

First of Two Parts

# Emergency Telecommunications for Citizens in the European Union: Contacting the Authorities in Case of Emergency

OLIVIER PAUL-MORANDINI

In the context of emergencies and disasters, emergency telecommunications cover communication from citizens to authorities, between authorities, from authorities to citizens and between affected citizens. This article covers the existing situation in all the areas mentioned above from a citizen's perspective and contains some proposals for action in view of ensuring further developments in this field. Part one contains an introduction and deals with the communication of citizens with authorities.

Communicating during emergencies, crises and disasters is not a new issue. Aeschylus writes that fire signals transmitted from mountaintop to mountaintop were used in the 12th century BCE, to inform the city of Argos about the Greek victory over Troy within one hour after the event (Smyth, 1926, Uzunoglu 2006). In 490 BCE, messenger Pheidippides run to Athens to bring news of the victory of the Athenians at Marathon. When he reached the agora some two to three hours later, he gasped "We have won" and dropped dead. The modern Marathon race commemorates his feat.

Today, news about major disasters take only a few minutes to reach major news networks and, immediately afterwards, millions of households in all continents receive live pictures in their living room TV screen. In case of personal emergencies (accidents, fires, interpersonal violence, etc.) people can call emergency services to get help as soon as possible. However, this almost instantaneous transmission of information from distant disasters gives a rather false impression about the performances of modern emergency telecommunications, which still face major challenges in order to ensure that in every emergency and disaster, affected individuals get timely and high-quality help.

## Definitions

The UN defines emergencies as sudden and usually unforeseen events that call for immediate measures to minimize their adverse consequences (UN-DHA, 1992). Logically, the term *emergency telecommunications* should thus refer to the telecommunications necessary to deal with emergencies. However, the International Telecommunications Union considers that emergency telecommunications are related only with major disasters (ITU, 2005). In 2002, the Emergency Telecommunications Group of the European Telecommunications Standards

Institute (EMTEL-ETSI), established a new and more general definition (ETSI-EMTEL, 2004), based on earlier proposals by the European Commission (Alevantis, 2001, 2002).

This definition has also been endorsed by the 8th and 9th Global Standards Collaboration meetings (GSC, 2003, 2004). Thus, Emergency (Tele)communications can be partitioned into concerns covering (Tele)communications (see Figure 1):

- From citizens to authorities and/or organizations providing emergency services,
- Between such authorities,
- From such authorities to citizens
- Amongst affected citizens

However, at the 10th Global Standards Collaboration meeting (GSC, 2005), the term "citizens" in the above definition was replaced by the

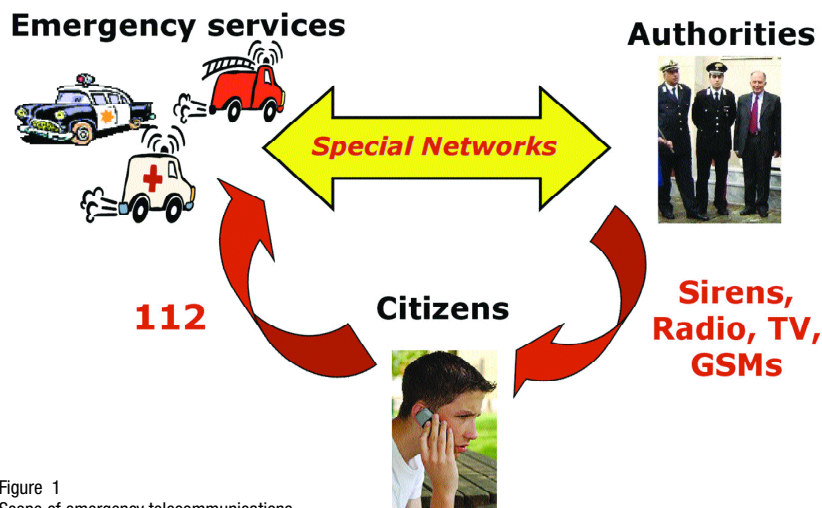


Figure 1  
Scope of emergency telecommunications.  
Figures and Table courtesy of EENA.

Table 1  
Using the 1-1-2: What Every Citizen Visiting the EU Should Know

When to call the 1-1-2	<p>Call the 1-1-2 only in real life-threatening emergencies like:</p> <ul style="list-style-type: none"> <li>• Serious medical problems (unconscious person, important injuries, chest pain, seizure, bleeding)</li> <li>• Any type of fire (house, car, business)</li> <li>• Life-threatening situations (crimes, fights, people with weapons, robbery in progress, etc.)</li> </ul> <p>Do not call the 1-1-2:</p> <ul style="list-style-type: none"> <li>• To test your mobile phone—you may block a real life-threatening emergency call</li> <li>• To laugh at the operators or to just hang up—respect operators who work under stress to help save lives, do not block real emergency calls by blocking lines</li> <li>• For non life-threatening emergencies or non-emergencies like property damage accidents, break-in to vehicles, theft of property, vandalism—especially when the suspect is gone—cars blocking the street. Call directly the local police</li> </ul> <p>However—when in doubt, dial it out—1-1-2. You could save someone’s life!</p>
Stay calm	Stay safe—avoid having an accident yourself.
What to say	<ul style="list-style-type: none"> <li>• Where is the assistance needed (location)?</li> <li>• Your name and telephone number?</li> <li>• What happened (nature of the emergency) and if it is happening now?</li> <li>• Who needs help or is involved and how many (victims, suspects, etc.)?</li> <li>• Why is the emergency happening (i.e. depression) and any obstacles to the arrival of emergency services?</li> <li>• Are weapons involved (knives, hand-guns, automatic weapons, suspected bombs or explosives)?</li> </ul>
Stay calm	<ul style="list-style-type: none"> <li>• Wait for instructions. And follow them carefully—your assistance could mean the difference between life, death or serious injury</li> <li>• Do not hang up until the operator tells you to!</li> </ul>
Be prepared	<p>To launch a 1-1-2 call—observe and exercise mentally</p> <ul style="list-style-type: none"> <li>• Get training in your company or in the context of your community as a first aid helper or as a first responder—you will be able to help yourself and your neighbors</li> <li>• Remember—prevention is always better and more efficient.</li> <li>• Report problems with the use of the 1-1-2 at <a href="http://www.eena.org">www.eena.org</a></li> </ul>

more generic word “individuals,” to cover *inter alia* tourists and people who may not have the status of citizen of a given state. Although this definition is certainly broader, EENA prefers using the term “citizens,” as this is stronger from a legal and constitutional point of view at national and EU level.

This article deals with the challenges linked with all aspects of emergency telecommunications in the European Union from a citizen’s per-

spective and contains some proposals for action in view of ensuring further developments in this field. Many of the problems described are similar for other non-EU regions. And they certainly concern people outside the EU as Europe is one of the top tourist destinations in the world.

### Citizens Communicating with Emergency Services

#### Existing Situation

Thousands of emergency communications centers all over the European Union (the Public Safety Answering Points or PSAPs) receive some 200 million calls annually from citizens in distress (CGALIES, 2002). This estimation correlates well with statistics on the leading causes of death and disease for the European region (WHO, 2000), which include heart attacks, strokes, road traffic injuries, self-inflicted violence, drowning, interpersonal violence, fires, falls and poisoning. For all of these emergencies, the timely arrival of an ambulance can make the difference between life and death or permanent disability.

