



## Enhancing the Efficiency of Alerting Systems Through Personalized, Culturally Sensitive Multi-Channel Communication

Project No. 261699

Deliverable D4.4

*“Report on Mass Media Usage Patterns”*

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## **Objectives of Opti-Alert in general and WP 2 in particular**

The EU-funded project “Enhancing the Efficiency of Alerting Systems Through Personalized, Culturally Sensitive Multi-Channel Communication” (“Opti-Alert” – EC Grant Agreement No 261699) deals with improved regionalization and personalization of warning messages, as well as a closer cooperation and integration of industry-funded alerting systems and state-funded alerting tools.

The deliverable D.4.4 “Report on mass media usage patterns” is the fourth out of seven deliverables within work package (WP) 4: Mass media as a channel for alerting the public. Current trends in alerting via mass media will be taken into consideration. Advantages and capabilities, but also disadvantages, limitations and restrictions of alerting via mass media will be discussed. This deliverable is based upon the analysis of the focus groups in six examined countries, conducted within WP 2: Austria, France, Germany, Hungary, Italy and Sweden.

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## 1 Introduction

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Knowledge of media usage patterns is central for appropriate crisis communication and, therefore, enhanced compliance by the population leading to a minimum of disaster victims. Information behaviour and media usage is a well-covered field within media research. Regularly conducted surveys distinguish media behaviour in different European countries, for example the “Media Use Index”, a Swiss, Austrian and German survey on information behaviour and media use (<http://www.media-use-index.ch/>), or “Mediascope Europe” (<http://www.iabeurope.eu/research/about-mediascope.aspx#aboutms>) on changing media use and the emerging interactive consumer, among others. Having said so, the majority of the studies and surveys on media use focus on regular media consumption and not on which media will be used and trusted in case of a disaster, which is the focus of this study, – so the exceptional use of media. Therefore we have addressed and juxtaposed within our focus groups both regular news information behaviour and, distinguished from this, reported or assumed information behaviour in case of a disaster. In both cases use is mediated by trust: which media is considered to be trustworthy and why and will this same evaluation also apply in case of a crisis. This study is devoted to looking at the differences between normal information behaviour and exceptional information behaviour/information expectation in case of a disaster.

This chapter shows the results of a central part of this work package regarding the subsequent work packages, which will translate the findings of work package 2 into more technical solutions for improved alerting. This deliverable D.4.4 within work package 4 presents a full analysis of the focus groups in the six examined countries regarding information behaviour in more general terms, trust in media and information expectations in case of a disaster.

## 2 Information Behaviour

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This chapter describes the responses of the attendees in the focus groups to the question of what news device/technology or news media attendees would use (ordinary newspaper, radio or TV, computer, mobile phone, media/surf pad) when searching for regular news – and why they would use and prefer this media to others.

**Austria:** In Austria the most popular general news information media is the radio, followed by the TV and then the Internet. The middle age group would tend to make use of a media mix that basically includes all of these three. The use of the Internet decreases with the age of the attendees. Older attendees also mentioned that they would use Teletext. Throughout all age groups print media plays an important role. Not only Austrian but other print media in the German language were quoted as well. Social media were in most cases only brought up if the moderator asked specifically. Here, particularly the young attendees responded that they would use social media, especially Facebook, to keep in contact with friends and other personal networks. Social media were not regarded to be a media for information about the news of the world, politics, etc.

**Germany:** TV, radio, Internet and newspapers (including online versions of newspapers) were quoted most by the attendees. *Radio, newspapers and TV* are still the means of getting regular daily information. Similar to Austria, it appears that radio is at the forefront in regard to its use as an information source. One reason for this mentioned was that radio cannot only be heard at home, but also in the car or via smart phone. No differences were spotted in regard to sex, age, risk area or migration background.

*Internet* as a means of acquiring usual news meant for many attendees frequently visiting the websites of newspapers (online versions of printed newspapers). The use of Internet was particularly mentioned by people living in an urban environment (small or big towns), less by attendees of the rural group, man-made or natural risk groups. In the large city group, particularly women and young people (basically students and pupils) reported using the Internet for their daily news. In all groups older people reported to be less literate in regard to the Internet – although some of them would use the Internet - as one quote illustrates, after a young man reported that he would use the Internet regularly to get the latest news:

“Well yes, the opposite is true for my age. Internet play no role at all, I can’t use it properly. In my case it is radio. TV and newspaper” (male, > 60 years, small town group).

