



Enhancing the efficiency of alerting systems through personalized, culturally sensitive multi-channel communication

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Specification document on “best practice” alerting procedures

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1 Introduction

Successfully using the mass media for alerting a population is dependent of a number of criteria which makes each case a different challenge.

It could then appear difficult if not impossible to define a strict formal process to alert people via the mass media since each occurrence will be characterized by the specific context of the crisis: its type and dimension, the way the authorities deal with it, the way people use to react, the way the media deal with the event, the cultural and regional specificities.

It then appears convenient to first describe what can be the context of a crisis before proposing best practice procedures selected through the observation of past events and the new technological means offered to a society whose exchanges are fast evolving in content, volume, and frequency.

This document being the last deliverable of the work package 4: “Mass media as a channel for alerting the public”, it will be based on the outputs of this WP former deliverables (D4.1 to D4.6) and will also take in account those of the work packages 2: “Socio-cultural factors in risk and crisis communication” (deliverables D2.1 to D2.7), 3: “Influences of socio-cultural differences in risk perception on the alerting strategies” (deliverable 3.3) and 5: “Personalized and adaptive multi-channel alerting” (deliverable 5.1).

2 The context

This chapter is a reminder of:

- the different types of crises,
- the organisation of the authorities dealing with the crises,
- preferences of media use among the countries and trustworthiness,
- the media logic when reporting,
- trust in authorities.

All these subjects have been previously studied in several work packages of the Opti Alert project (see the references in chapter 6) and thus this is empirical material produced by project partners.

These studies which are now summarised shall help us to understand who is involved in initiating an alert, how this alert can be transmitted, and what characterised the different populations who receive this alert.

2.1 The different types of crises

As the way to an efficient alert is deeply dependent of the nature and the kinetics of the triggering event, it seems adequate to first try to list the different types of crisis we can be dealing with and their characteristics.

The following chart is a possible classification:

Type of crisis	Examples	Main characteristics				Protective behaviour
		Pre-event alert duration	Crisis kinetics	Area	Impact	
Predictable natural disaster	Flood	One to several days	Slow: several days	Local to large	Medium material	Going to high grounds Evacuating
	Windstorms	Several days	Middle : several hours	Large	High : material + human	Barricading Staying inside
	Tsunamis	Several hours depending of the distance of the triggering event	Fast: several minutes	Large	High : material + human	Going to high grounds Evacuating
	Snowstorm	12 hours to one day	Middle: several hours	Medium to large	Low : traffic + work disturbances	Staying inside
Unpredictable/ short notice natural disaster	Flash floods	Several minutes to a few hours	Fast: a few hours	Local to medium	High : material + human	Going to high grounds
	Earthquakes	None	Fast: several seconds to a few minutes	Local to large	Very high : material + human	Laying under furniture or going outside
	Eruptions	A few seconds (gas-rocks) to several hours (lava)	Fast to slow depending of the type	Local	High : material + human	Going to a protected spot Evacuating
	Forest fires	A few minutes to several hours	Fast to middle depending of the wind speed	Local to middle	Medium: material (human exceptional)	Staying inside or evacuating
	Tornadoes	None to a few minutes	Fast: several seconds	Local	High : material + human	Going underground
Health pandemic	H1N1 flu Avian flu	Several days to weeks	Slow: several weeks to months	Very large	High to low : human but depending of the virus dangerousness	Wearing mask Vaccinating Hand hygiene
Industrial disaster	Plant explosion			Local	Low to high : material + human	

	Generation of toxic or radioactive cloud	A few minutes to hours	Fast to middle depending of the wind speed	Local to large	Low to high : human (depends of the cloud toxicity)	Wearing protective mask or suit Evacuating
	Dam bursting	Several minutes to a few hours	Fast : a few minutes to hours	Middle to large	Medium to high : material + human	Going to high grounds
Dangerous material transport accident	Generation of toxic emanation	A few minutes to hours	Fast to middle depending of the wind speed	Local to middle	Low to high : human (depends of the toxicity and the pop. density)	Wearing protective mask or suit Evacuating
Terrorist attack	IED – suicide bomber	None	Very fast : less than a second	Local	High : mainly human	Detecting before burst

2.2 The organisation of the authorities dealing with the crises (cf deliverable 2.2 – chapter 3.1)

The way the governmental and administrative authorities are organised in a country to deal with crises is essential information to understand how an alert is initiated and transmitted. Seven countries have been covered in the Opti Alert project.

2.2.1 Austria

In Austria, the topmost body dealing with disaster situations is the Federal Ministry for the Interior with its department II/4, being responsible for regulatory matters of civil protection as well as crisis- and disaster management. Its tasks contain the general coordination of all federal crisis- and disaster-activities, the representation of Austria within respective international structures, matters of providing international aid and the publication of disaster management related guides. For matters of coordination with other ministries or the Austrian states, a coordination commission can be activated, consisting of representatives of the respective institutions. For operational matters, the national government runs a permanent centre, collecting and transmitting information on crises and disasters to the ministry. This *Federal Operations- and Crisis-Communications (EKC)* furthermore contains the *Federal Warning Centre (BWZ)*, being responsible for alerting the population and crisis communication in cases of events with national relevance, especially in regard to nuclear risks. It is also the national point of contact for international matters.

As crisis management in Austria is in most cases a matter of the states and regions, the key actors are located below federal level. According to the basic administration segmentation of Austrian states, the state government, the head of the district administration or the mayors will take the lead as operations managers being supported by a crisis committee with representatives of the different administrative branches. At state level an advisory board with representatives of the operational forces, public agencies and other relevant bodies assists the government. Finally, at county and state level a Warning Centre exists as coordinating institution for all operational matters and as link between the administrative actors and action forces. The latter are mainly volunteer organisations like the Red Cross, Malteser or Johanniter. Only in Vienna and Salzburg, can some non-volunteer forces be found. In very severe cases, the military forces assist the regular action forces.

2.2.2 France

At the national level in France, the prime minister constitutes the highest authority, chairing in situations of national or even international importance an ad hoc *Inter-Ministry Crisis Group* (CIC) which includes all other heads of ministries concerned. The CIC can take all measures concerning disaster-management into its hands if regarded as necessary, i.e. the decision to set off alarms in certain regions of the country. Subordinate is the Operational Centre for Inter-Ministry Crisis Management (COGIC), collecting information on the disaster situation and forwarding it to all relevant administrative institutions. Like the Austrian BWZ, it is the national point of contact for international emergency calls. In contrast to the Austrian institution where most responsibilities reside with the states, it also has also the power to deploy and coordinate the French action forces.

Below the national level, prefects of the zones of defence, prefects of the departments and mayors are in charge of crisis management operations. While prefects of the zones of defence are confined to questions of coordination between the departments in case a disaster affects several of those, the mayors and prefects of the departments form the basis crisis management authorities, coordinating their administrative environment and the action forces unless a higher administrative level intervenes. Just like in Austria, French action forces– local fire and rescue services as well as the departmental services (SDIS) - are mainly volunteer organisations with professionals only accounting for approximately 20 % of their members.

