed – (1) average time for providing caller location and (2) the percentage of calls for which caller location is provided within one minute.

In the previous COCOM Reports it was pointed out that, even though the 2002 regulatory framework has not prescribed any specific time limit for providing caller location information, it seems reasonable that the relevant provision of the Universal Service Directive (Article 26(3)) should be read as requiring a timely provision of caller location data, so that this information be useful for the emergency services and serve the purpose it was intended for. Moreover, it should be highlighted that Article 26(5) of the Universal Service Directive as amended by the "Citizens' Rights" Directive<sup>19</sup> requires Member States to ensure that undertakings concerned make caller location information available free of charge to the authority handling emergency calls *as soon as the call reaches* that authority.

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<sup>18</sup> Defined in the Questionnaire as the period starting when the public safety answering point human operator requests the caller location information and finishing when the calling location information is received for pull systems.

<sup>19</sup> Directive 2009/136/EC, OJ L 337, 18.12.2009.

## 3.2. Fixed caller location

### 3.2.1. Method and time needed to provide caller location on request

Out of the 27 Member States and Norway that provided the relevant information, 10 countries (**Bulgaria, Denmark, Ireland, France, Lithuania, the Netherlands, Portugal, Romania, Slovenia and Slovakia**) reported to be using the 'Push' method for providing fixed caller location<sup>20</sup>. In **Latvia** 'Push' is used by one operator and in **Spain** by 12 PSAPs (7 PSAPs are using 'Pull'). The **United Kingdom**, reported a combination of 'Push' and 'Pull'. Among the Member States, which use the 'Pull' method, 11 countries: the **Czech Republic, Spain, Italy, Latvia, Luxembourg, Austria, Poland, Finland, Sweden, the United Kingdom and Norway** reported near-instant times to provide caller location (up to 5 sec. under normal conditions), which in practical terms render the performance of their caller location systems similar to that of 'Push' systems.

Data based on measurements were provided by the **Czech Republic, Spain, Italy, Cyprus** and **Latvia**, while other respondent Member States used estimates or were not able to provide data. However, **Greece** pointed out that it has never experienced a case of providing caller location, while in **Malta** no data has been available since August 2010 when a new data-collection mechanism was put in place. **Belgium** provided no data.

A slightly longer time to provide caller location information (up to about 1 min. on average and/or maximum) was reported by **Estonia** (23 sec. on average – 95% location requests answered within 1 min.), **Cyprus** (60 sec. for police on average – 90% location requests answered within 1 min.) and **Hungary** (20-30 sec. to 2-3 min.). In addition, in **Germany** one Federal State uses an automated system (RAU).

For comparison, it appears that the use of the 'Push' and fast/automated 'Pull' methods is increasing, two more Member States using them compared to the previous report. Secondly, it appears that the average time necessary to answer a caller location request is decreasing; nevertheless, it should be noted that some respondents that reported longer response time in the previous exercise have not provided any data this time.

### 3.2.2. Source, comprehensiveness and updating of fixed caller location data

In their responses to the first questionnaires, the majority of Member States reported that they have set up central databases, from which emergency services receive address information for fixed calls. Where a central database is used by the emergency services to retrieve caller location, it is highly relevant that operators provide updates to this database concerning their subscribers, in particular to include new subscribers and to update the address data of existing subscribers who have changed address.

The comprehensiveness of such databases is equally important. Some Member States indicated in their replies to the first questionnaires that customers of certain (alternative) operators were not included in the number/address database used by emergency services to establish caller location for fixed calls. It was also reported by some Member States that location data of certain fixed subscribers is not available for the emergency services because these subscribers have chosen not to include their personal data in the directory

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<sup>20</sup> As compared to the previous exercise, Ireland and Slovenia reported the use of push method instead of pull and pull as back-up, whereas Hungary, Italy and Norway reported the use of the pull method in this exercise. In France, the caller location information (based on the postal code) is pushed in case of the numbers not included in the 'liste rouge'

service, which is used by the emergency service to find the subscriber address information. Moreover, it would appear that the ability to establish caller location in many instances depends on whether the PSAP concerned receives calling line identification, which enables it to make the request for caller location on the basis of the received calling telephone number.