Timely intervention in the case of fires may reduce their cost which amounts to approximately 1 percent of Europe’s GDP (WFSC, 2005). Although EU-wide statistics on criminal acts against life and property or about terrorist activities are not available, media coverage tends to consider such events as primary reasons for the increasing feeling of insecurity amongst Europeans, especially the mobile ones. This is a major issue considering that every year more than 130 mil-

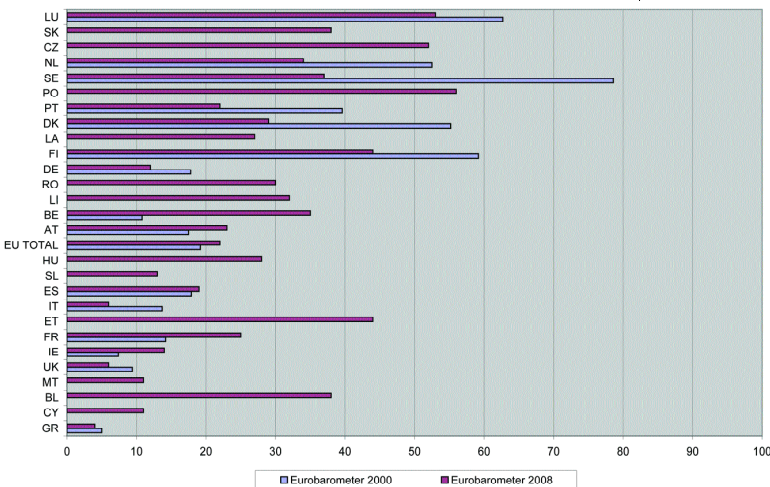


Figure 2  
Knowledge of the 1-1-2 by European Citizens (Eurobarometer 2000, 2008).

lion Europeans cross the internal EU borders for leisure, business or simply because they live in cross-border areas. Over a period of five years, two-thirds of the population of the EU (i.e. more than 330 million people) may be in another European country and may need emergency assistance (Räddningsverkets, 2002).

In response to emergency calls, PSAPs dispatch ambulances, fire fighter teams or police squads to help the callers. However, only ±40 percent of the calls to PSAPs are “real” emergency calls and generate a response. The rest come from people seeking information, people testing their mobile phones, children playing, etc. Furthermore, half of the “real” calls originate from mobile telephones and this proportion may be much higher in some countries. For 15 percent of mobile calls, emergency services have difficulty or are incapable of sending help because they lack, partially (8.75 percent) or totally (6.25 percent) relevant information about the location of the caller (CGALIES, 2002). An estimate indicates that implementing caller location information could save some 5,000 lives annually and ensure economies of approximately 5 billion euros for emergency services (Nuttall, 2003).

The percentage of emergency calls resulting in no help may be even greater in case the caller speaks a foreign language. An evaluation of the 1-1-2 service-chain conducted in Portugal in the context of the preparations for the Euro 2004 football championship, showed that 20 percent of calls in French and 29 percent of calls in English do not receive help at all (DECO, 2004). This applies even to 15 percent of calls in Spanish and Portuguese—something that is consistent with the CGALIES estimations mentioned above.

## 1-1-2

In the EU, the single emergency call number is the 1-1-2 (the U.S. 9-1-1). This number was established in 1991 and the relevant legislative provisions have been subsequently improved (EC Civil Protection site). Today, Article 26 of the Universal Service Directive (Directive 2002/22/EC) obliges Member States to ensure that:

- 1-1-2 is available in addition to any other national emergency call numbers, free of charge, to all end users of publicly available telephone services including users of public pay telephones.

- Calls to the 1-1-2 are appropriately answered and handled in a manner best suited to the national organization of emergency systems and within the technological possibilities of the networks.

- For all calls to the 1-1-2, public telephone network operators make caller location information available to authorities handling emergencies, to the extent technically feasible.

- Citizens are adequately informed about the existence and use of the 1-1-2.

Article 7 of the same Directive also stipulates that Member States shall “take specific measures for disabled end-users in order to

ensure access to and affordability of publicly available telephone services, including access to emergency services, (...) equivalent to that enjoyed by other end-users.”

Available information from the European Commission and the EENA shows that the implementation of the 1-1-2 within the EU is still quite erratic. Most importantly, the 1-1-2 is still unknown to the majority of Europeans. Eurobarometer surveys conducted in 2000

“ The VPI solution helps us reliably and securely record, reconstruct, evaluate and share entire emergency events to ensure compliance and improve quality assurance and training. ”

Visit us at Navigator Booth 210

Ken Welch  
Ventura Police Department Communications

You already know that VPI's (Voice Print International's) award-winning systems are easy to use and upgrade, thanks to their fully redundant, open-architecture design that utilizes non-proprietary parts. But did you know that VPI's unique solutions enable you to easily transition from recording traditional communications to new VoIP telephony and trunked radio systems? Contact us today to learn why hundreds of public safety organizations like yours selected VPI's competitively priced solutions to record, assess and improve their mission-critical interactions.

VPI's **Prioriti Interactions Suite™** is your single source for:

- Voice Logging, Scenario Recreation, and Instant Playback
- Call Taker Quality Assessment and Coaching
- Real Time Public Information Displays and Dashboards



LEARN MORE AT  
VPI-CORP.COM | 1.800.200.5430 | INFO@VPI-CORP.COM

See us at NAVIGATOR booth #210, 309



and 2008 showed that only one in every five citizens would call the 1-1-2 if faced with an emergency while visiting another EU country (see Figure 2, page 32). Intermediate surveys conducted in 2005 and 2006 showed a better knowledge of the 1-1-2 but were dismissed as unreliable (Eurobarometer, 2000, 2006, 2007, 2008).

From both of the surveys the situation is quite preoccupying for Germany and the UK as tourists from these countries represent respectively 31 percent and 26 percent of the EU total (with France, The Netherlands, Italy and the Scandinavian countries following suit) (Schmidt, 2005). With knowledge of the 1-1-2 by only 12 percent of Germans and 6 percent of British, this means that some 22 million German and 14 million British tourists are every year unaware of the 1-1-2 when on holiday.<sup>1</sup>

Answering and handling emergency calls is highly problematic in several Member States because implementation has not been ensured on the basis of commonly accepted standards. Some countries (Denmark, Finland, the Netherlands, Portugal and Sweden) have established 1-1-2 as the single emergency call number at the national level (Eurobarometer 2006). In some countries calls to 1-1-2 are answered in several languages, but in others only in the spoken regional language. In some countries calls are handled by multidisciplinary 1-1-2 communications centers, while in others, calls are routed to the communications centers of one emergency service, which may not always be able to transfer the calls to the appropriate emergency service (EENA Internet site). Finally, caller location information (especially for calls from mobile telephones) is available to the emergency services of very few Member States and regions. Citizens cannot rejoice either when they know that very few countries have established legislation concerning obligatory minimal response and intervention times in emergencies, while only Portugal has evaluated the quality of the complete 1-1-2 service-chain (DECO, 2004).

### Improvements Needed

Member States need to ensure that all EU citizens know about the existence and proper use of 1-1-2. Unfortunately, although this is a legal obligation, some countries that run separate emergency call numbers hesitate to publicize 1-1-2, fearing that all emergency calls will then be directed to 1-1-2 communications centers, which often have limited capabilities. However, a better informed user population will ensure less false calls to the PSAPs,

resulting in the optimal use of available resources (see Table 1, page 32). Member States must also ensure that all the EU territory is properly covered by mobile or fixed operators. Several countries justified their decision to reduce telephone booths on the basis of the expanding penetration of mobile telephony—but several remote areas of the EU are not (well) covered by mobile operators and people in distress may face “network not available” messages when calling 1-1-2.

On another level, emergency services should ensure that a common front-end handles all incoming emergency calls to 1-1-2. Two types of front-ends have been implemented in the EU. In one, independent dispatching centers run by the telecommunications operator (e.g. like in the UK and Ireland), transfer emergency calls to the PSAP of the appropriate emergency service(s). The second type is based on the use of common coordination centers which incorporate representatives of all the emergency services, or are run by independent “specialized” emergency services (e.g. Sweden, Denmark and Spain). Of course the option of keeping separate emergency call numbers and ensuring that one of the corresponding PSAPs acts as the 1-1-2 front-end can still be practiced, but experience has shown that such a solution creates more problems than it solves (tensions between emergency services, allocation of resources, technological incompatibilities, etc.).

Emergency services should also ensure that the call to 1-1-2 is “*appropriately answered and handled*.” This includes firstly the possibility of multilingual support. Answering emergency calls in many languages does not necessarily imply the use of multilingual operators. In France, operators can establish a three-way online conference with the caller and an on-duty interpreter, accessible via mobile phone (FNTU site). Implementing multilingual support depends more on political will rather than modern technology—although the latter can clearly be of help.