A surprisingly high share of attendees reported the use of Teletext. After request of the moderator only one person out of the 11 attendees of the man-made risk group reported NOT using Teletext. Another person of the group explained why he uses Teletext:

“(…) if one come home late and wants to have the latest soccer results, then I look at Teletext and then I will be able to find it, whereas I would have to wait for any other normal TV show, and can find out from the Sport TV only at 11 pm. I can find it much earlier [*from Teletext*], which is an advantage.” (male, > 60 years, man-made risk)

Young attendees in Germany and in Austria reported almost the same thing when it comes to social media: A nice way to keep in touch with friends, but it was seen as an almost absurd idea to use this as an information tool for news and other important information.

**France:** TV is the most used media in France, followed by radio. Both media are used to get general/global information through news journals and programmes. The generalist channels (TF1, France 2) and the local/regional channel (France 3) are most often selected. When attendees are seeking a special current report, they would switch to specialised news channels like LCP, Info 24 or BFM. Radio is used a bit less to follow the news or the current situation. When looking for information, attendees reported they would turn to specialised news and/or regional stations like France Info or France Bleu (regional/local).

The younger and the more urban attendees also use the *Internet* to get information – if the information is not characterised as urgent:

“Internet is good for getting background knowledge, one finds a lot of things – not all of this is true, though – but I do not think it will be very useful if the information I am looking for is very new or fresh, or is considered urgent.” (male, 25-60, big city)

*Mobile phones* in the French context are mostly smart phones with Internet connections. Some of the attendees reported that they could receive – on demand – the latest information about subjects they chose on their mobile phones. Especially the younger ones use their mobile phones to keep in touch with those they know, through SMS or Facebook applications. Facebook (and Twitter) is used by the young, in particular urban attendees, on a regular basis, but not with a view to acquiring news. This use, however, has to be contextualized: using the smart phone option to keep in touch through Internet and/or Facebook applications is only possible – and user-friendly – if you are in an urban region. The more rural the area, the worse the coverage and the slower the Internet is. This is consistent with the use of the (smart) phones reported by the rural group:

“Well, I know, I can do more things with my phone, but here, at home, I am already happy if it works to call someone or to receive SMS” (female, 25-60, rural)

SMS, however, have entered the habits of all of the French attendees, even if the eldest sometimes reported they do not really feel good about that:

“I had to learn because of my grand-children, they always send SMS – but I never would have the idea myself to send a SMS to someone I know, I would call” (female, >60, rural).

The daily (or weekly) *written press* was cited and still seems to be read, but more in a rural than in an urban context. What was appreciated by attendees is the “information check”: attendees reported that they would expect that quality newspapers would cross-check information before publishing articles. The following quote shows the advantage and the disadvantage of newspapers:

“ (...) well, I think the written press publish things they are rather sure of, they also have a local section which is quite interesting for us here – because TV and radio give more general information. But you have the news the next day, so it should not be something urgent!” (male, 25-60, small city).

In France, you have very few national newspapers, and each region has its localised version of a regional written journal. While those journals must be purchased, there are also short journals distributed in the metro or on the streets, which are free. Those short journals are widely read in a sub-urban and urban context, but are nonexistent in rural zones.

What was unique to France was a conscious consideration of media usage patterns by the attendees: While TV and radio are media available without any effort, reading the press or going on the Internet is a voluntary, conscious act. Most of the attendees mentioned that they are not going and looking for information in their normal life, it is information that comes to them, through a switched-on TV at home or radio in the car: it is not an active media consumption or information seeking behaviour. Reading the daily press or going online is an active behaviour and needs a positive decision first – the short, free journals are the exception because they are distributed where most persons have to pass to go to work (no effort needed), they are short enough to be read on the way to work, and they are written in an easily understandable style: real “general public” papers.

**Hungary:** The main sources of news in Hungary for the attendees of the focus groups are *television* and *radio*, and a high proportion of commercial channels were mentioned among them. Many people mentioned local television channels as important sources of news when local context are concerned, this was particularly stressed by attendees of the industrial risk group. Radio as a source of information was frequently mentioned, in particular in smaller settlements.

The *Internet* is the most widespread information source among young people. Several people regularly read news portals. Facebook as *social media* is present among the youngest ones, who consider it suitable also for obtaining important information – a situation unique to Hungary.