2.2.3 Germany

Germany's disaster management authorities resemble in many aspects the Austrian structures as the country's political structure is federalist as well. Here too, we find the topmost bodies dealing with the subject at ministerial level, with the Federal Ministry for the Interior similarly including a *Department for Crisis Management and Civil Protection*. Its tasks concern strategic planning in the field of disaster management and political coordination with the state governments in these matters. Furthermore, the ministry supervises the *Federal Office of Civil Protection and Disaster Assistance* (BBK), being responsible for the creation of emergency plans for different types of disasters, the provision of special equipment (i.e. emergency vehicles for NBC dangers) and the education and training of leading disaster management personnel for which it runs a special academy. It also embodies the 24 hour *German Joint Information and Situation Centre* (GMLZ), organizing the exchange of information and coordination of emergency resources between federal, state and – if necessary –foreign authorities in crisis situations. While the Federal Ministry for the Interior thus features in a prominent role in the Federal Government's crisis management structures, it is not always in charge of the corresponding measures in case of emergency. According to the circumstances, other ministries may take the lead as well, for example the Federal Ministry of Health during a pandemic. If the area of more than one ministry is affected or coordination with the states at ministerial level is needed, an ad hoc *Inter-Ministry Coordination Committee* will be established at the leading ministry, especially in cases of disasters with long advance warning time. While this panel's tasks are focused on synchronizing external crisis communication of all authorities, for more immediate administrative planning an additional crisis committee will be activated within the ministry in charge.

The basic responsibility nevertheless rests with the states, which must ask for assistance before federal institutions become actively involved in case of emergency. As the states feature different administrative structures, there are one, two or three levels within disaster management authorities. The most common composition includes the interior ministry at state level and the counties or larger municipalities. In the city-states (Berlin, Bremen and Hamburg), only one level exists; in some larger states, the district level adds a third layer to the structure. At each of these, a crisis committee will be activated in a case of emergency, coordinating all relevant political and administrative institutions and measures and bringing together representatives, for example, from the health administration, regulatory agencies, environmental protection officials, police, waste-and supply agency, transport experts and public relation offices. The coordination of operational aspects is the task of a control centre situated at state level, which is released of its duties by regional control centres in case of

extensive disasters in order to manage the everyday emergency calls. Similar to Austria, these centres form the link between political decision-makers assembled in the crisis committee and action forces on site. These forces are, like in Austria and France, organisations relying mostly on volunteer members, approximately 2.2 million (including Red Cross, Malteser, etc.). Additionally, in Germany, the Federal Disaster Relief Forces (THW) with about 80,000 mostly volunteer members are under command of the Federal Ministry for the Interior, ready to be employed upon request by international institutions or any national authority. During extraordinary events, the military would also provide assistance.

2.2.4 Hungary

Crisis management in Hungary is formally led by the head of state, being responsible however only for deciding on the declaration of a state of national emergency along with the parliament. More relevant is a high governmental body called the Governmental Coordination Committee (GCC), chaired by the interior minister. As permanent members, it includes several ministries' heads as well as experts and is responsible for the coherence of governmental decision-making related to crisis management and coordinating relevant activities of all public authorities. In a disaster situation, it will invite - according to the situation - the heads of the military forces, the police, the national weather service or other decision makers to join. On top of that, it is the national point of contact for matters of international disaster relief cooperation. Below the GCC, the *National Directorate General for Disaster Management* (NDGDM) as part of the Ministry of Interior is the key actor in organizing the so-called Civil Protection Duty System. Its tasks include the creation of guidelines for disaster management by all public institutions, the supervision of their respective work, the education of citizens and officials alike, and the preparation of situation reports in crisis situations. In contrast to the German or Austrian ministerial departments, it also operates regional branches in each county, which supervise the professional as well as volunteer municipal fire brigades. In addition to this, it operates a permanent *National Emergency Service* for the collection and distribution of information regarding disasters as well as a public alarm system for industrial plants.

The lower disaster management authorities are situated at the level of counties and municipalities. At these, so-called Defence Committees provide the administrative background for all measures, being subordinate to the Ministry of Interior. At the end of the structure, the county administrations and mayors organize all actions related to prevention, alerting, evacuation and reconstruction. Finally, Hungary's action forces provide a multifaceted picture: on the one hand, every citizen is obligated to take part in the Civilian Defence Service by at least once undergoing a respective training. Afterwards, he may be ordered by any disaster management authority to assist in acute crisis situations for up to 15 days. In addition to this, 750 volunteer fire brigades can be found throughout the country. Even more volunteers contribute to this system organized in Non-Governmental Organisations like the Hungarian Red Cross. On the other hand, there are about 7,000 professional fire fighters organized in municipal fire departments and one state fire department operating in the capital under direct command of NDGDM, as well as the regular police and again the military assisting in emergency situations.

2.2.5 Italy

In Italy, the prime minister plays a significant role in the so called National Service of Civil Protection, which is the common label for all structures related to disaster management. He and his office are entitled to contribute to basic principles and programmes dealing with disaster management and to declare the state of emergency. The premier chairs the council of ministers, bringing together all heads of ministries concerned by an event. His office also supervises the *Department of Civil Protection* (DCP), being the major national body for regulatory matters on the subject and including guidelines for planning and actions of local and regional authorities. The DCP also coordinates all public and private organisations in operational matters. Furthermore, it is the contact point for international calls for assistance. A committee for the coordination of national, regional and local authorities complements the national setting.

At a regional level, the regional council, supported by the regional section of the civil protection system, organizes the crisis management; at provincial level, it is the provincial council or the prefect supported by the provincial arm of civil protection and, at local level, it is the mayor and the municipal civil protection. Each authority is furthermore assisted by the respective departments of the administration like health, environment, traffic or others. Like in Austria, France, Germany and Hungary, Italy's action forces also have their bedrock in volunteer-members, of which approximately 1.2 million serve the fire brigades or Non-Governmental-Organizations. On top of that, police and military forces as well as the rescue service of the Italian Alpine Club can be involved.

2.2.6 The Netherlands

At the top of the Netherlands' crisis management authorities, stands the Ministry for Security and Justice. Subordinate to it, is the *National Crisis Centre* (NCC), assisting the ministry in the creation of guidelines for managing disastrous events. The NCC also provides expertise on the subject for public and private institutions. Analogue to it, Provincial Crisis Centres (PCC) exist, supporting the Provincial Governor. The most relevant authorities in case of an incident at the local or regional level, however, are the coordinating mayors and the mayors. Coordinating mayors are the heads of the so called safety regions, which are not congruent to the provinces but coincide with police regions. They become active in case of all disasters beyond the managing capabilities of a municipality. Here the mayor is the relevant authority like in the other portrayed countries. A (coordinating) mayor is supported by a *Regional Operation Team* (ROT), being an administrative body led by a fire brigade commander and including representatives of regional and local administrations, rescue services, police and external partners if needed. The coordination of action forces is executed by control centres situated at the regional and local level.

2.2.7 Sweden

Sweden's crisis management is organized in a system called Civil Emergency Planning/Crisis Management (CEP). The leading authority is the Swedish Ministry of Defence, which supervises the *Swedish Civil Contingencies Agency* (MSB) as central institution for providing coordination service and planning associated with disaster management throughout the country. As the basic operative functions are subject to the expert authorities of the administration and lower branches of the political system, the MSB focuses especially on the coordination of public crisis communication in order to prevent the spread of contradictory information, similar to Germany's Inter-Ministry Coordination Committee. As the sole institution at national level dealing with crisis management, it naturally constitutes the national point of contact for international cooperation in crisis situations. However, each of the governmental offices and agencies are also included in the CEP-system via a *Crisis Management Coordination Secretariat*, which is the link with the MSB and has the responsibility to prepare the respective institution to deal with requirements arising from disasters in its area of competence. By this means, cross-sector emergencies will be met by prepared authorities wherever they occur.