In the light of this information, the previous questionnaires included a specific question on the availability of caller location in case of subscribers that are not included in directory services. This question was retained by the fourth questionnaire as well as the question concerning those subscribers who have exercised their right to prevent the presentation of their calling line identification (CLI, which is another facility made possible by Directive 2002/58/EC on privacy and electronic communications).

Similar to the previous exercise, out of the **27** Member States and **Norway** that provided answers to the relevant question, **15** States - **Bulgaria**, the **Czech Republic**, **Denmark**, **Ireland**, **Latvia**, **Lithuania**, the **Netherlands** (98% complete), **Portugal**, **Romania**, **Slovenia**, **Slovakia** (two databases), **Finland**, **Sweden** (although no legal requirement), the **United Kingdom** and **Norway** – reported having set up centralised comprehensive fixed caller location databases. **Germany** reported having a centralized point of contact that has access to the databases of the providers. Centralised databases used in **Belgium**, **France**, **Malta** and **Austria** do not include subscribers that are not included in the directory services – in case of which contacting directly the operator is necessary.

The frequency of updating these databases was reported daily in most of the countries concerned except **Bulgaria** and the **Czech Republic** (twice a month), **Germany** (daily to weekly depending on the procedures of the providers), **France** (regularly), **Lithuania** and **Romania** (monthly), **Slovakia** (every three months) and **Spain** (overall update every six months, partial updates every two weeks).

As regards the specific question on the availability of caller location in case of subscribers not included in directory services, only **Hungary**<sup>21</sup> reported not being able to locate fixed subscribers falling within this category, while in case of **Lithuania** caller location information is taken during every call. **Spain** indicated that location of calls is possible when the CMT database is used and **Finland** that in some cases is not possible to retrieve such information outside working hours. In **France** caller location in this case is available in 80% of situations. **Greece**, the **Netherlands**, **Austria**, **Malta** and **Finland** indicated that it is possible to locate these subscribers by verbal/written request to their network operator or to another institution.

Unlike in the previous exercise most of the respondent countries confirmed the availability of caller location in case of subscribers that have prevented the calling line identification (because CLI is still delivered to the PSAP notwithstanding the choice of the subscriber). For **France** no information was made available on this facility, while in **Spain** not all PSAPs have replied to this question.

### 3.2.3. VoIP caller location

The Member States were also invited to indicate whether caller location is provided for subscribers of **VoIP** services that are recognised as **PATS** in their countries, an additional point being added to this question regarding the availability of the actual address in case of nomadic VoIP systems.

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<sup>21</sup> Estonia provided a positive reply in this exercise.

Of the **27** Member States and **Norway** that submitted the relevant information, most confirmed that caller location is possible in case of such subscribers, with the exception of **Latvia, Poland**, as well as **Estonia** and **Hungary** (no information). **Denmark** and **Sweden** indicated that this facility is available, subject to technical feasibility, while **Belgium, Greece** and **Luxembourg** - partially.

Furthermore a number of countries, which in principle responded affirmatively, indicated that caller location available in case of using nomadic VoIP systems is the registered subscription address: **Belgium, the Czech Republic, Denmark** (plans to improve), **Germany, Ireland, Spain, Cyprus, Malta, the Netherlands, Austria, Romania**<sup>22</sup>, **Finland, Sweden, the United Kingdom** and **Norway**.

#### *3.2.4. Information of VoIP subscribers about limitation on providing caller location*

Finally, in view of the fact that the availability of caller location is subject to technical feasibility and it may not be possible for all VoIP systems, a new question has been introduced in the third questionnaire and retained in the fourth one, asking Member States to indicate whether there is an obligation on the part of VoIP operators (irrespective of whether they provide PATS or not) to inform their customers about the possible limitation on providing caller location to emergency services. **12** States have confirmed the existence of such an obligation (**Belgium, Denmark, Greece, Spain, Cyprus, Portugal, Romania, Slovenia, Slovakia, Finland, the United Kingdom** and **Norway**) whereas **Austria** indicated that the information of this category of subscribers is a recommendation for the VoIP operators concerned and not a legal requirement. **The Netherlands** reported that, if 112 routing is supported by VoIP operator, the location information must be delivered.