The use of *cell phones* is widespread in Hungary, every participant reported to have at least one mobile phone. This figure clearly indicates the penetration of the mobile phone in Hungary. The mobile phone was mentioned as perhaps the most important means of communication. No significant difference could be found in respect to the availability of cell phones along demographic variables. Younger people, those of higher income and of higher school education reported using multi-functional smart phones with all the advantages of their services. The older people mostly use it for phone calls and perhaps for text messages.

**Italy:** Traditionally, Italy is characterised by strong television consumption. This feature of media consumption in Italy is stressed in many national and international studies. AgCom, for example, reported that, in 2010, 89,1% of Italian citizens use television to get information, while only 61,6% use newspapers, 20,6% use Internet and 19,3% use radio<sup>1</sup>. The results of the focus groups are, to a large extent, a surprise: When information behaviour is brought into a disaster context the information behaviour showed a different picture: Despite the known figures on TV consumption, attendees reported that the most important source of information in case of a disaster would not be TV, but, instead, the Internet.

**Sweden:** Most persons reported that they would acquire their daily news by *radio*, then *TV* and then the *Internet*, after this direct or phone contact to friends, relatives or neighbours. Radio use is less common among the young attendees who grew up with the Internet as their preferred information source. TV consumption for news is common to all age groups, preferred by some for its combination of sound and picture. The attendees reported visiting websites of newspapers (online version of printed media) in particular and some favour local sources as they are expected to have better information about local issues, others prefer national sources as they see them as faster. Internet use is low among people 60+ and in the rural area. Though Teletext was also mentioned in Sweden, it seems to be used much less compared to Germany or Austria.

Similar to most other examined countries, *mobile phones* and the use of SMS is widespread in Sweden and only one (elderly) person out of nearly 50 reported not to use a cell phone. SMS is a favoured media for many Swedes. Like in other countries, the users of social media are the younger ones who make regular use of Facebook and the like.

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<sup>1</sup> Source: Agcom (2011), Relazione annuale sull'attività svolta e sui programmi di lavoro

### 3 Information Expectations

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This chapter describes the responses of the attendees in the focus groups regarding the question of how they wanted to be informed in case of disaster. Next to traditional media (radio, TV and newspapers), we have also explicitly addressed the influence and the meaning of new media (such as SMS and Internet) in the group sessions, and made particular effort in addressing social media, such as Facebook and Twitter. We were interested in the role of these new technical tools as potentially promising tools for improved alerting.

We also applied in each group session a small scenario exercise where we asked the attendees to assume that they would be the person in charge (for example the mayor or the prefect) for disaster communication in an acute situation: What would they do first, how would they react, who would be key persons to address, how would they try to achieve this in order to reach as many people as possible in the shortest feasible time and limit any avoidable harm and save as many persons as possible by sufficient – potentially new and innovative – disaster communication.

**Austria:** People tend to use the same media in case of a disaster as they normally use daily. The only difference is the frequency of usage: People use the same media, but much more frequently and longer than they normally do. They would mix different media to receive as much information as possible. The emphasis in regard to the source of traditional information would be public media ('Öffentlich-rechtliche Medien') as they appear to be more trustworthy in case of a disaster than private media who were evaluated as showing a tendency to exaggerate the news. TV, radio and Internet are the preferred media if a disaster were to occur. If the disaster is weather related, specialised weather websites would be an important source of information, particularly for the younger ones. Social media were not mentioned at all from the participants as relevant disaster communication tools. Even if moderators directly addressed the role of social media within the group sessions, people, including younger attendees, replied that they would not perceive social media, such as Twitter or Facebook, as appropriate crisis communication tools as everyone could post what s/he wants and therefore no authoritative knowledge or message can be expected. Older attendees would appreciate more personal communication via loudspeaker as this would also allow information in regard to concrete cues on how to behave in the assumed disastrous situation. The latter appear to be particularly important: especially older attendees would like to receive clear directives on what to do. This message appears more important to them than receiving detailed information about the disaster itself.