The regional and local level in Sweden are covered in an emergency by the county administrative boards and the municipal executive boards, both including expertise from all relevant sections of their public network. The coordination of operations by receiving emergency calls and distributing them to the action forces in question is the task of the public service enterprise SOS Alarm, half owned by the national government and by the *Swedish Association of Local Authorities and Regions* each.

2.2.8 Conclusion

To conclude, the analysis of the main actors in crisis and disaster management shows many parallels but also significant differences. The highest authority at the national level is either the ministry of interior (Austria, Germany), the ministry of defence (Sweden, the Netherlands) or the head of government and a high level governmental committee (France, Hungary, Italy). Each country has furthermore established a national institution or department for crisis management, irrespective of

whether the national level has the power to rule over the state's actions or not. This question, however, determines the tasks of these bodies. In Austria, Germany, the Netherlands and Sweden, they are limited to offering a platform for coordination especially of public crisis communication, which the states may use in a case of emergency, but do not have to. In contrast, the COGIC in France, the DCP in Italy and the NDGDM in Hungarian exercise decisional authority over lower authorities if regarded as necessary. Below national level, the usual administrative authorities are in charge of crisis management, everywhere assisted by local or regional committees along with representatives of relevant areas of responsibility like health, environment etc. The only exception to this rule is Hungary, where the regular county administration and mayors are subordinate to the so called Defence Committees and thus confined to operational matters. Concerning these, all countries rely heavily on volunteer forces, sometimes counting over a million members. In Hungary, citizens enlisted in the Civilian Defence Service provide a unique pillar of these forces. In Germany, the THW special disaster relief forces complement the usual picture of decentralized organisations, though in federal hands.

2.3 Preferences of media use among the countries and trustworthiness (cf. deliverable 2.7 chapter 6.2)

As a matter of principle, people in all countries want to be alerted in a crisis by all channels available. In order to ensure that as many people as possible affected by a certain threat will be aware of the disaster and could handle the situation in the best way possible for themselves, one has to know what means they would preferentially use. A variety of alerting tools are indeed available: from traditional ones such as sirens, loudspeakers, radio, and TV, to new ones, including SMS, Internet or E-mail. A distinction is made, however, regarding the communication tools for attracting attention (alerting) and the ones for further or continuous information in a crisis (crisis or emergency communication). Here again, the seven countries of the study are covered.

2.3.1 Austria

In Austria, sirens, SMS, loudspeakers and billboards in public traffic systems are regarded as suitable alerting tools for reaching the great majority of the affected Austrian population. For further information, Austrians would use traditional media channels, such as radio or TV, Internet (in particular public service media websites; in case of severe weather conditions, specialised websites from weather services) and SMS services. In addition, the importance of face-to-face contacts in case of a crisis is mentioned. Social media are not mentioned at all, neither as alerting tool nor as a means for further crisis communication.

In particular, public service media appear to be trustworthy sources of crisis information both for natural and man-made disasters. In case of severe weather conditions, privately run weather services are also considered trustworthy. In terribly severe disasters that might have a further political component, not only Austrian media will be contacted but also German media that appear, particularly for young Austrian man, as another reference point that is trusted.

2.3.2 France

Unlike in Austria or Germany, French people consider themselves as very affected by natural and man-made disasters. Like in Austrian and Germany, all available means should be activated for alerting the population. Especially sirens and radio and TV channels are mentioned as good means for alerting people. What is more, SMS is proposed by many French attendees as an ideal *additional* alerting tool that could also provide important information such as a special Internet link, an emergency hotline number or further advice on coping and behaving during the crisis. Unlike Austria and Germany, information during the critical phase of a disaster should not be provided by the “usual” preferred information sources (such as TV or radio), but by the rescue services and private contacts as the usual media are not expected to provide urgent and adequately localised information. The aspect of receiving as locally specific information as possible is regarded as key for crisis communication in

France. Loudspeakers and city billboards should therefore be used as a good means for continuous and locally adapted information for the public during the crisis. After the critical phase or in case of a longer-lasting disaster, TV, radio and also the press will again have an important role to play for informing the public. Specialised hotlines are considered necessary for advice. Whereas personal contacts are mentioned as very important sources of information throughout all steps of a crisis by rural people, also urban people express their wish for personal communication in long-lasting events. Another proposal emerges in France as an appropriate alternative way of crisis communication in long-lasting events: the “missing child” alert for crisis, which is basically news alert on all local, regional and national mass media whenever a child is missing, consisting of a certain acoustic signal, a message and a hotline number.

A particular element of crisis communication shows up in France which is not mentioned anywhere else: people request to receive an “end of alert” or “end of crisis” message in order they can be sure that the threat is over and can therefore leave their shelter.

Trust in different information channels is quite differentiated in France: although they are considered as one key alerting tool, sirens alone appear to be insufficient and should be accompanied by other alerting tools. TV, radio stations and newspapers that are not tabloids or free daily newspapers are regarded in general as trustworthy source of information. Unlike other countries (for example Italy), the Internet is regarded as less trustworthy with the exception of websites released by public institutions or well-known GOs. Like in Germany or Austria, social media are not considered as trustworthy and adequate information sources for emergency situations. With SMS, although regarded as an ideal new alerting tool, the trustworthiness of the message clearly depends on the sender: an SMS is assumed to be trustworthy when it was released by an official source like the mayor or a rescue service.

2.3.3 Germany

The situation in Germany is very similar to the one in Austria: the same alerting tools are mentioned for attracting attention; sirens are considered as one of the most important alerting tools. In addition, some older people also mention church bells; in natural risk areas, the meaning of private telephones is stressed. Also in the latter case, the importance of personal contact, here neighbours, as mediators for alerting regarding the natural risk is emphasised. People report using Teletext for specific information surprisingly frequently, as it allows up-to-date information independently from the current TV programme and at the moment the person would need it. SMS is also mentioned as a suitable tool, especially for urban Germans. Further information in the course of the disastrous event should be provided above all by radio, then by TV, always as locally as possible. The role of the Internet for crisis communication in Germany is rated differently without a coherent picture: whereas some German participants regard the large amount of information that the Internet provides as confusing, irritating and problematic for diluting the most important urgent information (and therefore resort to the radio), others find the variety of potential information an advantage in the crisis situation, in particular as it allows cross-checking information provided elsewhere and raising specific questions – and to get answers accordingly – within chat rooms and blogs. Although social media is frequently used by young Germans (over 80% of people aged 16-24 use social media daily), it is not the case in a context of crisis communication. Indeed, social media are considered only as a tool for sharing personal relationships with friends.

Public service media are slightly more trusted in Germany compared to private media. Trust in the Internet is ambivalent and dependant on the individual’s overall capability to use the Internet. Social media are not regarded as trustworthy for crisis communication as everyone can post everything. The situation would be different if an authoritative source (such as official disaster risk management) would release the information because then people would be more confident in the credibility of the message. Sirens are considered, particularly by (large) city inhabitants, as problematic, as first of all the sound of a siren would be regarded as a test alarm and training, not as a real and urgent emergency

case. Like in most other European countries, any background information released by a scientist would also be regarded in Germany as a trustworthy source of information.