It should also be noted that in **Estonia, Latvia** and **Poland** where it appears that caller location is not available for the subscribers of VoIP operators, there is also no obligation on these operators to inform their subscribers of the unavailability of caller location. The same could be valid also for **Hungary** for which information was not available for any of the two questions.

### **3.3. Mobile caller location**

#### *3.3.1. Method and time needed to provide caller location upon request*

Out of the **27** Member States and **Norway** that provided the relevant information, **ten** States (**Bulgaria, the Czech Republic, Denmark, Ireland, Lithuania, Luxembourg, Portugal, Romania, Slovenia** and **Slovakia**) reported to be using the 'Push' method for providing mobile caller location. In addition there are **three** countries using the 'Push' system partially: in **Cyprus** the 'Push' method is used by one mobile operator, in **Latvia** this method is used by some or most of the mobile operators and in **Spain** it is used in 15 PSAPs. **The Netherlands** reported the use of a 'Semi-push' system. Among the Member States which use the 'Pull' system, **seven** Member States - **Italy, Latvia, Lithuania, Spain, Finland, Sweden** and **the United Kingdom** - reported near instant average times to provide caller location (i.e. within 15 sec.), which in practical terms render the

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<sup>22</sup> Unless the user updates the location in case of migration.

performance of their caller location systems similar to that of 'Push' systems. **Hungary** plans to generalise the 'Push' system.

A longer time to provide caller location information (about 1 min. on average and/or maximum) was reported by **Estonia** (23 sec. on average – 95% location requests answered within 1 min.), **Poland** (55 sec., 70% within 1 min.) and **Germany** (70 sec., 40% within 1 min.)<sup>23</sup>. On the other hand, the longest delays were reported by **France** (10 min during working hours and up to 30 min. outside working hours), **Austria** (10 min. in case of verbal/written manual requests), **Greece** (23 min. on average), and **Slovakia** (48 h – when using the 'Pull' system for additional information). **Malta** has implemented a new system since August 2010 and no information was available.

The overall results are similar to those recorded in the previous exercise, although a few countries placed themselves in different categories, most notably **Ireland** and **Slovenia** – having passed to the 'Push' system. Therefore, there are **21 countries** reporting the use of either the 'Push' system or 'Pull' with near instant (up to 15 sec.) provision of caller information.

### *3.3.2. Type and accuracy of mobile caller location*

In their replies to the first two questionnaires, most Member States indicated mobile network Cell ID and/or Sector ID as the available mobile caller location information. Accordingly, this type of caller location currently appears to be the 'technically feasible' minimum caller location information in the meaning of Article 26(3) of the Universal Service Directive, which all mobile operators within the EU should be able to provide. In order to be understandable and usable by the emergency services, it must be possible to link the Cell ID/Sector ID to a particular geographical area on a map, and appropriate technical arrangements should exist in the Member States for this purpose.

The accuracy of mobile caller location in the case of Cell ID/Sector ID highly depends on the mobile cell or sector coverage that varies considerably between urban and rural areas. The Member States were therefore invited to indicate the availability of any 'enhanced' mobile location technologies that allow for better results than Cell ID/Sector ID.

Out of the **28** respondent countries, **27** Member States and **Norway** reported Cell ID and/or Sector ID (or similar) as the available mobile caller location information. Among these countries, **Denmark, Poland, Finland, Sweden, the United Kingdom** and **Norway** indicated the existence of additional facilities to increase accuracy of mobile caller location, based on measurements and calculations ('timing advance information'). As for the remaining countries, the **Czech Republic** uses specific area and Best Server Base Transceiver Station ID. In **Norway**, 'polygonal positioning' is used in 3G location. **Estonia** reported that 'coordinates' are available, while an upgrade of the system will allow Cell ID identification by the end of 2011. In **France**, the mobile caller location is given by the relevant postal code and triangulation. These results are similar to those gathered within the previous exercise.