**Germany:** In case of a disaster, people wanted to be informed automatically via multi-channel alerting in order to increase the chances of being reached. Most attendees asked for loudspeakers, megaphones and sirens as the most appropriate alerting tool – this was found throughout all groups, but particularly stressed by those participants who already had been affected by disasters (particularly the natural risk group). In particular the latter, sirens, were considered to be *the* alerting tool: sirens would work as a straight forward alerting for all, which should be followed by more target specific information via different channels. SMS alerting messages were mentioned in the urban groups, particularly in the big city group. All participants of the big city group also confirmed that they possess a personal mobile phone



and would be, in principle, reachable via this device. In no other group was the use of mobile phones for alerting purposes discussed more intensely than in the big city group. It was also striking that the discussion of mobile phones was dominated by male attendees: although some women were also involved in that discussion, basically men exchanged ideas on the pros and cons of using mobile phones for alerting.

Younger people would make more use of the Internet. In particular, the smart phone appears to be the preferred device to receive alerts in case of a disaster, as stationary computers or other technical devices such as TV or radio are feared to become inoperational in case of electricity black outs. Having said this, the younger attendees would also prefer to be warned by “traditional” forms of alerting tools first. Surprisingly, social media was not considered to be an appropriate instrument for alerting at all, only 3 (younger) voices out of 53 could envisage using social media, in particular, Facebook, in case of a disaster – at least in principle. Otherwise those who confirmed using Facebook explained that this is just considered to be a tool to stay in contact with friends – nothing more. To use Facebook as an alerting tool was almost considered absurd, as it is not seen as trustworthy at all as everyone could post whatever s/he wants.

In the natural risk group the role of social networks such as neighbours was more prominent than in other groups, although the meaning of those networks was mentioned in all other groups, too. This is probably due to the fact that these people had already experienced the mutual support during previous disasters, here floods.

The “social component” of alerting – care for others, remarks that elderly people would not have Internet access and therefore other forms of alerting would be necessary, the important role of neighbours – was brought up by the female attendees of the natural risk group discussion.

Furthermore, alerting and coping behaviour should be learnt prior to the acute crisis as a constant life-long learning process with recurring information about alerting (classical risk communication). People consider themselves insufficiently informed about the alerting system and perceive this as a knowledge and information gap that needs to be closed by risk communication in “normal times”. It is striking that in Germany – though people know that it is largely their own responsibility to inform themselves on this subject – they rely on the authorities to actively provide them with the necessary information.

The following quote could work as an excellent sum up in regard to the overall reaction we found in Germany regarding alerting tools; it also shows what we found with several older people, which is a general openness for more innovative alerting tools – providing that they would be able to use it:

„Civil protection has to be well organised. The question is of course: how to organize this? And there are of course classical methods, (...) and I say to myself, we also need to have electronic methods [of alerting], we need to include those electronic media much more, which we play around with so much. Whether this idea of vibration in everybody’s trousers pockets is the best one, I don’t know, but we need to think about which methods are the right ones for today and this issue is certainly lacking a bit of imagination. We should not disregard the classical methods, but I need to look, simultaneously, at, what there is beyond these. Too much is not OK either.” (B4, male, > 60 years, small-town group)

**France:** Unlike in other countries, French people expressed that they feel themselves quite frequently affected by a whole variety of disasters: terrorism on the one hand, severe weather conditions and industrial accidents on the other hand. Therefore, it was not surprising that a wealth of quite clear ideas emerged in regard to information expectations. It has been the only country, for example, where people clearly addressed a “periodicity” of alerting: alerting before the event, that is alerting of weather forecast; alerting during the event; and alerting after the event.

*Alerting before an event:* alerting should be received through TV and radio, in the normal (in particular public) programs or through play-ins (short spoken or written messages, repeated in radio emissions, or on the TV screen in text-zones). One could talk about “information push”: attendees expect that alerting messages are given by the mass media, and no one has to seek it actively. Some attendees would need behavioural clues, while others did not ask for that: personalisation of the content of the message should therefore be possible.

*Alerting during the event:* Alerting should be made public through official risk management structures or rescue teams (*big city, man-made risk area, natural risk area*), or by personal mouth-to-mouth information channels (*rural, small city, natural risk area*). They also brought in the idea of using local means to inform, for example, on city information or highway light-boards, which could transmit short messages (*small city, big city, man-made risk, natural risk area*). Here again, it should be by “information push”, with the possibility mentioned to give more detailed information for those asking. Attendees would like to get updates regularly and with a known *periodicity*, which was, interestingly, addressed in literally all groups:

- *For a “short” acute natural event (a storm, a flash-flood) without cascade effects (as an industrial accident could have through toxic or nuclear radiation), attendees would expect an up-date every hour, through radio, TV and SMS (big city, small city, natural risk area, man-made risk area).*
- *For an acute industrial accidental event with potential longer-lasting cascade effects, they would expect to be informed every hour as long as any uncertainty continues. If it would last for several days, an update every 3 hours would be sufficient (but in the case of important changes in the situation). Here again, it would be through radio, TV and SMS (man-made risk and natural risk area, rural group).*
- *For natural events lasting for several days (floods), an update every half-day was judged sufficient, with the possibility of information whenever there is an important change (rural, small city, big city).*

Knowing the periodicity, according to the nature and type of event, would be important to “keep the event in mind” and to be less frightened.