2.3.4 Hungary

Hungarians also mentioned all available channels for attracting attention: sirens and loudspeakers are rated positively by most participants; radios are considered as particularly relevant as one could listen to it even in the car or (sometimes) office. Radio and TV are furthermore seen as good alerting channels as they could interrupt their ongoing programmes and forward the alerting message including advice on where to get further information and how to deal with the disaster in concerned areas. SMS and Emails are also mentioned as appropriate. Older people also mention church bells as a good way to attract people's attention. Like in most countries, personal communication is seen as a key element for receiving an alert or any other crisis relevant information. Further information will be acquired via mass media (public and private channels alike), in particular local broadcasters when the event is only local, and, particularly, via the Internet, including social media – the latter makes Hungary unique in this study. Internet use (including social media) is high among young people and among persons with higher education and is regarded as superior to classic crisis communication channels in terms of speed and content. Although mobile phones and SMS are very popular media in Hungary, some people express their doubts, whether the system will function during a disaster or if the lines will be either disconnected or occupied because of the disaster.

Trust is a rather delicate issue in Hungary as trust in both public and private media is rather low, although slightly more trust exists in public than private media. Many Hungarian expect these media either to exaggerate things or to cover critical issues up. This is true especially in crisis situations as most people remember the distorted media coverage during and after the Chernobyl accident, expecting similar consequences during a new crisis, despite the new system. Hungarian people expressed therefore the wish to have crisis communication and alert announcements performed by “authentic” persons on TV or radio. An “authentic” person could be someone that people know such as an actor or a well-known sports person.

2.3.5 Italy

Italy is a country that is traditionally characterised by high TV consumption but it is not relevant in case of a disaster: Although some people consider the TV as important information source in an emergency case (in particular elderly and/or less educated people who think not to be able to adequately use a computer), the importance of the Internet come up as a central alerting and crisis communication channel in Italy. The Internet allows much more abundant and rapid information compared to TV which is considered to be rather slow and less reliable in case of emergency. Immigrants mention the Internet as a very useful tool to gather information. They think that several of them would have problems with the official, Italian-only crisis communication language (for example in radio and TV) and that the Internet will enable them to receive information in their own language. None of the participants would use Facebook or any other social media to get information about a disaster. The use of SMS alerting systems is not mentioned, despite the high share of mobile phones in Italy. Sirens are not established in all parts of Italy, but just in those areas particularly threatened by recurring disasters (that is natural risk areas). Inhabitants of areas where sirens were only recently established explain that, despite their limited experience with the sirens, they would welcome the introduction of them. In other areas loudspeakers are seen as superior to sirens as they would allow giving more specific local information. Italy appears to be the country where the meaning of personal communication in a disaster case is most spoke of. For example, neighbours play an important role in more rural areas, in small towns or in natural risk areas as sources of information and word-of-mouth plays an important role in news circulation. Similarly, those Italians who report not to use computers are much more likely to call up the civil protection, the fire brigades or the *Carabinieri* directly for receiving more information on the crisis and asking for advice.

As in Hungary, trust in authorities and in the public media is highly problematic. Here again, the Internet appears to probably be the most important and trusted source of information. In particular, specific weather pages (in case of severe weather related disasters) or any other website that provide collected and summarized information about the current disastrous event are appreciated and trusted. In some cases, the local media (local stations and newspapers) are considered trustworthy. People do not seem to trust media at all, especially the national stations and national newspapers are considered untrustworthy. A general remark could be made for Italy: as soon as the source of information is political, people mistrust it. Exceptions from this general observation are local governments (people who are known to the local public) and the civil protection.

2.3.6 The Netherlands

For the Netherlands, sirens, loudspeakers and SMS are mentioned as suitable channels for attracting attention. Further information on a disaster should be provided – mediated by the “disaster channel” – by radio and TV on the Internet (in particular municipal websites), SMS or mobile phones and via social media.

2.3.7 Sweden

In Sweden, for attracting attention, most regard sirens as a good means, although some would prefer loudspeakers as they would provide more detailed information than sirens. RDS-alarms in cars are only mentioned in Sweden as a good way to reach many people in a situation where most of the other media would necessarily fail. SMS is mentioned by many people, which also emphasised the aspect of having a high alerting effect when several mobile phones would ring at the same time. The use of social media is neither common nor unusual. Whereas social media are not mentioned at all in rural and large city inhabitants, others, for example in small-towns, regard social media as an appropriate channel that should be used by local authorities for alerting. For further information, loudspeakers appear to many Swedes to be good for giving information after immediate danger. TV and in particular radio are rated positively for continuing information about the respective crisis. The Internet is mentioned as a channel providing a wealth of important information plus the extra of cross-checking information received elsewhere. Here particularly, online newspaper websites and municipality websites appear to be of interest. Like in most other countries, the meaning of personal contacts is very prominent.

Sweden is outstanding when it comes to trust in authorities and media; they are even evaluated higher than personal contacts. Similar to the trust in authorities, the trust in media is very high in general, even if somewhat lower regarding tabloids which are expected to exaggerate the (disaster) stories in order to increase profit. Like in other countries where sirens are an appreciated alerting tool, Swedes also mention the problem that sirens might easily be misunderstood as training and therefore not taken seriously. Information provided via social media is trusted only when it comes from a friend or from an official authoritative source. The only obvious mistrust regards nuclear crisis, where some people report that they would fear that the state or the media would conceal important information, but in order to prevent public panic.

2.4 The media logic when reporting (deliverable 4.1 and 4.3)

To know when and how media will be alert actors, we have to understand how they work and what are the criteria they use to decide if an event will be broadcasted or not.

2.4.1 News value

Media will report on an event if this event meets the basic requirements for so-called news value. The description of these requirements can be summed up as: “what is given attention is what is new, dramatic and surprising, which fits into the media format and logic, and that also in some way is

significant either by affecting the media audience or society's political and economic elite" (Galtung & Ruge, 1965; Prakte1969, Tuchman 1978, Gans 1979, Altheide & Snow 1979).

Since alarms are issued just to warn affected persons in connection with events that either already are dramatic or has the potential in becoming so, they fit extremely well into the news media's criteria for what should be covered (North & Stromback, 2005).

Whether the media pay much or little attention to an event has a great importance on how the public will perceive the level of threat. Theories on this has by its creator Maxwell McCombs been called the media's agenda setting power, which means that the media and the editors "...through their day-by-day selection and display of the news, [...] focus our attention and influence our perceptions of what are the most important issues of the day" (McCombs, 2004).

The media thus have the ability to highlight certain events and make them seem particularly important. But they also have the ability to highlight specific aspects of the events, a feature known as framing. According To Entman, framing is "...to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described" (Entman, 1993).

The major advantage of the way the media raise warnings and alarms is that they do so quickly and that they reach many individuals.

At the same time, there are problems with the dependency on the media that play the role of mediators between the public and the public authorities. The problems are mainly that it may be hard to get the messages out and the messages may change or become different from what the authorities desired.

Low news value

The difficulty to disperse messages seems to primarily concern the long-term crisis management. Dangers that are immediate are very much newsworthy but to communicate about protecting oneself against long-term risks may not seem so attractive. For instance, concerning the crisis linked to the A(H1N1) flu in France, the media have been very fast to react at the beginning and have quickly broadcasted the message. It has been much more difficult to mobilize them later on the vaccination drive because the subject was no longer presenting some interest for the reader.

2.4.2 Distortion of contents

In the case of the acute dangers, there could be problems with details in the content.

Because of the freedom of the press and the editorial freedom of the media, they are not obliged to forward the information as the authorities have formulated it and it can sometimes lead to misunderstandings. For instance, "some technical terms which have been used for years, for example to describe the severity of storms, are now well-known among the population and they should be preserved in warning messages through the media and not being lost by the editorial revisions" (German weather service official).

There are also polemics and power competition between different politically oriented newspapers but, during acute situations, the polemics are usually laid aside. "There could be interpretations and critics about the way the emergency is managed but, if the message is 'go away', the news will always be 'go away'" (Italian press officer).