Appropriate answering and handling of calls also involves the use of standardized verbal communication protocols. The Portuguese evaluation clearly demonstrated that operators may not follow a standard protocol when answering emergency calls (e.g. sometimes they hung up before getting the exact name and address of the caller). A workshop on the effective handling of emergency calls held in 2002 in Sweden (Räddningsverkets, 2002) demonstrated that the training requirements of 1-1-2 operators

vary from country to country (in Finland for example training lasts 57 weeks for a fully operational operator). This also is clearly a matter of political will. Improving the quality of the 1-1-2 service-chain implies the establishment of a standardized maximum intervention/response time. Today, few countries (Netherlands, United Kingdom and Germany) are known to practice maximum intervention/response times in emergencies (different for urban and rural areas). Establishing a pan-European maximum intervention/response time will certainly influence the long-term global costs of emergencies and may be worth the additional resources required to implement it. This was one of the conclusions of the 2nd European 1-1-2 Conference and Exhibition (EENA, 2004), and it was again on the agenda in the context of the 1st European Security and Safety Summit in June 2007 (EENA site).

Member States should also *implement caller localization*. This legal obligation is already met in some but not in all the Member States, as it is not a simple matter. In some cases the technology of the existing communications centers is too old to handle location information. In other cases progress is hampered because of incompatibilities between existing and required products (e.g. GIS, localization techniques). The problem seems to concern mostly the infrastructure of the emergency services rather than the capability of operators to transfer location data. Back in 2002, the European Commission requested ETSI to develop a common interface between operators and emergency services to facilitate the transmission of localization data, but this work has not yet been completed. Since 2005, the Commission has launched several actions in the field of caller localization (see *The role of EENA and the future*).

Finally, another issue is the implementation of overall quality criteria and the evaluation of the quality of the 1-1-2 service chain. Currently, only Portugal has conducted such an overall quality evaluation. EENA believes that the quality of the 1-1-2 service chain will improve only when the European Commission starts conducting periodic quality evaluations by independent organizations in all the Member States. Special care should be taken for people with hearing and vision disabilities who need special terminals in order to be able to make emergency calls. The needs of increasing numbers of people accessing the PSAPs over the internet (VoIP) should also be addressed.

Considering the previous evidence pre-

sented, it is clear that improving the 1-1-2 service chain is a complex issue requiring the involvement of many actors, especially political authorities. Technology seems not to be the major issue, although it plays an important role in the equation. The European Commission has a very important role to play by obliging Member States to fully implement legislation in force. Failing to improve the quality of the 1-1-2 could reduce the safety level of citizens. An initiative (e-call) aims to equip all new cars in the EU with the capability of automatically calling 1-1-2 in case of accident by 2009 (IP/134, 2005). However, if the PSAPs are not properly equipped and organized, spending for the establishment of the new system and buying the new gadget for the car will not necessarily increase the chances of survival in case of a car accident. The injured driver will be waiting for help requested via the e-call, which will never arrive because the PSAP will not be able to process the automated call received.

### The Role of EENA and the Future


In 2004, EENA lodged with the European Commission a series of complaints against several Member States for non-implementation of 1-1-2 legislation. In 2005, on the 14th anniversary of the introduction of 1-1-2 and following the advice of the European Ombudsman, EENA introduced a petition with the European Parliament (EENA, 2005, 2006). This, in combination with pressure from the car manufacturing industry, led the European Commission to formally recognize in September 2005 the importance of the emergency services component of the 1-1-2 service chain for the implementation of the e-call system (COM/431, 2005; IP/1137, 2005). Then, in October 2005, the European Commission organized a conference on the implementation of 1-1-2 (IP/1239, 2005; Speech/596, 2005) during which Commissioner Viviane Reding declared that 1-1-2 had become a Commission priority. In parallel, the Commission accepted publicly that it could not launch a pan-European information campaign because it was not satisfied with the implementation of the 1-1-2 by Member States (something it also accepted in the European Parliament, see Ries 2006).

Since 2006, the Commission opened infringement proceedings against several Member States for non-transmission of caller localization to emergency services. Some of these proceedings were subsequently closed as national authorities maintained that although emergency services were incapable of using caller location information transmit-

ted automatically for every call ("push"), they could request this information when required ("pull"). The Commission also postponed infringement proceedings against some countries concerning the answering and handling of calls to the 1-1-2 because these countries were in the process of upgrading the whole emergency chain. Finally, the Commission publicly recognized in the context of the 12th report on the implementation of the telecommunications regulatory framework that "while the availability and quality of the basic service now appear to be ensured quite widely, the

Commission's powers in this regard are limited under the current framework. Any improvement will depend on strong support in particular from the co-legislators in the regulatory review process." (COM/155, 2007). Several members of the European Parliament aware of this launched a written declaration which was signed by 530 members of the European Parliament, requesting that the 1-1-2 should be given a higher priority (EENA site).

In November 2007, the Commission presented proposals for reforming the telecommunications legislative framework including



**Let NENA bring quality training to your doorstep.**

**9-1-1 PUBLIC-ANSWER LINE EMERGENCY NENA**

"Our county hosts NENA courses throughout the year to ensure our staff is up-to-date on the most important issues and events. Without these training courses, it would be difficult to keep up with changes and advancements in the industry."

Steve O'Connor,  
9-1-1 Coordinator  
Brevard County (Florida)

The National Emergency Number Association recognizes that advanced training and continuing education is crucial to 9-1-1 professionals. That's why NENA is pleased to bring 21 courses directly to our members, whether it's for a Chapter or regional meeting, or for small groups.

#### ONE-DAY SESSIONS:

- Wireless/VoIP Public Education
- Advanced 9-1-1 Database
- Introduction to VoIP for PSAPs
- Advanced VoIP
- Grant Management for PSAPs: From Acquisition to Maintenance
- Government Education
- Leadership in the 9-1-1 Center
- 9-1-1 Center Consolidation
- Introduction to Wireless for PSAPs
- Understanding GIS for the PSAP
- Advanced GIS
- Disaster Planning for the PSAP
- Liability Issues in the 9-1-1 Center
- PSAP Design
- Introduction to PSAP Technology
- Managing the 9-1-1 Center
- Introduction to 9-1-1 Database
- Introduction to 9-1-1 Technology
- The 9-1-1 Puzzle: Putting All the Pieces Together
- "In the Trenches" Approach to 9-1-1 Public Education

#### NEW TWO-DAY SESSION:

- Achieving Excellence in 9-1-1 Center Management: The Fast Track to Becoming a More Effective Manager

More questions about NENA's courses and instructors?  
Please visit [www.nena.org](http://www.nena.org) or contact NENA's Educational Programs Manager,  
Bill Kinch, at (801) 330-4068 or [bkinch@nena.org](mailto:bkinch@nena.org).

the provisions covering the 1-1-2 (COM/698, 2007). The proposals are currently being discussed in the European Parliament and the Council and will hopefully be adopted sometime in late 2008. They provide for the follow-up of the promotion of the 1-1-2 by the soon to be established European Electronic Communications Market Authority. The new proposals aim at reducing the scope of implementation of 1-1-2 to traveling citizens. However, such an approach is counter-productive as it establishes discriminations, which are incompatible with the single market. The proposals make localization mandatory (in “push” mode) and provide for the information of users about the possibility or not to make calls to emergency services (something useful for VoIP-based services). Then, on February 11, 2008, several Members of the European Parliament, the European Commission and the EENA celebrated the “European 1-1-2 Day” through articles, interviews and other promotional activities (EENA site; IP/198, 2008).