In this context, it is relevant to recall that Article 26(5) of the Universal Service Directive as amended by the "Citizens' Rights" Directive provides that the competent regulatory

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<sup>23</sup> Valid only for location information according to contract, i. e. address information of the subscriber; network-provided location information only available on special request and only by manually supported procedures.



authorities *shall lay down criteria for the accuracy and reliability of the caller location information provided.*

### 3.3.3. *Possibility to additionally obtain the registered address of the mobile subscription*

The possibility of obtaining the registered address of the mobile subscriber appears as a useful additional facility, especially in the light of the fact that more and more customers eliminate their fixed lines and use mobile telephones also at home, thus increasing the chance that the mobile customer's registered home address is also the place from which the 112 call is being made. Building on the previous experience, a specific question on this additional feature of mobile caller location was therefore retained in the fourth questionnaire, clarifying that it is referring to those mobile users who have actually registered their address.

Out of the total **27** Member States and **Norway** that provided information on this point, less respondents than in the previous exercise, 18 (compared to 20), reported that it was possible for PSAPs to obtain the address of the subscription. Out of these, **the Czech Republic, Greece and the Netherlands** – have indicated that this information is to be obtained upon request, **Spain and Ireland** – not in all cases, **Belgium and Luxembourg** - only for the subscribers registered to the directory services, and the **United Kingdom** - the registered address is not available for all pre-paid customers of all operators.

### 3.3.4. *Mobile caller location in case of roaming (international and national)*

According to the replies to the previous questionnaire, caller location was not available in all Member States for users of international and/or national 112 roaming. The current replies show that these categories of mobile users still cannot be located when calling 112 in several Member States. However, the fact that this facility is now available in the majority of countries shows that it is technically feasible within the meaning of the EU regulatory framework.

As regards the first category of mobile users (international roaming), out of the **26** Member States and **Norway** that provided the relevant information, only **Belgium and Sweden** replied negatively. In several other Member States this facility is partially available: **Spain** (in the PSAPs that have the POSIC solution implemented), **Italy** (depending on whether international operators use standardised solutions), similarly **Slovakia** (provided relevant contractual relation with the caller's home operator) and the **Netherlands** (except for one operator). In **Finland** it is available upon specific request to the operator. **Germany** reported that international roamers are treated the same way as national customers but that for both groups no automatically generated location information is provided yet. For **the United Kingdom** information was not available on this point.

As regards mobile users in the situation of 'national 112 roaming', out of the **26** Member States and **Norway** that replied to this question, **six** countries (**the Czech Republic and Finland** – no national roaming<sup>24</sup>, **Estonia**<sup>25</sup>, **Latvia, Austria, and Sweden**) reported that

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<sup>24</sup> The Czech Republic responded affirmatively however to question I.3, suggesting that national roaming would be available (in addition to calls from SIM-less handsets).

<sup>25</sup> Estonia replied that *national roaming is not applicable*, which appears to contradict its affirmative reply given to question I.3. that *this feature is available for all*.

caller location is not provided for such users. In **Spain** this facility is available in the PSAPs that have the POSIC solution implemented; in **Slovakia** it is available partially as national roaming is generally not available. In the **United Kingdom** the caller location information is available in most cases, by specific request. **Germany** reported that subscribers of other national publicly available mobile telephone networks are treated like own subscribers, but that for both groups no automatically generated location information is provided yet.

### *3.3.5. Mobile caller location for SIM-less handsets (where such calls are possible)*

Finally, this question requested information on the availability of caller location information also in case of SIM-less calls to 112 (in those Member States where such calls are possible). Out of **28** countries replying to this question, **17** confirmed the availability of this facility: the **Czech Republic, Denmark, Estonia, Ireland** (it can be handset dependant) **Greece, Spain** (in the PSAPs that have the POSIC solution implemented), **Cyprus, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Poland, Portugal, Slovakia, Finland** (not using the automated system) and **Norway**.<sup>26</sup>

## **4. PROMOTION OF 112**

In the same way as the previous questionnaires, the fourth one also included questions about information and promotion activities in relation to 112. The specific questions continued to be grouped in two categories – (1) measures taken by the authorities/ NGOs (which included as examples dedicated programmes/ campaigns in mass media, display on posters, leaflets, websites etc., information in kindergartens / schools and display on vehicles of emergency services) and (2) measures taken by telecoms operators (which included as examples promotion on operators' websites, invoices etc, inclusion of 112 in SIM address books, display in telephone directories and in pay telephone booths).