*“Alerting” after the event:* French attendees would expect TV and radio to report on what exactly had happened, and to be informed on how the recovering phase is going (“information push”). In this context, the written press reappears as a means of publishing more precise and detailed articles, with experts’ point of views or discussions. Internet is also cited as a way of confronting contradictory information, or for deepening one’s

knowledge of the process of the event – but in an active way of information seeking (“information pull”). What was also notable in France was the request for an “end of alert”: After the event, most attendees did not feel well enough informed:

*“Once the alert is over and especially if nothing happened, finally, they just don’t talk about it anymore, messages disappear. And how could I be sure that I did not just miss the information?” (female, 25-60, natural risk).*

A special “alert is over” message should therefore be designed and emitted through the same channels as the alerting message – if it was radio, on radio, if it was TV, on TV.

In all groups several attendees asked for the use of SMS as a central means of alerting. Mobile phones and SMS were seen as the most efficient and most appropriate way to get in contact with the local population at risk. The ideal way of alerting was seen by most attendees in France as very short alert messages, leaving it to the individual to get more information and show his/her responsibility and liability for his/her own safety and security. Most attendees asked for the possibility of personalized message preferences: not that the message should be individualized, but there should be a choice offered to anyone – on a web-page administered by the prefect and his services, or by the mayor – to change global settings, to choose receiving only a short alert, receiving an alert including behavioural clues, receiving information for different locations also, receiving a hotline number to call or to specify if one has a problem reading SMS and therefore would rather receive a spoken alert message (the hard of hearing, the elderly, etc.).

Internet was considered rather a source of information for those looking for more details, in particular after an event. Internet is not seen as an appropriate way of alerting, because “not everyone is always connected” and immediate Internet information is not seen as particularly trustworthy. Those who would use the Internet, basically the younger and the more urban attendees, would consult official web-sites; depending on the nature of the event: for nuclear incidents: Autorité de Sûreté Nucléaire<sup>2</sup> or national NGO’s sites, météo-France for weather-related incidents. More or less independent experts’ sites would be more often consulted than “anonymous” sites. However, Internet was not mentioned in the rural context as a disaster relevant alerting tool or rather in a negative sense: the connectivity of the Internet in rural areas of France is often very weak, therefore alerting via Internet could not be considered a safe way of reaching people.

Facebook and Twitter are considered by the younger attendees as a good way to share information in normal times with those you know, “but I never would believe anything that comes only from Facebook or Twitter, there are a lot of rumours and you don’t have the possibility to check and verify” (*male, <25, big city*). Therefore, social media were not considered in France to be a useful alerting tool.

Attendees also mentioned the possibility that TV and/or radio would not be receivable during a crisis because of electricity black-outs, or that mobile phones would not be of any use because the network would collapse. In those cases, they would turn to known structures or information transmission and rely on social networks (neighbours, friends,

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<sup>2</sup> The French expert institution for nuclear security and safety (public and «independent»).

family) outside the risk zone, expecting there would not be the same electricity cut in regions not concerned. In these cases, alerts then should be different and more straight forward, for example via loudspeakers on cars driving through the zone or using helicopters over the city (*natural risk, small city*) to trigger faster reaction.

Thinking about the European background of the study, most attendees – in every group – asked for a European alerting system through SMS that would allow the alert message in the respective language wherever the disaster occurred. They also asked for European standardisation of rescue phone numbers, and for a general European hotline for those looking for more information because they are directly concerned. Attendees insisted on the fact that, when abroad, one is even more vulnerable because one often does not know the local structures or the region.