However, action at the institutional front is not enough. In addition to the three conferences EENA has already organized on the 1-1-2 (2003, 2004, 2007), it has become evident that action is needed at regional and local levels to raise awareness of PSAPs and decision makers and establish human networks. They should better grasp technology and get inspiration from their colleagues in other EU Member States in order to get organized and better formulate their needs. In this line of thinking, EENA created an advisory board with the participation of several high level politicians (such as two Vice-Presidents of the European Parliament), professional users (namely NENA, WADEM, WHO, IAEM, etc.) and industry representatives. They have outlined several objectives for the year 2008 including: launching projects to inform and educate citizens on the 1-1-2, promotion of the allocation of increased budgets for the emergency services in view of improving response to daily emergencies and the setting up of several 1-1-2 excellence centers in the EU. **ENPM**

*Olivier Paul-Morandini is the Founder and President of the European Emergency Number Association, not-for-profit association (Brussels, Belgium). For more information on EENA, e-mail info@eena.org or visit the Web site at www.eena.org. An abridged version of the first edition of this article was published in the June 2005 issue of the European Journal of Navigation (see www.gitc.nl).*

Part two will deal with communications between authorities and from authorities to citizens and contains some proposals for action.

**Notes**

1. Calculations based on population data for 2004, tourism data for 2003 (EU-25) and knowledge of the 1-1-2 data for 2008 (EU-25).

**References**

Alevantis, Panagiotis (2001), *Harmonised bands for public protection, emergency situations and disaster relief*. First European Commission Consultation Meeting on the World Radiocommunications Conference 2003 (WRC-03), Brussels ([http://europa.eu.int/information\\_society/topics/telecoms/radiospec/radio/world\\_radiocomm\\_conf/wrc\\_03\\_consult\\_meetings/presentation/index\\_en.htm](http://europa.eu.int/information_society/topics/telecoms/radiospec/radio/world_radiocomm_conf/wrc_03_consult_meetings/presentation/index_en.htm)).

Alevantis, Panagiotis (2002), *Civil Protection needs for emergency telecommunications*, First meeting of the OCG EMTEL, Sophia-Antipolis, France (available at <http://portal.etsi.org/docbox/emtel/emtel - password protected site>).

CGALIES—Coordination Group on Access to Location Information by Emergency Services (2002) *Final report—Report on implementation issues related to access to location information by emergency services (EI12) in the European Union*, www.telematica.de/cgalies/. The initial estimate for EU-15 of 185 million calls has been adapted for the EU-25.

COM 431 (2005) final—*Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions—The 2nd eSafety Communication, Bringing e-call to citizens*, Brussels, 9/14/2005.

COM 155 (2007) final—*Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions—European electronic communications regulation and markets 2006 (12th Report)*, Brussels, 3/29/2007.

COM 698 (2007) final—*Proposal for a Directive amending Directive 2002/22/EC on universal service and users’ rights relating to electronic communications networks, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on consumer protection cooperation*, Brussels, 11/13/2007.

DECO (2004)—*Associação Portuguesa para a defesa dos consumidores (2004) 1-1-2 Service Survey, Final Overall Report*, DECO (available at <http://europa.eu.int/comm/environment/civil/>).

Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users’ rights relating to electronic communications networks and services (Universal Service Directive) (OJ L 108, 4/24/2002, p. 51).

EC—Civil Protection site at <http://ec.europa.eu/environment/civil/>. Contains also pages on the single European emergency call number 1-1-2.

EENA site—European Emergency Number Association at [www.eena.org](http://www.eena.org).

EENA (2004), *Conclusions of the 2nd European 1-1-2 Conference and Exhibition*, 1-1-2 Newsletter No 9, 12/14/2004 (available at [www.eena.org](http://www.eena.org)).

EENA (2005), *Petition to the European Parliament: Non-implementation of European legislation concerning the single European emergency call number (1-1-2) and failure of the European Commission to act*, 7/29/2005 (available at [www.eena.org](http://www.eena.org)).

EENA (2006) *Additional elements concerning petition 0688/2005 (period 29 July 2005 to 29 August 2006)*, 9/07/2006 (available at [www.eena.org](http://www.eena.org)).

ETSI-EMTEL (2004), *Terms of Reference of the OCG ad-hoc group on Emergency Telecommunications (OCG EMTEL)*, ETSI, Sophia Antipolis, France ([http://portal.etsi.org/ocgemtel/EMTEL\\_ToR.asp](http://portal.etsi.org/ocgemtel/EMTEL_ToR.asp)).

Eurobarometer (2000), *Knowledge of the single European emergency call number 1-1-2*, results available at [http://ec.europa.eu/environment/civil/prote/112/112\\_knowledge\\_en.htm](http://ec.europa.eu/environment/civil/prote/112/112_knowledge_en.htm).

Eurobarometer (2006), *E-Communications, Household Survey*, Fieldwork December 2005 – January 2006, Publication July 2006 Special Eurobarometer 249, European Commission, Brussels.

Eurobarometer (2007), *E-Communications, Household Survey*, Fieldwork November-December 2006 – April 2007, Publication July 2006 Special Eurobarometer 274, European Commission, Brussels.

Eurobarometer (2008), *The European Emergency Number 112*, Fieldwork: January 2008 Publication: February 2008, Flash Eurobarometer 228, European Commission, Brussels.

FNTU—Fédération Nationale des Traducteurs d’Urgence (National Federation of Emergency Translators) site: <http://perso.wanadoo.fr/stu.alhu/index.html>.

GSC (2003), *Resolution GSC-8/1: Emergency Communications of the 8th Global Standards Collaboration meeting (GSC-8)*, Ottawa, Canada (available via [www.gsc.etsi.org/](http://www.gsc.etsi.org/)).

GSC (2004), *Resolution GSC-9/2 (Joint GTC/GRSC): Emergency Communications of the 9th Global Standards Collaboration meeting*, Seoul, Korea (available at [www.tta.or.kr/gsc/Resolution.jsp](http://www.tta.or.kr/gsc/Resolution.jsp) and via [www.gsc.etsi.org/](http://www.gsc.etsi.org/)).

GSC (2005), *Resolution GSC-10/02: (Joint) Emergency Communications, at the 10th Global Standards Collaboration meeting* Sophia-Antipolis, (available at [www.gsc.etsi.org/GSC\\_10.htm](http://www.gsc.etsi.org/GSC_10.htm)).

IP/134 (2005)—*Cars that can dial 1-1-2: Commission and industry target 2009*. Press release, 20/32005, European Commission (available at <http://europa.eu.int/rapid/>).

IP/1137 (2005)—*Cars will dial 1-1-2—but will anyone answer? Commission urges Member States to act on eCall*, Press release, 9/14/2005, European Commission (available at <http://europa.eu.int/rapid/>).

IP/1239 (2005)—*Saving travellers’ lives: Commission urges Member States to improve their responses to 1-1-2 emergency calls*, Press release, 10/11/2005, European Commission (available at <http://europa.eu.int/rapid/>).

IP/464 (2006)—*EU telecoms rules: Commission takes steps to ensure that emergency services can locate callers*, Press release, 4/06/2006, European Commission (available at <http://europa.eu.int/rapid/>).

IP/198 (2008)—*Telecoms: EU citizens need to be better informed about Europe’s single emergency number 112*, Press release, 2/11/2008, European Commission (available at <http://europa.eu.int/rapid/>).

ITU (2005), *Handbook on Emergency Telecommunications*, International Telecommunications Union, Geneva ([www.itu.int](http://www.itu.int)).

Nuttall Chris (2003) *EU aims to pinpoint emergency phone calls*, Financial Times 7/23/2003.

Räddningsverkets (2002) *Report from workshop on Effective Handling of Emergency Calls* Rosersberg, Sweden (available at <http://europa.eu.int/comm/environment/civil/>).

Ries (2006), *Written Question E-1694/06 of F. Ries. MEP and reply of Commissioner Reding*, available through the European Parliament at [www.europarl.europa.eu/QP-WEB/application/search.do](http://www.europarl.europa.eu/QP-WEB/application/search.do).

Schmidt, Hans-Werner (2005) *Tourism in the enlarged European Union*, Statistics in Focus, Industry, Trade and Services, Theme 4 - 13/2005, Eurostat, Luxembourg.