The Member States were invited to indicate in particular if information about 112 is provided to roaming mobile users, taking into consideration the amendments to the Roaming Regulation (Regulation (EC) No 544/2009 of 18 June 2009)<sup>27</sup>.

The two final questions invited to indicate how the 'EU-wide' aspect of 112 is promoted, having regard to the fact that any citizen could potentially travel to another EU country as well as to the specific obligation under Article 26(4) to inform citizens about 112 as the European emergency number. Secondly, as in the previous exercise, given the recent declaration of 11 February as '**European 112 Day**', Member States were inquired about any promotional activities planned at national level on the occasion of **11 February 2011**.

An overview of the different types of measures in each country is provided in Table 5. This overview continues to show a large diversity among the Member States, which provided the relevant information – there are countries that use almost a full spectrum of the mentioned promotional activities (**Bulgaria, the Czech Republic, Germany, Estonia,**

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<sup>26</sup> Four countries more than in the previous exercise.

<sup>27</sup> Distinct question IV.1.12.

**Spain, Cyprus, Latvia, Malta, Lithuania, the Netherlands, Romania, Slovenia and Slovakia)** while the list of activities is much shorter in case of some other countries.

Insofar as information about 112 provided to roaming mobile users is concerned, most of Member States and **Norway** confirmed the implementation of the new roaming provisions. **Germany, Greece, Spain, Austria and Sweden** reported partial implementation. **Belgium and Luxembourg** responded negatively, whereas **Poland** provided no information to this question. As regards awareness-raising measures addressing travellers, only **10** respondent countries indicated that they have taken additional measures to inform travellers in relation to 112.<sup>28</sup>

As regards the promotion of 112 as the 'EU-wide' emergency number, rendered necessary by the importance of travellers being aware that they may call 112 not only in their Member States but all across the EU, less respondents than in the previous exercise (18 countries) indicated that 112 is actively promoted at national level as the European emergency number: **Bulgaria, the Czech Republic, Germany, Estonia, Spain, Cyprus, Italy, Luxembourg, Malta, the Netherlands, Austria, Poland, Romania, Slovakia, Sweden, the United Kingdom**, as well as **Finland** (partially), and **Portugal** (occasionally).

Finally, promotional activities on the occasion of 11 February 2011 are planned in **Bulgaria, the Czech Republic and Germany, Spain** (media campaign, open doors events), **Cyprus** (large scale information campaign), **Latvia** (open days in emergency centres, information campaigns on TV and radio), **Lithuania** (open days in emergency centres, institutional events), **Luxembourg, Malta, Slovenia** (dedicated articles/information on specialised websites or in the press), **Poland** (promotional activities organised by the fire brigade), **Romania** (media campaign targeting EU travellers), **Slovakia** (regional campaigns targeting the youth), **Finland** (public thematic events involving emergency services), **Sweden** (public activities in 20 distinct locations across the country) and **the United Kingdom** (awareness raising within the Government).

## 5. GENERAL INFORMATION

The **names and contact information of the competent national authorities** in the area of 112, to which citizens can address questions or complaints regarding the implementation of 112, and **references to national legislative and regulatory acts**, concerning 112 and national 112 websites were included and updated in Table 6 of the Annex.

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<sup>28</sup> It should be recalled that Article 26(6) of the Universal Service Directive as amended by the "Citizens' Rights" Directive [Directive 2009/136/EC, OJ L 337, 18.12.2009] reinforces the requirement that Member States shall ensure that citizens are adequately informed about the existence and use of 112, providing that this should be done in particular through **initiatives specifically targeting persons travelling between Member States**.