The split responsibility between the authority and the media can nevertheless be seen as an advantage: "the authority communicates the information, the editorial choice about publishing it or not is up to the media. The credibility of the media, as the authority one, depends on this due separation" (Italian press officer).

2.4.3 Disturbance of the information

In the case of infectious diseases handling, alerts can be overshadowed by other information or events, and the media sometimes reproduces alternative information in a way that disturbs the information from the authorities: “The media often don’t take an own point of view, but often simply reproduce external views and let the reader or viewer interpret the information themselves. This can be problematic when the opinions presented are very extreme or apart from the mainstream view” (German official – Robert Koch Institute).

	The media as an alarm signal. The media as a tool to highlight dangers	Media content. The media as a tool for disseminating information about hazards
Rapidly emerging hazards (toxic emissions, rapidly developing weather problems)	Works very well, but the authorities are in favour of additions for even better dissemination of alarms.	No serious problems, even though exaggerations are relatively frequent. Discussions on actions taken are done afterwards and rarely interfere with the rescue action itself.
Slow acting dangers (spread of infection, permanent radiation hazards)	New dangers are given good attention, but permanent problems are ignored. Sometimes attention is given to things that don’t constitute a major problem.	Difficult to maintain media interest for certain actions. Discussion of actions taken while they are still being deployed. The media may be perceived as untrustworthy.

Figure 3: The authorities’ perception to news media at different types of alarms

2.4.4 Filtering by media logic

In conclusion, all messages passing through the media are filtered through media logic, which includes the way the editorial room is organised, how material is organized, how it is presented through text, sound, and visuals, and the focus on particular characteristics. Events, including crisis, are interpreted and presented through the framework of media logic. Usually, drama, spectacular and unexpected events always take precedence over more mundane news and what is already known, and where visual events precede those who lack emotionally charged illustrations.

Alarms and warnings of hazards that threaten the media’s audience therefore pass easily through the filter, while some other messages do not.

Ultimately, the media logic is based on what the media perceives that the audience wants to know and needs to know. How these assessments appear can vary between media companies, but one common feature is that news that in a dramatic way can affect those who are partaking in the media are prioritized. This is fundamental for the media’s ability to maintain the public’s trust as a news broadcaster.

For many media, it is also important that the public trusts that they are independent from the government, authorities and others that could affect the agenda of the news agency. Without that independence, the trust in the media would collapse.

Trust in the media is partly about the audience trusting that what is published is true, but also that it is relevant. What is relevant content for serious working media include scrutiny of government activities. If they do not address criticism that seems relevant, they can at worst lose the audience’s trust as an independent reporter of the conditions in society.

2.5 The trust in authorities (cf. deliverable 2.4, chapter 1.3)

For successful crisis communication, trust in authorities is another important aspect. It is well known that if disaster management officials do not enjoy public confidence, the probability of compliance with their risk management, e.g. evacuation orders, is low. The Standard Eurobarometer includes a question on the general trust in national governments, which varies substantially in the countries reviewed here:

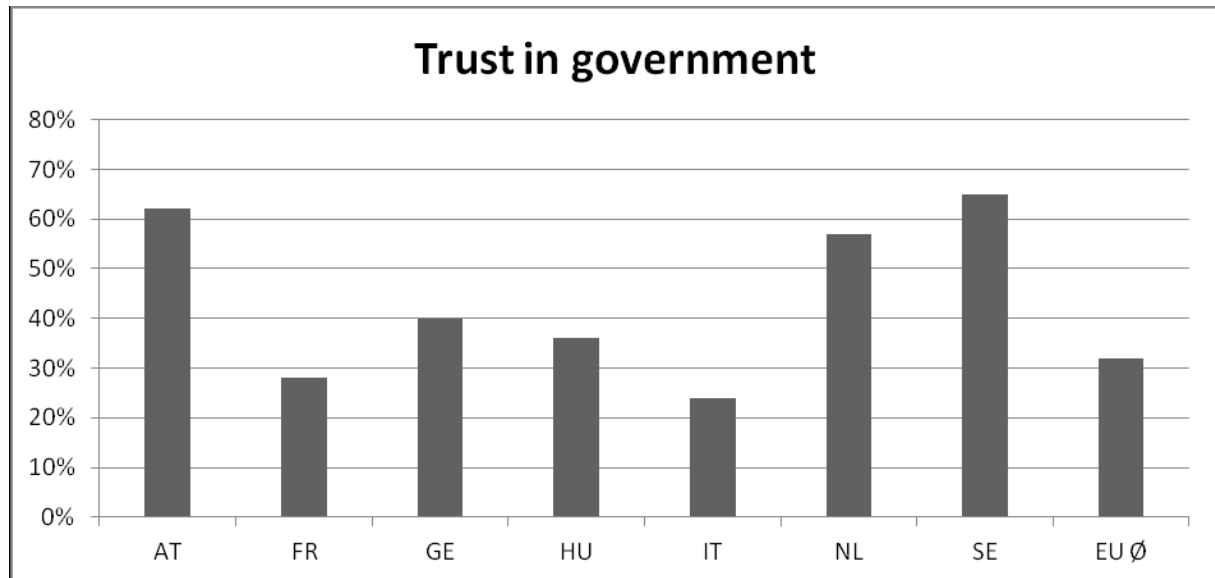


Figure 4: Trust in national government. Source: Eurobarometer 2011 (spring wave).

While the Swedish government enjoys general trust from 2 out of 3 citizens, governments in Italy and France especially are less fortunate regarding trust from the broad majority of their electorate.

French disaster management officials report that public crisis communication is usually left to experts as politicians are not well-reputed. By contrast, when the Swedish authority in charge asked the citizens to get vaccinated during the swine-flu outbreak in 2009/10, over 60 % followed this appeal, revealing an exceptionally high trust in their government.

Another special Eurobarometer provides even deeper insights in regard to trust in authorities as it asked interviewees to give separate opinions on local and regional authorities compared to the national government. This differentiation is important in the field of public crisis communication as this task is first of all the responsibility of local authorities, at least in the early stages of a disaster, and then dependant on the scope of a disaster and the distribution of competencies among public bodies. The figures indeed show significant differences among the examined countries.