Smyth, Herbert Weir (1926), *Aeschylus, Agamemnon* Harvard University Press, Cambridge, MA. Verses 280 – 316; also available at the Perseus Digital Library ([www.perseus.tufts.edu/hopper/text.jsp?doc=Perseus:text:1999.01.0004:card=258](http://www.perseus.tufts.edu/hopper/text.jsp?doc=Perseus:text:1999.01.0004:card=258)).

SPEECH/596 (2005)—*1-1-2, the Single European Emergency Number: The need for action*, Speech by Viviane Reding, Member of the European Commission responsible for Information Society and Media at the Conference on the Single European Emergency No. 1-1-2, Brussels, 10/11/2005, (available at <http://europa.eu.int/rapid/>).

UN-DHA—United Nations Department of Humanitarian Affairs (1992), *Glossary: internationally agreed glossary of basic terms related to disaster management*, Geneva; updated in 2000; available at the ReliefWeb ([www.reliefweb.int](http://www.reliefweb.int)) under “Policy and Issues.”

Uzunoglu, N. (2006)—*Electromagnetic and Communication Theory Analysis of Optical Telecommunication “Frikotries” Links Utilized by the Hellenic Expedition Army during the Trojan War, in Science and Technology in Homeric Epics, An International Symposium, Ancient Olympia, Greece*, 27 - 30 August 2006 (as reported in journal TO BHMA 09/14/2006, page 30).

WFSC—World Fire Statistics Centre (2005), *Information Bulletins of the World Fire Statistics*, The Geneva Association ([www.genevaassociation.org](http://www.genevaassociation.org)).

WHO—World Health Organization (2000), *Injury: A leading cause of the global burden of disease*, Geneva (available through [www.who.int](http://www.who.int)).

## Second of Two Parts

# Emergency Telecommunications for Citizens in the EU: Communications between Authorities, Early Warning and Alerting Citizens

OLIVIER PAUL-MORANDINI

In the context of emergencies and disasters, emergency telecommunications cover communications from citizens to authorities, between authorities, from authorities to citizens and between affected citizens. This article covers the existing situation in all the areas mentioned above from a citizen's perspective and contains some proposals for action in view of ensuring further developments in this field. Part two deals with communications between authorities and from authorities to citizens and contains some proposals for action.

**A**lmost every emergency arising from everyday accidents requires the intervention of two or even three emergency services. Ambulances must help victims and the police have to regulate traffic around the scene of the accident, or must start investigations in case of criminal acts. Fire-fighters are often required to liberate victims from wrecked cars or from debris. They are the real protagonists in the case of fires—where the other emergency services are also required. All these interventions require communications between the emergency services involved. This becomes imperative in case of major incidents and disasters covering wide areas and necessitating the intervention of emergency services from different local or regional authorities or even (in the case of disasters with a European or international dimension) of multi-national, multi-discipline teams.

Today, it is well known that intercommunication between different emergency services in most of the EU Member States (in fact all over the world) is (in most cases) impossible in case of large scale joint operations in the context of major incidents or disasters. The main reasons given are the use of old radio systems operating in different frequency bands, the difficult or even impossible intercommunication between the relatively newer digital communication systems TETRA, TETRAPOL, GSM-BOS, etc., as well as the lack of common protocols and conventions at EU level for the communication between emergency services (TETRA, TETRAPOL, GSM-BOS sites).

The author does not consider himself to be a specialist in this field, as he lacks the appropriate technical knowledge. He has noted, however, that the publicly available documents with lessons learned from the September 11, 2001 disaster in New York, and the July 7, 2005 attacks in London, strongly underline the fact that the response of emergency services was hindered by multiple failures of communication systems and processes, as well as by technological limitations. The same documents stress the fact that emergency services urgently need improvements in telecommunications and technology capabilities to be able to face efficiently such events in the future (McKinsey, 2002; Commission 9/11, 2004; London Assembly, 2006). What would be the case if a similar disaster struck other EU countries? What about civil protection units coming together on the scene of a major emergency or

disaster within or outside the EU in the context of the recently upgraded Community Civil Protection Mechanism (EC Civil Protection site)? Fortunately, the EU has taken action in this field, although this has been done with considerable delay.<sup>1</sup> In 2001, the Council decision establishing the Community Civil Protection Mechanism provided (article 4b) that the European Commission shall *establish and manage a reliable common emergency communication and information system (CECIS) to enable communication and sharing of information between the monitoring and information center and the contact points designated for that purpose by the Member States* (Decision 2001/792/EC). The CECIS was fully operational in 2007.

In parallel, a report by a Group of Personalities in the field of Security Research published in 2003 by the European Commission recognizes the fact that a European Security Research Program (ESRP) should focus amongst others *on interoperability and connectivity as key elements of cross-border and inter-service cooperation* (EC—Security, 2003). In this context the EU has launched such a specific European Security Research Program with the interoperability of control and communications systems amongst its main priorities (MEMO/116 2005). Furthermore, until recently, emergency services have not been able to organize themselves at EU level in order to speak with one voice and establish their current and future requirements concerning emergency telecommunications. Since 2002, several attempts by unofficial groups of Public Communications Officers have been made to establish a common view and procedure (ETSI, 2005). Finally, in June 2006, the Forum for Public Safety Communication Europe was launched with the financial support of the 6th Community Framework Program for Research and Technological Development (PSC Forum site).

Several elements compromised the move of emergency services to the Information Society age and the progress of several projects aiming at the establishment of the emergency telecommunications environment of the future (MESA site). The abovementioned lack of a common approach from the professional users was one of them. Another was the fact that national industries have been trying to set the agenda in this field while unsuccessfully trying to impose it at the EU level. Furthermore, several issues concerning the efficient and effec-



tive coordination of emergency services on the basis of interoperable telecommunications systems are beyond the scope of standards setting bodies or technological fora. They include, amongst others, the use of common verbal and non-verbal communication protocols and conventions, the implementation of quality criteria for the services provided and the obligation for periodic evaluation by independent bodies.

The creation of the PSC Forum will certainly contribute to the establishment of a better understanding between industry and emergency services and will help the outcome of several EU-funded projects aiming at the use of TCP/IP and WiMax technologies by emergency services. Such projects include the following: U-2010 (Ubiquitous IP-centric Government & Enterprise NGN Vision 2010), ORCHESTRA (Open Architecture and Spatial Data Infrastructure for Risk Management), WIDENS (Wireless Deployable Network System), WIN (Wide Information Network) and DeHiGate (Deployable High Capacity Gateway for Emergency Services). Of course, well-established older technologies will contin-

ue being installed for some time, but WiMax systems will increasingly challenge them (for example, the new State-wide Wireless Network to be installed in the State of New York—SWN site—and the Citywide Mobile Wireless Network installed in New York City).

Another important issue in this area is the availability of bandwidth for advanced applications. The European Commission in its recent proposals for the reform of the European telecommunications regulatory framework, although ignoring the important issue of interoperability, seems to be taking good care of the bandwidth issue (COM 697, COM 480 2007).

### Authorities Communicating with Citizens

In case of an imminent disaster (approaching chemical or nuclear cloud, threat of a terrorist attack, upcoming tsunami or extreme weather conditions, etc.), authorities need first to be warned through risk-specific, regional networks and then rapidly alert large populations via telecommunications networks (radio, TV, sirens, GSMs, etc.) in order to guide them to safe areas until the danger is

over. Several international conferences on early warning systems for the reduction of natural disasters, have confirmed that effective early warning depends upon multi-sectoral and interdisciplinary collaboration among all concerned actors (EWC'98, 1998; EWC II, 2003; EWC III, 2006). Several major disasters hit the world in the last decade and unfortunately, many people were lost because of the lack of efficient early warning and alert systems.

Warning and alert systems and practices for citizens vary in the different countries of the EU. Siren and other audible alarm signals are provided for in several policy areas (safety in the workplace, nuclear and chemical plants, wartime alerts, dam-breaking alerts, etc.) and they are not standardized or harmonized. Test arrangements for such systems also vary between Member States. Additionally, Member States and local authorities have experimented with various new systems (intelligent sirens, mobile telephones, RDS car radios), but no generalized citizen-oriented solution has ever been proposed or implemented.