**Hungary:** The mobile phone was mentioned as perhaps the most important means of communication, in particular as it would allow a rapid information chain which would be good to prevent panic. Also, cell phones are used by all attendees of the Hungarian focus groups (though most of them were employees or their family of an insurance company). Alerting by text message was known in every group. Messages similar to storm forecast alerts could be sent for other risks as well, because it is much faster than radio and news and because mobile phones are used by everybody, although in case of the elderly normally as a means of phoning – only a few of them knew SMS and even fewer would know how to write an SMS her/himself. Information by text message should be unified centrally and should not be linked only to insurance policies, or it should be the duty of the mobile service provider to send text messages in such cases. Exact information could be sent on the basis of cell information on mobile phones.

We have seen that the media (TV and radio) has been the most important source of news in big cities in normal times. This is the reason it was stated that it would be good if the program was interrupted and an announcement was made in case of a disaster. In Hungary, commercial media are also very widespread and considered to be trustworthy source of information. What is special in Hungary, and expressed nowhere else, was the expectation that all the media should broadcast exactly the same text. These pieces of important information should be communicated by authentic persons (which could be actors or well-known sportspersons, etc.) in the media.

*“At least a person or office should be appointed that can be specifically contacted.” (woman, 25-60 years, large city)*

The more educated participants said that many things can be found on the Internet and Facebook and they were faster than the “normal” media in case of a disaster. Internet is most widespread among young people. Facebook is prevalent among the youngest ones who consider it suitable for obtaining important information also. This is also a notable finding for Hungary and to some degree for Sweden, too: Not just Internet, but even social media such as Facebook are considered an appropriate means for alerting by the younger attendees.

People living in an area endangered by industrial disaster would primarily like to know about the type, nature and extent of the disaster, and naturally also what should be specifically done accordingly. The sirens should be sounded in villages and towns. And people should be informed through loudspeakers so that there is no panic. The inhabitants should be informed through the loudspeakers on cars and circulating police vans. Older people mentioned the church bells as indicators of danger, though its meaning should be taught similarly to the indications of the siren.

Next to France, Hungarian participants produced the most creative ideas of how alerting can be improved: 'Everyone should have a portable radio in villages, which can be listened to even if there is a lapse in electrical supply.' (man, above 60 years, small city) 'In small villages one should go to the pub because everything is known there. Informing one another in person is also important because even the sick ones should be informed.' (woman, 25-60 years, village, disaster experience) Mostly people of experience and higher education came up with comprehensive and creative ideas targeting improvements in disaster preparedness:

*"If someone is interested in this topic one could find answers on the Internet, but if there is a crisis situation then it may just not be operating. Therefore one should deal with it earlier. At school and at places of work it should be made compulsory and then it would get in people's heads. It should be repeated 3 or 4 times, it won't do without it. It is possible in the form of e-learning as well. It would be even easier through the mayor's office in the countryside and in smaller settlements. People pay greater attention to such things." (man, 25-60 years, village)*  
*"The postman could be an important actor in local communication, for postmen know everyone and know everything about local people."* (man, 25-60 years, village)

The local policeman and civilian guard could also have an important role as a person having knowledge about the locality.

**Italy:** Traditionally, Italy is characterised by high television consumption. Despite that we expected many answers focusing on television, the important role of the Internet emerged. None of the participants would use Facebook or other social media to get information about a disaster, none mentioned the use of SMS alerting systems, but most of them reported they would use the Internet, meant in its broader sense. Using the Internet – in case of a need for information about a disaster and its possible consequences, or about the best behaviour to adopt to minimize the danger – is mainly seen as searching with search engines (most mentioned Google). In some cases, the participants were more precise and reported they would use specific web sites, like online versions of local newspapers or ansa.it (the web site of the main national news agency). The main features of the Internet are, according to the participants, the abundance of information and the rapidity, while television is considered slower and less reliable. Others participants also stressed the fact that if the emergency is not big enough to have consequences in a large area, the national TV channels would not be interested in giving news about the crisis, so the only way to find information would be to go on the Internet or to call the local rescue organizations directly. What is striking: only one out of 50 attendees reported mistrusting the Internet – this is a very Italian situation and contrary to others.