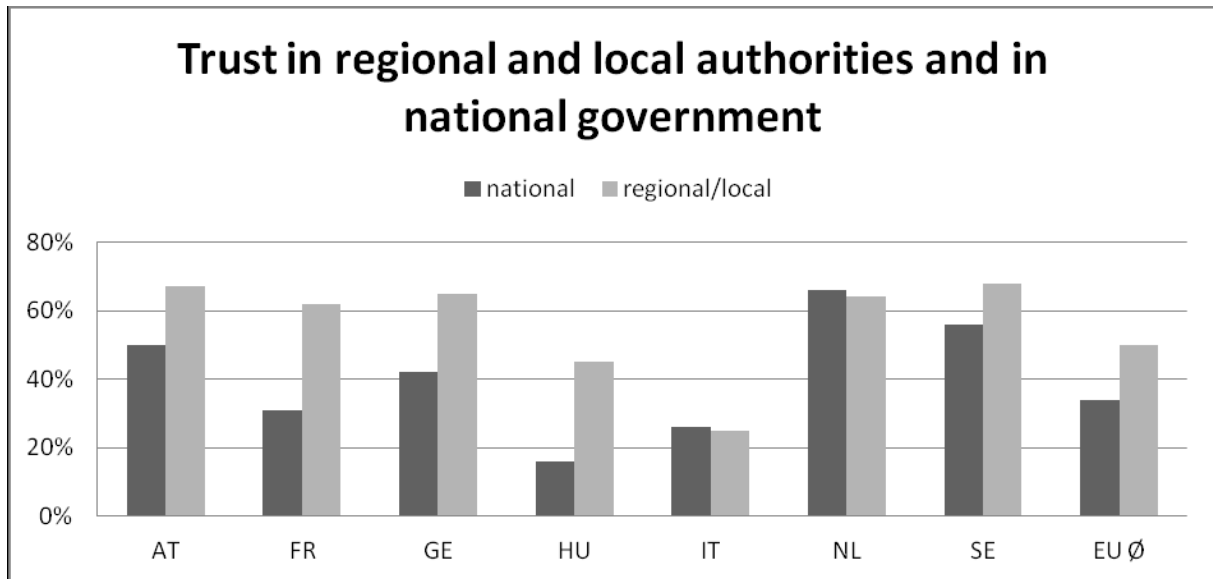


Figure 5: Trust in regional or local public authorities and in national government. Source: data from Special Eurobarometer on “The role and impact of local and regional authorities within the European Union” 2009, own illustration.

Again these results have important implications for successful crisis communication. As regional and local authorities enjoy a substantially higher trust in the majority of European countries, it may be advisable to choose actors at this administrative level for public communication in crisis situations. Only in Italy and the Netherlands, is this distinction not of much importance as the trust in authorities from both levels is equally low in Italy or high in the Netherlands respectively.

A somewhat puzzling result is the low value of trust in national authorities in Germany compared to local authorities. German crisis management experts report that, in their experience, people in a crisis situation tend to look for information especially from institutions at national level, irrespective of the actual competencies that are often held by regional authorities.

In conclusion, this chapter gives us substantial information concerning the different types of crisis and their velocity cycle, who is in charge of and how is issued an alert, what are the most used media according to the different types of population, how the media work and what is the trust level granted to media and authorities. All this information shall help to define the specifications designed to optimize the alerting process.

3 More material to build best practice alerting procedures

This chapter aims to find additional material or to go deeper in the results of chapter 2 to best define the specifications we want to propose.

We will achieve this purpose through:

- studying successful examples of alerting,
- the results of interviews concerning mass media usage patterns,
- the results of a workshop on interim work package results,
- the result from the tables edited in the report on personalized/regionalized alerting strategies.

3.1 A successful example of alerting: management of the flu pandemic in Sweden in 2009

In the case we are reporting here, the crisis concerns the management of a pandemic which is a very particular situation since there is no need to alert with a short notice people but rather to convince them to adopt a specific behaviour in order to keep them safe and to limit the spread of the disease.

The choice of the Swedish authorities in charge of managing the pandemic was to immunize people with a goal of 95% of the population getting vaccinated. Even if the final result was a rate of 60% of the population vaccinated, it can be considered a success when comparing with the rates achieved in other countries (Italy: 1.5% for a goal of 40%, France: 8.3% for a goal of 78%).

This success was the result of a body of facts that are described in detail in the document D4.6: “Analysis of mass media content and its impact in the case of the swine flu pandemic in 2009” and that we shall sum up as follows:

- crisis management organisation: the pandemic was managed by an administrative authority (the Swedish Institute for Communicable Disease Control and the National Board of Health and Welfare) who was independent of the political rule,
- political culture: the Swedish society culture is based on a consensual approach to solve problems and once a decision is taken there is a united front to implement it,
- media’s role in the society: the media have no party affiliation, they are autonomous, have a strong public service orientation, and are market focused,
- as a result of these facts, the Swedish population has a very high degree of trust in the authorities and in the media.

These characteristics led to actions which were fundamental to achieve the tentative goal:

- the official message was unambiguous (all citizen should get vaccinated), was issued by an administrative agency (the Swedish Civil Contingencies Agency), and was supported by all: the health practitioners as well as the politicians, the tone being alarming but the subject never becoming a political issue,
- mass media (through press conferences, press releases, and personal interviews) and official websites were used for informing the public,
- the media reported the message of the authorities with the alarming tone but specified that despite the seriousness of the situation it was under control; they were critical but made the distinction between news and opinions. They did not question the mass vaccination decision but rather the way it was implemented (media logic as opposed to a political logic).

3.2 Result of the interviews concerning mass media usage patterns (cf. deliverable 4.4, chapter 5: conclusions)

To optimize the alerting strategy, it is necessary to select the right alerting channel and the right message design. These choices may be different according to the considered country and require

therefore some preliminary knowledge concerning the everyday media use and the consumption patterns in this country.

As they are broadly used in all countries, radio, TV and, with certain limitations regarding age, mobile phones and the Internet are valuable channels for informing citizens of an impending or acute crisis situation even if sirens or loudspeakers are available. In Austria and Germany, the TV Teletext system is a promising channel used by many people to receive information independent of the ongoing TV program. In France and Hungary, local TV channels are important sources of everyday information.

If people are already aware that a critical situation has occurred, the picture changes: for example, in France as in Italy, the Internet becomes more important as people start to look for background information.

However three main criteria are to be taken in account in this domain:

- **trust:** indeed people will choose the media they rely the more on (in Italy where national TV-programs enjoy very little trust despite their frequent use, people change from TV to the Internet when they actively look for important information. In Austria, Germany and Sweden, trust in media is generally very high, with the exception of the Internet and especially the social networks; nevertheless the Internet plays an ambivalent role as sources like online editions of newspapers or websites of authorities are trusted but other websites can be manipulated and some users can use social networks to spread false information, a view especially common in Austria, Germany and France. If politics are influential in the media landscape, trust in authorities may also become a criteria);
- **pro-activity:** this criteria is linked to the ability of the media (or the public authorities) to provide information on its own without a specific demand of the citizen, what is also called “information push”;
- **reachability:** the more available or spread a media equipment is, the more efficient it will be for alerting (nowadays everybody with the exception of elderly people owns a mobile phone which explains the popularity of the SMS; radio is widely spread as one can listen to it in cars and via smart phones – more and more, TV will be also watchable on smart phones but it will require a subsequent antenna ground cover).

As already mentioned, age is a factor to consider as new media equipment are used especially by younger people while older persons often are still unfamiliar with such technologies.

Another factor is the language: in order to reach all the people that need to be alerted (including citizens with immigration background and tourists), it will be imperative to send alerting messages in different languages.

The content of the alerting message should answer the demand of the recipients: basically people ask for behavioural advices/recommendations in order to keep safe or to lower the event effects.

Concerning the actual crisis communication, some new ideas are emerging:

- regular (i.e. hourly) updates,
- using highway message boards and message boards at public transport stops,
- establishing local pubs as emergency meeting places in rural areas in order to promote personal communication between the residents as one key source of information in sparsely populated or remote regions,
- the RDS-alerting system, which is usually part of car radios and can be used to interrupt any program at any time, was mentioned several times as very useful for anybody being on the road,
- loudspeakers at tram stations or in the short/medium/long-distance traffic system.

A multi-channel approach seems best suited to maximize efficiency in all countries.

However, with the exception of Hungary and in a lesser extent Sweden, the use of social media for alerting purposes would currently not work as an appropriate alerting tool – but the social media platform Facebook was only established eight years ago, and it might well develop into a media which could be used sometime in the nearer future as an alerting tool as well.