At the same time, EU citizens are clearly concerned about early warning and alert. According to the European Commission (Eurobarometer 51.1p 1999) a significant percentage of EU citizens (65.2 percent) feel unsafe when in another EU country for various reasons (they do not know the risks in the country, do not speak the language, feel that the emergency services are less well-organized, feel that signals and instructions are different, etc.). It is evident that special alarm arrangements are needed for non-residents in case of many types of potential accidents or disasters. Such an alarm may concern cross-border accidents or non-residents present in tourist areas. The possible risks include nuclear power plants, chemical factories (Seveso and non-Seveso), transport of dangerous goods (by highways, ports, railroads, pipelines), dams, areas prone to avalanches, landslides, floods, extreme weather conditions and volcano eruptions as well as hotels and other public places (fire risk, terrorist attack, etc.). With millions of tourists from the EU visiting high risk areas all over the world every year, this issue does not only concern the EU Member States but all countries accepting large numbers of EU tourists, as well as countries outside the Union, the citizens of which visit Europe every year.

The EU has already been made aware of the problems but without taking concrete action. The issue has been extensively discussed in the context of the Civil Protection activities

**NetClock®**

Precisely validating 911 events with Legally Traceable Time.®

THE INDUSTRY LEADER • NENA COMPLIANT • FIVE-YEAR WARRANTY

Over 4,000 PSAPs rely on NetClock to synchronize Radio Consoles, Voice Recorders, CAD, ANI/ALI Controllers and LAN Networks.

**Synchronizing Critical Operations™**

**SPECTRACOM** 585.321.5800  
www.spectracomcorp.com



mainly at a workshop on the technological aspects of modern warning and alarm systems (organized by the Finnish Ministry of Interior in the context of the major project on the information to the public—see MoI Finland, 2000), as well as in the context of the major project entitled “From Emergency to Crisis” (MoI Germany, 1999). The main conclusion of these actions was that alarm signals should not be linked with the type of the emergency (nuclear, chemical, natural etc.) but with the behavior expected by the population. More specifically, one signal should induce citizens to go indoors and stay there while another should incite them to evacuate closed spaces. These and other projects also concluded that warning and alert should be provided through multiple vectors (Volkmar Held, 2001), i.e. use of audible alarm signals and modern telecommunications networks (mobile telephones, pagers, RDS, digital radio and television, etc.) especially for people with disabilities. Supplementary information to the public could then be conveyed through classic communication channels (radio, television) or modern networks (mobile telephones, internet, etc.).

Several pieces of EU legislation cover the obligation for the provision of warning and alarm. Unfortunately, they fall under the responsibility of different policy areas and consequently their implementation remains uncoordinated. Directive 92/58/EEC on safety and health signs at work applies to safety in the workplace (in the policy area of Employment and Social Affairs). In its Annex VII it provides for a continuous acoustic signal for evacuation.<sup>2</sup> It also provides in its Annex I for regular check of the signaling devices. As the leisure area of one person usually is the work area of another, this directive could be applied in general for the warning and alarm of people in public places.

In another context, the Seveso II Directive 96/82/EC, which applies to a subset of chemical plants (in the policy area of Environment), provides for the inclusion of the organization of alert and intervention around the so called Seveso installations. It also provides that emergency plans should include arrangements for early warning of incidents, alert and callout procedures, as well as arrangements for providing the public with specific information relating to the accident and the behavior which it should adopt.

In another field, Directive 89/618/Euratom, which was adopted after the Chernobyl nuclear disaster, provides for the information of the public in case of radiological emergencies. This directive which applies to all types of nuclear installations and transport (and falls within the policy area of Energy) provides for information about emergency measures envisaged to alert, protect and assist the general public in the event of a radiological emergency.

Directive 2002/20/EC regulating the attribution of licenses for the operation of all types of electronic networks and services provides that Member States may establish specific terms for operators concerning the use of networks “during major disasters to ensure communications between emergency services and authorities and broadcasts to the general public” (see also COM 697, 2007). A special decision (Decision 676/2002/EC) covers issues pertaining to the allocation of radio spectrum (both these legal acts fall in the policy area of Information Society).

In 2005, the European Commission mandated ETSI to work on the implementation of Cell Broadcast (CB) for GSM networks, in the con-

text of ETSI’s EMTEL group (INFSO-COCOM site). Furthermore, CHORIST, a specific EU-funded project addresses the issue of population warning and alert on the basis of information from heterogeneous sensors and/or multiple agencies.

### Improvements Needed

To better protect its citizens, the EU could use the previous acts as a solid legal basis for a European initiative in the field of warning and alert. Such an initiative would establish a legal obligation to warn, alert and inform citizens, in their own language, in case of an imminent disaster, by all available telecommunication means (radio, TV, GSM, siren, etc.). Information in this context would also cover the issuing of instructions about expected behavior in all possible cases of major disasters (nuclear, chemical, natural, terrorist, ...) even the obligation to ensure (simple and comprehensive) training well before the disaster. Finally, the initiative could ensure the implementation of quality criteria for the service provided.

Additional justification for such an initiative may be provided by the widening perception of the terrorist threat, the natural risks present in the European region (floods, storms, avalanches, etc.), the numerous EU citizens moving around feeling unsafe, the need for the approximation of legislations and the conclusions of several projects financed by the Community budget in the fields of Civil Protection, Research, Information Society, etc. The initiative may aim at the generalized use of the two existing audible signals (one for evacuation, one for confinement) and the testing of warning systems all over the EU on the same day (e.g. on February 11, which links with EENA’s proposal for the establishment of this day as the European Day of the single European emergency call number 1-1-2). It could also aim at the implementation of multilingual capabilities in special dissemination systems (RDS and digital radios, digital TVs, cell broadcast of messages), the coordinated use of communication networks for warning and alert of people with disabilities and the follow-up information of populations concerned. Finally, it could provide for specific measures for tourists and other non-residents as well as for the collaboration with broadcasters and NGOs (environmental, search and rescue, medical, etc.) who play a key role in warning and informing the public (see **Emergency Telecommunicators and Radio Amateurs sidebar, page 67**). The initiative could be periodically evaluated in view of taking further actions at Community level.

Of course, launching such an initiative means that several Commission services need to pull their act together and think in a creative way with their priorities aimed at serving the citizens. Maybe this is easier said than done—but the political clout of such an action would certainly be very important for the college of the Commissioners. This could be done in the context of the recasting of the Civil Protection Mechanism (Decision 2001/792/EC) although the final text adopted did not take into account the specific proposals of the European Parliament to establish a system for the early warning and alert of citizens in disaster prone areas. Several members of the European Parliament aware of this launched a written declaration which was signed by more than 410 members of the European Parliament, requesting the establishment of such a pan-European early warning and alert system for citizens (EENA site).

### Communication between Affected Citizens

In case of personal emergencies and/or major incidents or disasters, citizens expect, above all, to be offered the possibility to communicate with their relatives, either to inform them that they are well or to get reliable

Table 1

When in danger within the EU, call for help the single European emergency call number 1-1-2

**THIS NUMBER CAN SAVE YOUR LIFE!** Report problems to the Citizens’ Corner at [www.eena.org](http://www.eena.org)

Table courtesy of EENA

## Emergency Telecommunications and Radio Amateurs

*An essential component not to be ignored.*

According to the International Amateur Radio Union (IARU),<sup>1</sup> assistance in emergency and disaster situations has a long tradition in the Amateur Radio Service. In recent years, the importance of this activity has increased further and has, in fact, also become a major argument in the defense of the Amateur Radio bands and in the protection of this valuable resource against potential interference by new technologies. In some countries, the role of the amateur radio service in case of emergencies and disasters is well established and organized or even institutionalized. In a large number of countries, however, hams can perform this important public service only in an improvised manner if and when a disaster occurs, something that may seriously affect the efficiency of what radio amateurs can contribute.