The Internet seems to be a very useful tool to gather information for immigrants especially. Indeed, several participants with a migration background explained that they prefer to use

the Internet because of their difficulties in understanding the Italian language. Television newscasts are broadcasted only in Italian, while on the internet they can find information about Italian events in other languages also:

*“The fact that the television newscast is broadcasted only in Italian, it’s a problem for immigrants. So we go on Internet, where we can find news in Arabic or in French. In France, for example, there are newscasts broadcast in five different languages, while in Italy it’s only in Italian.” (male, 25-60, migration background, large city suburb, no disaster experience)*

Many participants among elder and less educated people affirmed they are not able to use a computer, so the Internet is not a solution for them. They generally prefer to look for information about a disaster on television, in some cases on the radio (particularly the older ones) and, very frequently, they prefer to phone the civil protection, the fire brigades or the *carabinieri* directly. Some participants, who prefer to get information through the television, pointed out that they would consider the local television stations more useful in this kind of situation.

What is uniquely Italian, too, is the tremendous mistrust of media in general. Only the Internet and, 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.

We didn’t find a clear relation between the kind of disaster and the media used to get information. Only during the discussion within the natural disaster group did it emerge that, in case of industrial accidents with a toxic cloud, some participants would be more inclined to look for information on television. This is because they think that this kind of disaster could have consequences over a broader area, so the national televisions would consider it relevant and would cover it with breaking news.

**Sweden:** In Sweden, like in most other examined countries, the use of multi-channel alerting was emphasised. Concerning information behaviour, statements of the focus group participants indicated Swedes would mostly use media during crisis situations that they use in their everyday life as well: radio, TV and the Internet as well as private contacts to family members, friends and neighbours. The potential of the RDS-alerting on the radio which interrupts all programs or CDs, was mentioned; other ideas were to equip all radios with auto-switches or to use news tickers in TV.

While the radio, as the most frequently used media, is regarded as very fast and available in many situations like car rides where other sources are often absent, the Internet challenges this position especially among young Swedes. They have increasingly come to consider this media channel as a source for the most immediate information provided by countless users. Especially social networks like Facebook, in connection with a multi-functional tool like a smart phone, are expected to deliver instant information from everywhere. Though people are aware of the risk of distorted or false information this is usually no reason to resort to other sources as the credibility of information can be easily verified via cross checking with other online sources. The use of social media – usually Facebook, one time also Twitter – is neither common nor unusual. There are few mostly young persons who claim to use it regularly. The advantages associated with social media are the swiftness of news due to the

large number of users and the accessibility of friends as personal information sources via these networks. Regarding the use of social networks no patterns are visible in regard to sex or migration background. Social networks were not mentioned at all in the rural and large city group, with the most frequent references in the small city group. Facebook and other social media are considered a useful tool of alerting when the disaster message would originate from disaster management.

Regarding the credibility of traditional media like newspapers, Swedish journalism is generally in a fortunate position. Especially well-known broadsheets enjoy a very high trust, and even some tabloids which are known to exaggerate stories and distort facts are expected to present a mostly correct picture of the situation during serious events like disasters. This is almost the opposite of what we found in Italy. Information published by authorities enjoys even greater trust, as public institutions are believed to be impartial and act on behalf of the needs of their citizens. 'The state' is considered more trustworthy than even their neighbours by some. Given this situation it seems advisable that alerting messages are issued by public institutions and are marked accordingly. Alerts via the Internet should include telephone-numbers where people can turn to in order to verify information in case they are suspicious of online hoaxes.

Sirens are known to everyone; however, the majority is not familiar with their signals and wonders why these are no longer documented in phone books and if they would be able to decipher the message of the sirens. Some also doubt whether they would react to the signals as they are used to regarding them merely as fire drills. These alarms should therefore be accompanied by the information that this is not a training situation but an acute emergency. This could be done by using loudspeakers, for example at tram stops, which have been recommended in the large city group as additional alerting devices, as they have the possibility to transmit messages instead of an alarm tone only.

The single most recommended alerting channel was SMS as everybody is likely to possess and use a mobile phone. The high alerting effect when several mobile phones start to ring at once was also mentioned in one discussion. Only a few persons reported to be in possession of a smart phone. In this case it often functions as several media channels in one: mobile phone, radio, online news and, of course, social networks.

Young people prefer new media like SMS and Internet, though sirens are mentioned too. There are no different expectations between the different locations, except for several people in the large city group voting for the loudspeaker option, an idea that had not come up in the other groups.