The current development in the media landscape should be closely watched: more and more portable devices with Internet connection capability seem to replace classical media devices to a substantial degree, at least in certain age and income groups. Their multi-functionality (phone, SMS, camera, voice-recorder) in connection with the advantages and possibilities provided by the Internet (speed, unprecedented amount of (first-hand) information, instant information verification via cross-checking, effortless multiplication via social networks, “apps”, etc.) plus the possible impact on information behaviour (active seeking and managing of information instead of passive consumption, the possibility of own contributions) will pose considerable challenges (i.e. in terms of up-to-dateness or competing information) but also opportunities (i.e. in terms of multiplication) to classical crisis communication.

3.3 Results of the workshop on interim work package results (cf. deliverable 4.5, chapter 4)

It was confirmed that alerting personalized messages must be considered in relation to mass mediated messages.

Personalized alerting messages should/must:

- address people in a personal tone,
- not be contradictory to messages mediated through mass media,
- be sent to key persons who can instruct/guide affected people on what to do,
- be consistent,
- contain operational information that instructs people on what to do and inform them on how they are affected.

Mass media:

- reach very large and sometimes undefined groups of population,
- are most useful for “one size fits all”-messages,
- must be used according to known media habits of population,
- reach different strata of population at different times of day (not many tuned in at night),
- can be slow, and therefore not always optimal for alerting messages (i.e. production time for traditional television, printed press),
- radio and TV usually are fairly quick and the delay is only in the range of very few minutes for acute alerts,
- authorities own websites are the fastest way to publish information since they are under full control of the authorities themselves.

Authorities should/must:

- establish themselves as opinion leaders when crises occur,
- establish their websites online, become common known point of information,
- monitor social media (like Twitter and Facebook) to keep updated on public opinion and debate,
- use social media for informing (parts of) the public.

Combining personalized and mediated crisis communication:

- always use TV and radio for alerting, as these are the alerting channels people are used to (in combination with a wake-up effect like sirens),
- wherever available, use additional channels (in a consistent manner: multi-channel alerting),

- TV and radio should be used for the first very brief information and instructions to the public, more detailed information should be published by authorities online on their own websites (explanations, background information),
- authorities websites should be included in personal alerts and broadcasts alerts so that people know where to look for additional information.

Examples of recommendable practices/services:

- some countries (e.g. Sweden), has established single point of contact online by dedicating websites for all disaster-related information (Krisinformation.se), which is used to inform journalists as well as the public and other authorities,
- in some countries (e.g. Italy), the population is aware of two-stage approach of crisis communication and after being warned (by alerting message) actively visits disaster management and municipal websites for additional information.

3.4 Result from the tables edited in the report on personalized/regionalized alerting strategies (cf.deliverable 5.1)

When considering the results reported in the tables concerning trust in the media and preferred alerting tools, we end up with the data in the following chart.

	Austria		France		Germany		Hungary		Italy		The Netherlands		Sweden	
	<i>Trust in media</i>	<i>Media as an alerting tools</i>	<i>Trust in media</i>	<i>Media as an alerting tools</i>	<i>Trust in media</i>	<i>Media as an alerting tools</i>	<i>Trust in media</i>	<i>Media as an alerting tools</i>	<i>Trust in media</i>	<i>Media as an alerting tools</i>	<i>Trust in media</i>	<i>Media as an alerting tools</i>	<i>Trust in media</i>	<i>Media as an alerting tools</i>
Age 18/25 urban	High	Mass media Internet	High trust in public media Low for internet	Local public TV/radio	High trust in public media - mixed for internet	Radio TV internet	Very low	Radio internet TV	Low for TV high for internet	Internet	n.a.	Radio TV (disaster channel) internet	High	TV internet RDS alarm
Age 18/25 rural	High Trust in public service channels	Mass media Internet	High trust in public media Low for internet	Local public TV/radio	High trust in public media - low for internet	Radio TV	Low	Radio TV internet	Low for TV high for internet	Internet	n.a.	Radio TV (disaster channel) internet	High	TV RDS alarm
Age 18/25 Natural Risk area	High Trust in public service channels	Mass media Internet	High trust in public media Low for internet	Local public TV/radio	High trust in public media - mixed for internet	Radio TV	Low	Radio internet TV	Low for TV high for internet	Internet	n.a.	Radio TV (disaster channel) internet	High	TV internet RDS alarm
Age 18/25 Industrial Risk area	High Trust in public service channels	Internet	High trust in public media Low for internet	Local public TV/radio	High trust in public media - mixed for internet	Radio TV teletext	Low	Radio internet TV	Low for TV high for internet	Internet	n.a.	Radio TV (disaster channel) internet	High	TV internet RDS alarm
Age 26/59 urban	High Trust in public service channels	Public local TV and radio	High trust in public media Low for internet	Local public TV/radio internet	High trust in public media - mixed for internet	Radio TV internet	Low	Radio internet TV	Low for TV high for internet	Local TV and radio internet	n.a.	Radio TV (disaster channel) internet	High	Radio TV RDS alarm
Age	High	TV and	High trust	Local	High trust	Radio	Low	Radio	Low for	TV	n.a.	Radio TV	High	Radio

26/59 rural	Trust in public service channels	radio	in public media Low for internet	public TV/radio	in public media - mixed for internet	TV		internet TV	TV high for internet	internet		(disaster channel) internet		TV RDS alarm
Age 26/59 Natural Risk area	High Trust in public service channels	TV and radio	High trust in public media Low for internet	Local public TV/radio	High trust in public media - mixed for internet	Radio TV teletext	Low	Radio internet TV	Low for TV high for internet	TV internet	n.a.	Radio TV (disaster channel) internet	High	Radio TV internet RDS alarm
Age 26/59 Industrial Risk area	High Trust in public service channels	TV and radio	High trust in public media Low for internet	Local public TV/radio	High trust in public media - mixed for internet	Radio TV teletext	Low	Radio internet TV	Low for TV high for internet	TV radio internet	n.a.	Radio TV (disaster channel) internet	High	Radio TV internet RDS alarm
Age 60+ urban	High Trust in public service channels	Public local TV and radio teletext	High trust in public media Low for internet	Local public TV/radio	High trust in public media	Radio TV teletext	Low	Radio TV	Low for TV high for internet	Local TV and radio	n.a.	Radio TV (disaster channel) internet	High	Radio TV RDS alarm
Age 60+ rural	High Trust in public service channels	Public TV radio teletext	High trust in public media Low for internet	Local public TV/radio	High trust in public media	Radio TV teletext	Low	Radio TV	Low for TV high for internet	TV radio	n.a.	Radio TV (disaster channel) internet	High	Radio TV RDS alarm
Age 60+ Natural Risk area	High Trust in public service channels	Public TV radio teletext	High trust in public media Low for internet	Local public TV/radio	High trust in public media	Radio TV teletext	Low	Radio TV	Low for TV high for internet	TV radio	n.a.	Radio TV (disaster channel) internet	High	Radio TV RDS alarm
Age 60+ Industrial Risk area	High Trust in public service channels	TV radio teletext	High trust in public media Low for internet	Local public TV/radio	High trust in public media	Radio TV teletext	Low	Radio TV	Low for TV high for internet	Radio TV	n.a.	Radio TV (disaster channel) internet	High	Radio TV RDS alarm

4 Specifications and conclusion

This chapter will exploit the above chapters to detail some specifications concerning best practice alerting procedures considering the use of media.

By specifications, we mean rules the application of which would optimize the alerting process. These rules are to be applied by people dealing with crisis management, mainly public (government, administration) authorities. Some rules concern the media themselves but, as media are entities which are free to act, these rules will appear only as incentives, dissociated of the former ones.