Radio amateurs have contributed over the years in situations covering all the aspects of emergency telecommunications mentioned in the main article.<sup>2</sup> They have been requesting assistance in case of accidents occurring in remote or isolated areas. They have facilitated the communication between emergency services in areas totally devastated by major disasters.<sup>3</sup> They have helped convey the message of authorities to remote or isolated regions and finally they have ensured that relatives from/at isolated areas were kept informed about the well-being of their relatives and friends. Using classical or satellite enabled equipment, radio amateurs have proven themselves indispensable in emergency and disaster situations.

### Notes

1. [www.iaru.org/index.html](http://www.iaru.org/index.html)
2. [www.rsgb.org.uk/emergency/newsboard.htm](http://www.rsgb.org.uk/emergency/newsboard.htm)
3. [www.aricc.org/](http://www.aricc.org/)

information about their condition. However, network availability and capacity have proven insufficient in several cases of major incidents and disasters to ensure such contacts. Instead, special telephone numbers may be established for relaying information through the access of centrally constituted files with names of victims and/or survivors. Additional initiatives may also include the information and training of citizens (especially youngsters, see OASP site) about the behavior they are expected to adopt in case of such events.

## Important Horizontal Developments

In May 2006, Senator Hillary Clinton proposed a new Federal Interoperable Communications and Safety Act in the U.S. (FICS, 2006). This act, which was never enacted into law, provided for a new Undersecretary for Emergency Communications and an Office of Emergency Com-

munications. The act provided for a National Emergency Communications Strategy to achieve redundant, sustainable and interoperable emergency communications systems, and required State and local governments to develop State-wide Interoperable Communications Plans. It provided for a national assessment of the interoperability capabilities

# ComLog™ by CVDS Inc.

## Digital Voice Recording Systems



NP192



NP8C



NP72

First in Performance - First in Reliability - First in Support

With over 15 years of experience in voice recording, the CVDS ComLog Voice Recorder has the reputation of being one of the most reliable products on the market. At the end of the day, that's what it is all about, to give you a tool that you can depend on. Reliability is key.

Every installation is special. Each with its unique requirements. At CVDS, we thrive on providing recording solutions for the largest clients with hundreds of channels to smaller sites with only 4 channels. Every site is as important as the next. The ComLog family of recorders provide individual solutions to each. Whether the sources are analog, digital, or VoIP, telephone or radio, the ComLog does it. Whether storage requirements are simple or RAID, 18,000 to 750,000 hours, Hard Disk, DVD, REV, or NAS, the ComLog does it. Whether simple or fault tolerant configurations are needed, the ComLog does it.

We invite you to call or e-mail us to discuss YOUR recording requirements to select the best ComLog solution tailored specifically for your agency.

T: 514-426-7879

F: 514-426-3511

Email: [sales@cvds.com](mailto:sales@cvds.com)

[www.cvds.com](http://www.cvds.com)

See us at NENA 2008 booth #809

at all levels at least every five years, as well as the creation of an Emergency Preparedness Center and the establishment of a National Alert System within a three-year deadline. This was the first time emergency telecommunications received such a high priority and the EU should implement something similar taking in account, of course, Europe's legislative and administrative traditions and structures.

In June 2006, the London Assembly published a report on the response to the bombings of June 7, 2005. The Report dealt in particular with communications issues and pointed out that *while the people involved performed outstandingly, the emergency communication systems and equipment that we're supposed to support them did not. Furthermore the report also pointed out that there is an overarching, fundamental lesson to be learnt from the response to the 7 July attacks, which underpins most of our findings and recommendations. The response on 7 July demonstrated that there is a lack of consideration of the individuals caught up in major or catastrophic incidents. Procedures tend to focus too much on incidents, rather than on individuals and on processes rather than people. Emergency plans tend to cater for the needs of the emergency and other responding services, rather than explicitly addressing the needs and priorities of the people involved* (London Assembly, 2006).

## Conclusions and Proposals

Emergency telecommunications concern, above all, the safety and security of citizens. With the mobility created by the internal market within the EU, the European Institutions should make serious efforts to ensure greater harmonization at EU level in this field. Work already undertaken should be encouraged and continued, while action should be initiated to cover new needs. Above all, the EU should declare its strong political commitment for improvements in this field and declare it a priority, something that is not the case today. Ensuring better and reliable emergency telecommunications in the EU means that procedures for the development of requirements and processes in specific areas need to be officially endorsed through multi-disciplinary, multi-sectoral, multi-services groups representing governments and working with the interests of citizens and victims in mind. Improving the 1-1-2 service chain, establishing rules for the interconnection and the interoperability of systems used by emergency services, ensuring that all EU citizens (residents and travelers alike) will be promptly

warned in case of an imminent disaster, are all highly political issues.

As a first step, the Council of EU Ministers should consider the issue in view of formulating a clear political mandate at the highest possible level. In parallel the European Parliament could continue playing a prominent role by keeping this issue on its agenda, as it has already done so on several occasions. Emergency telecommunications should be treated in a horizontal, interdisciplinary intersectoral and inter-services way within all European Institutions (Parliament, Commission and Council). The objective should be the adoption of binding legal acts for the organization, intercommunication and interoperability of emergency telecommunication services and systems for all emergency services/authorities, functioning in the context of commonly agreed quality levels. Some EU countries (e.g. Belgium) have already established structures and systems and are moving towards this direction. In other EU countries (UK, Netherlands, Scandinavian countries, Germany), providing high quality emergency services is already a legal obligation. Of course, given the investments involved and the rapid technological advances, decisions should be based on sound analyses of costs and benefits for citizens, emergency services and related industries.

Should the EU consider the creation of a special agency for Emergency Telecommunications? Should Emergency Telecommunications for European Citizens be one of the priority themes to be dealt with in the future European Electronic Communications Market Authority or within a not so useless Civil Protection Agency? Should the Commission set up a special task force to deal with Emergency Telecommunications in a horizontal and holistic way? These are questions to be replied at the highest political level, in view of the EU's pledge to serve its citizens.

Finally, the field of Emergency Telecommunications needs its own big periodic conference and exhibition where administrators and politicians, professional and final users, emergency services and private companies will be able to discuss their experiences, their needs and their products, in a horizontal and neutral way. Such an event could constitute a common discussion platform which will set requirements and help exchange best practices to enable the field to develop further in order to better serve citizens and the idea of Europe. As mentioned in part one of this article, EENA has already contributed in this direction by setting up an advisory board

with the participation of citizens, Members of the European Parliament, professional users (namely NENA, WADEM, WHO, IAEM, etc.) and industry representatives. Its objectives for 2008 include launching projects to inform and educate citizens on the 1-1-2, promotion of the allocation of increased budgets for the emergency services and the setting up of several 1-1-2 excellence centers in the EU.

## ENPM

*Olivier Paul-Morandini is the Founder and President of the European Emergency Number Association, a not-for-profit association (Brussels, Belgium). For more information on EENA, e-mail info@eena.org or visit the Web site at www.eena.org. An abridged version of the first part of this article was published in the June 2005 issue of the European Journal of Navigation (see www.gtc.nl).*

## Notes

1. "The Council of Ministers has repeatedly underlined the necessity for using data banks (1987), advanced telecommunications systems (1989, 1990) including aerospace resources (1990 - 1). The Council also considered desirable a system to make more effective use of existing specific information and to improve technical co-operation between rescue teams helping in emergencies outside their own countries or regions (1990 - 1). In 1994 the Council considered that the experience acquired in data transmission between Member States had demonstrated the need to set up a committee of users within the existing permanent network of national correspondents, arrangements to guide any new initiative in this field (1994)." See Council Resolutions in the field of Civil Protection—Developments since their adoption, Commission Staff Working Paper—SEC (2000)136 dated 24.01.2000 (EC Civil Protection site).

2. However, this is in contradiction with the ISO 8201 standard (Acoustics—Audible Emergency evacuation signal), which provides for a three pulse temporal pattern followed by an off phase.

## References

- COM 697 (2007) final—Proposal for a Directive amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and services, and 2002/20/EC on the authorization of electronic communications networks and services, Brussels, 11/13/2007.
- COM 480 (2007) final – Proposal for a Decision of the European Parliament and of the Council on the selection and authorisation of systems providing mobile satellite services (MSS), Brussels, 8/22/2007
- Commission, 9/11 (2004) The 9/11 Commission report, especially pages 336, 338, 339, 414; available at www.9-11.commission.gov.
- Decision 2001/792/EC—Council Decision of October 23, 2001 establishing a Community mechanism to facilitate reinforced cooperation in civil protection assistance interventions (2001/792/EC, Euratom) (OJ L 297, 11/15/2001 p. 7). An upgraded version of this decision was adopted in October 2007 and will be published in the Official Journal of the EU shortly.
- Decision 2007/162/EC—Council Decision of March 5, 2007 establishing a Civil Protection Financial Instrument (2007/162/EC, Euratom) (OJ L 71, 3/10/2007 p. 9).
- Decision 676/2002/EC—Decision No 676/2002/EC of the European Parliament and of the Council of March 7, 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision) (OJ L 108, 4/24/2002 p. 1).
- Directive 89/618/Euratom—Council Directive 89/618/Euratom on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency (OJ L 357, 12/7/1989 p. 31).



Directive 92/58/EEC on the minimum requirements for the provision of safety and/or health signs at work (OJ L 245, 8/26/1992 p. 23).

Directive 96/82/EC on the control of major-accident hazards involving dangerous substances (OJ L 10, 1/14/1997 p. 13) as modified by Directive 2003/105/EC of the European Parliament and of the Council of December 16, 2003 (OJ of December 31, 2003); consolidated version available at [http://ec.europa.eu/environment/seveso/pdf/unoff\\_cons\\_version\\_96\\_82\\_incl\\_amend.pdf](http://ec.europa.eu/environment/seveso/pdf/unoff_cons_version_96_82_incl_amend.pdf).

Directive 2002/20/EC of the European Parliament and of the Council of March 7, 2002 on the authorization of electronic communications networks and services (Authorization Directive) (OJ L 108, 4/24/2002 p. 21).

EC—Security (2003) Research for a Secure Europe: Report of the Group of Personalities in the field of Security Research available at <http://europa.eu.int/comm/enterprise/security/>.

EC—Civil Protection site at <http://ec.europa.eu/environment/civil/>. Also contains pages on the single European emergency call number 1-1-2.

EENA site—European Emergency Number Association at [www.eena.org](http://www.eena.org).

ETSI (2005), Public Safety User Requirements & Technology Solutions Workshop, February 23 – 24, 2005, available at <http://portal.etsi.org/workshops/Home.asp>.

Eurobarometer 51.1 (1999), Europeans & the environment, European Commission, Brussels EWC 98 (1998), International IDNDR Conference on Early Warning Systems for the Reduction of Natural Disasters, Potsdam. Documents and conclusions available at [www.gfz-potsdam.de/ewc98/](http://www.gfz-potsdam.de/ewc98/).

EWC II (2003), Second International Conference on Early Warning, Bonn. Documents and conclusions available at [www.ewc2.org](http://www.ewc2.org).

EWC III (2006), Third International Conference on Early Warning (EWC III), Bonn. Documents and conclusions available at [www.ewc3.org](http://www.ewc3.org).

FICS (2006)—Proposal for a U.S. Federal Interoperable Communications and Safety (FICS) Act, available at [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109\\_cong\\_bills&docid=f:s3172is.txt.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_bills&docid=f:s3172is.txt.pdf).

GSM-BOS site: [www.vodafone.de/bos](http://www.vodafone.de/bos) (in German). Info-Cocom site—Communications Committee at <http://forum.europa.eu.int/Public/irc/info/cocom1/home>.

London Assembly (2006)—Report of the July 7 Review Committee, London, June 2006, available at [www.london.gov.uk/assembly/index.jsp](http://www.london.gov.uk/assembly/index.jsp).

McKinsey (2002) Increasing FDNY's Preparedness, (see special chapter Improve communications and technology capabilities), available at <http://nyc.gov>.

MEMO/116 (2005) Security Research in the 7th Framework Programme prioritised amid high expectations, Press release, 4/7/2005, European Commission (available at <http://europa.eu.int/rapid/>).

MESA site at [www.projectmesa.org](http://www.projectmesa.org). Mol Finland (2000), Report of the Workshop on Information to the Public—Warning and Alarm System, Technical Aspects, Finland (available at <http://europa.eu.int/comm/environment/civil/>).

Mol Germany (1999), Final Report, Project From Emergency to Crisis—A Challenge for Civil Protection, Akademie für Notfallplanung und Zivilschutz im Bundesamt für Zivilschutz, Bad Neuenahr-Ahrweiler 1999 (available at <http://europa.eu.int/comm/environment/civil/>).

New York City (2006), Mayor Bloomberg announces selection of Northrop Grumman to build High Speed Wireless Data Network for Police Officers, Fire-fighters and other City workers, PR-326-06, 9/12/2006 (available at [www.nyc.gov](http://www.nyc.gov)).

OASP site—According to information made available from Greek authorities after the 1999 earthquake, many children indicated to their parents what they were expected to do on the basis of the extensive training programs conducted over the years by the Greek Earthquake Planning and Protection Organization (EPP0)—see [www.oasp.gr](http://www.oasp.gr).

PSC Forum site at [www.publicsafetycommunication.eu](http://www.publicsafetycommunication.eu), [www.psc-europe.eu](http://www.psc-europe.eu).

SWN site at [www.ofc.state.ny.us/ofc/swnindex.htm](http://www.ofc.state.ny.us/ofc/swnindex.htm).

TETRA MOU site at [www.tetramou.com](http://www.tetramou.com).

TETRAPOL site at [www.tetrapol.com](http://www.tetrapol.com).

Volkmar Held (2001), Technologische Möglichkeiten einer möglichst frühzeitigen Warnung der Bevölkerung (Kurzfassung); Technological Options for an Early Alert of the Population (Short Version) Schriftenreihe der Schutzkommission beim

Bundesminister des Innern Herausgegeben vom Bundesverwaltungsamt—Zentralstelle für Zivilschutz im Auftrag des Bundesministerium des Innern, German Ministry of

Interior, Bonn—available at [www.bbk.bund.de/dn\\_027/nn\\_402296/SharedDocs/Publikationen/Publikationen\\_20/Forschung/Band\\_2045.html](http://www.bbk.bund.de/dn_027/nn_402296/SharedDocs/Publikationen/Publikationen_20/Forschung/Band_2045.html).

Visit us at  
**NENA 2008**  
booth #638!

**EMERGENCY NUMBER**  
**PROFESSIONAL**  
The Official Publication of the National Emergency Number Association  
MAGAZINE

“ The VPI solution helps us reliably and securely record, reconstruct, evaluate and share entire emergency events to ensure compliance and improve quality assurance and training. ”

Visit us at  
**NENA 2008**  
booth #629

**Ken Welch**  
Ventura Police Department Communications

You already know that VPI's (Voice Print International's) award-winning systems are easy to use and upgrade, thanks to their fully redundant, open-architecture design that utilizes non-proprietary parts. But did you know that VPI's unique solutions enable you to easily transition from recording traditional communications to new VoIP telephony and trunked radio systems? Contact us today to learn why hundreds of public safety organizations like yours selected VPI's competitively priced solutions to record, assess and improve their mission-critical interactions.

VPI's **Prioriti Interactions Suite™** is your single source for:

- Voice Logging, Scenario Recreation, and Instant Playback
- Call Taker Quality Assessment and Coaching
- Real Time Public Information Displays and Dashboards



**VPI™**  
THE POWER TO BE PROACTIVE.™



LEARN MORE AT  
**VPI-CORP.COM** | 1.800.200.5430 | [INFO@VPI-CORP.COM](mailto:INFO@VPI-CORP.COM)

**EMERGENCY NUMBER**  
**PROFESSIONAL**  
The Official Publication of the National Emergency Number Association **MAGAZINE**

©2008 Communication Technologies, Inc., All Rights Reserved.  
Reprinted from *Emergency Number Professional Magazine*.  
Contents cannot be reprinted without permission from the publisher.