4.1 Trust, reactivity, and reachability

As stressed in § 3.2, criteria for best alerting include building trust, fostering reactivity and ensuring reachability.

Let's reminding what this means:

- **trust:** to be implemented in the most effective way, an advice or an order must be based on the trust people have in the person/organisation who gives it; in the present case, the media will either relay an alert coming from an authority and the population should trust the authority; or the media will make the choice to send the alert as it represents a valuable information to broadcast; in this case, the media trust the authority sending the alert and the population has to trust the media;
- **pro-activity:** this criteria is linked to the ability of the media or the public authorities to provide information on their own without a specific demand of the citizen, what is also called "information push";
- **reachability:** this criteria deals with the spectre of the population that a media can reach; it certainly deals with the number of people the media will connect with but also in a more qualitative aspect the profile of these people; it is indeed also essential to be able to reach people in isolated areas or in specific situations (travelling) or at a particular moment (at night).

4.2 Building trust

4.2.1 Authorities towards media

S1: install an official administration point of contact for the media where they can ask for information

The media should be able to ask for information at any time from a known official and competent point of contact. This is of the utmost importance for the coherence of the message sent to the population.

S2: provide unambiguous non partisan (non politically oriented) and consistent information to the media to fulfil their needs

The information provided by the official point of contact should be consistent, impartial clear and non-biased by any political consideration.

S3: provide accreditation to journalists to have access to specific crisis centre

An appreciated proof of trust and opportunity to deliver straight information and show transparency is to accredit journalists to chosen crisis centre. A limitation of this action is the number of journalists who may physically have access and how to select them; there may also exist a possible problem of confidentiality. These obstacles can be overcome: for example, in France, only the media having an agreement with the administration can get this access; in Austria and Germany, the authorised public media journalists have the obligation to act as multipliers for the other media.

S4: provide behavioural advices or guidelines

When alerting, it is fundamental to answer the expressed need of the population to be informed about how to behave in order to protect people first, and then properties.

4.2.2 Authorities towards population

S5: give the adequate priority to the communication management

When managing a crisis, it is of the utmost importance to consider communication as a vital function which needs a strategy, professional people in charge and means to conduct the actions.

S6: select credible authority to communicate on the crisis

To be trusted, the organisation or the person who communicates should appear credible and trustworthy (for example, expert in a domain that is consistent with the on-going crisis), and objective (i.e. giving non biased information). This can be difficult when this task is carried out by a political person in the countries where a minister is leading the crisis management (France, Italy); in this case, it can be relevant to delegate this communication to a civil servant or a recognised politically neutral person.

S7: implement adequate official dedicated web sites to transfer information

The information which has been broadcasted should also be look at by the interested people (for crosschecking, obtaining precision...). This can be best realised, assuming that the e-links are still functioning, through a dedicated website which should be built in a professional manner; it means that the information should be easily accessible without the obligation to e-load it, presented in a easy-to-understand way and pre-empting the possible questions of the population. The website should easily be accessible, for example via a single keyword.

S8: favour exchange with the web surfers rather than one way information

In order to better control the messages that the authorities want to pass to the population, it seems relevant to install a dialog with the people surfing on the net: by this way, it is possible to better answer the real preoccupations of the population and to counter possible false ideas or disinformation that spread on the net.

S9: use professional communicators as facilitators

When favouring the exchange with the surfers, it is better to have professional facilitators, able to identify the gaps in knowledge or the attempt to manipulate or pollute the official message and to counter or re-orientate the discourse. An example is to get associated with a well recognised web site specialised in the domain.

4.3 Fostering pro-activity

S10: provide information to media before they ask for it

This action would mean to provide information to the media on a regular basis and, in case of a foreseeable event, before this event occurs.

S11: do not forget local media which are closer to the people and more aware of the specificities of a region

A special attention should be given to local media, those media that addresses only a portion of a territory; due to this, they have a particular knowledge of the specificities of the local population and are better suited to answer their information needs. They also normally have closer contacts with local authorities, be it at the regional level or at the level of the trusted organisations/authorities (mayors ...).

4.4 Ensuring reachability

S12: use traditional media as they are the most favoured by a majority of the population: radio, TV, newspapers (and their web sites)

As demonstrated in the results of the interviews, people still largely put the traditional media: radio, TV, and newspapers ahead of their choice as a mean of getting information on special events. Even if these media should not be the only to be used for alerting, they cannot be bypassed. The fact that they almost all have now set up their web site should also be taken in account as it is a very easily reachable mean, as long as the links are existing/secured.

S13: take in account some specific media use, linked to the concerned area (for instance, use of teletext)

In some countries or areas, people may favoured or be used to a specific media or mean of transferring information (teletext in Germany and Austria). This should be exploited.

S14: use new technologies as they provide interesting capabilities (area selection through mobile phones, disaster alert apps, RDS capability for radio listeners, specific crisis channel, social media but with cautiousness)

New technologies are developed and their ability to foster the transmission of an alert should be exploited in complement to the traditional means when possible. The generalisation of the mobile phone ownership and the development of the technical capabilities should now allow to broadcast an alert on a chosen area and through multiple forms (audio, text (SMS, messaging using the LTE capability), video). A specific alert channel can be implemented as in The Netherlands with an automatic commutation, RDS style, when needed. Smartphone alert apps can be developed for the general public and news apps can be also used for alerting.

4.5 Other

S15: broadcast alert messages in several languages adapted to the specificities of the local population (including tourists)

In order to access all the people on a given territory and be sure they understand the way they have to behave, it is now compulsory to broadcast the message in several languages adapted to the particular composition of the targeted population. There should be a list of the different languages to use for each portion of territory and this list must include the English language as it is a universal language used by tourists almost everywhere. The links to related internet pages should also exist in several languages.

S16: where the legislation entitles it, use national public service to broadcast prepared alert messages

The authorities in charge of sending the alert message are generally also in charge of managing the crisis. The efficiency of the alert is therefore of paramount importance for them and they want as far as possible to control the content of the alerting message. A way to do that is to have an agreement with a certain number of media organisations, these agreements being negotiated or imposed by law as it is the case in several countries (for example, France).

S17: send a message making official the end of the crisis

Even if this need has been formally expressed only in one country (France), alerting the population that the crisis has officially ended can make sense everywhere since it stresses that the situation is again in a normal state, including the functioning of all the daily life services.

4.6 A specific issue: building trust from media towards population

As the specifications are meant to address the way administrative or governmental authorities manage to alert and inform the population, stating specifications aimed at the media does not look at first relevant. However, the studies carried out to produce some deliverables used as references in this document are incentives to propose the two following specifications which are coherent with the ones above but that cannot be imposed as media are basically free entities.

Sm1: publish objective non tendentious information (be professional)

A media wants to attract the attention of the readers/listeners/watchers and thus will favour the matter with such potential. A crisis is surely such a matter but, to be trusted, the media should be as objective as possible concerning the reported material; this does not hinder the media to express their own interpretation (see Sm2).

Sm2: separate news (facts) and opinions

As media want to report facts as well as opinions, they should clearly separate the former and the latter in order to let the people free to make their own judgment.

4.7 Conclusion

In conclusion, on the basis of the data collected through the different deliverables of WP2, 3, 4, and 5, we end up with a series of 17+2 specifications that are to meet in order to improve the process of alerting via the media.

These specifications have to be adapted in their realisation according to the countries where legislation, organisation, and of course behaviour and usages of the population may be quite different, even if there is a constant move in the European Union to harmonize the former.

5 References

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