All Swedes showed, like the Austrians, a wish for clear recommendations of what to do in case of a disaster and the provision of references for further information; some persons recommended a colour scheme to make clear the seriousness of the event:

*"I think that maybe it has to be categorized like, this is red and that means it's the worst case scenario and there can be orange, stay indoors and that ehhhh..try to categorize a little so that people maybe understand, that it is not only just an alarm [...] To have 1-5 and 5 means evacuate, so now we send out a 2 and then you should know what a 2 is." (female, 25-60 years), man-made risk area)*

## Sirens as a dedicated alerting tool

In **Austria** everybody knows that there are sirens and that they have a warning function, but only some know the exact meaning of the signals - regardless of age and gender. In addition to an elderly gentleman, a 16 year old girl can also match the tones. The others recognize the siren and know that if it is not just an exercise - which they can assign to a certain time, Saturday at 12:00 noon -it would make sense to turn on the radio.

In **Germany** the situation is similar to Austria: People reported that sirens are considered by them as central means of alerting. Having said so, two major problems are related to that: Firstly, people would first of all think of a test alarm instead of a real alarm – and would therefore probably not react right away. Secondly, people showed concern about their ignorance of the correct interpretation of the signals of the sirens – and asked, consequently, for regular trainings on that.

The **French** attendees – even with a migration background – knew that alert should be given through sirens in general, but did not feel very sure about the signal, or reported that sirens would probably not have a very strong impact on their behaviour. Some attendees reported that they had experienced a situation where sirens went off but they did not feel very concerned. Some younger attendees reported feeling insufficiently informed about alerting structures. Only in two cases (rural and small town), did they know there should be an alert through sirens and/or church bells. Most attendees knew there should be a siren signal, but no one was really sure about the nature of this signal (How often would sirens go off? For how long? How to know the crisis is over?), no matter what region and what risk experience they had. They did not even remember if there were sirens when they experienced a critical situation themselves.

In **Hungary** several people mentioned that they did not know what signal was to be followed and how information would reach them. According to some there used to be a loudspeaker, particularly in smaller settlements. And there were sirens in bigger towns. It was a well-established method; it did not have to be reinvented. Several people mentioned that they never notice the sirens. They did not know if they were still operational and if they were adequate for alerting. According to others the siren gave little information. It signals that something happened but does not say anything about where, what and why. The attendees did not distinguish any difference among the signals by the type of disaster.

In one area in **Italy** a system of sirens has been recently established. The inhabitants have as yet only limited experience with sirens, but welcomed the introduction of it. They also assume that they soon will consider the siren as a normal and familiar way of alerting. In other groups the participants prefer a loudspeaker system. Sirens are considered to be less informative (they can't give information about the kind of risks without a previous formation process) and are perceived as too scary.

The existence of sirens (usually called by its nickname *Hesa Fredrik*) to alert people are known to all in **Sweden**. Only some know they are expected to turn on their radio when the sirens sound. Only two persons were familiar with the siren's signals though. Men seem to



have a little more knowledge in regard to the presence of sirens and the meaning of its signals.

### Summary

- Sirens signal that something is going on and that people should listen to the radio or TV or Internet, but they do not say in a concrete way what's the matter.
  - Sirens were well known in **Austria**, mostly in **France** and sometimes in **Hungary** and **Sweden**, while Austria has a system of testing the sirens every week, in **France, Sweden, Germany** and **Hungary** there is uncertainty about the nature of the signals. In **Austria** people know they should listen to the radio or watch TV.
  - In **Hungary** people in small cities were aware of the existence of signalling sirens in the small towns as well, in **Austria** and **France** there are no differences between groups, all people knew that sirens are a kind of alerting.
  - In **Sweden** men seem to have a little more knowledge in regard to the presence of sirens and the meaning of its signals compared to women.
  - **Italians** prefer a loudspeaker system, sirens are more unusual there.
  - Sirens are criticised only in **Hungary** and **Italy**.
- ➔ All participants wanted, as part of an adequate alerting system, some kind of a public alerting like sirens or loudspeaker!

## 4 Trust in Media

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This chapter addresses questions of trust in media: rationales given by the attendees as to why they would make use of particular media and perhaps not use others. Trust in media is an important factor to keep in mind when decisions have to be made about appropriate media in case of disasters: the more trusted the media is, the more likely sufficient compliance is in a case of a severe disaster.

**Austria:** The reported trust in media in Austria is one of the highest of all our examined countries. In particular, if not exclusively, attendees stressed that media reporting would deserve confidence in Austria. It was interesting to note that young Austrian men, in particular, reported that they would, in case of a disaster, also refer to news media from Germany as they might be even more “objective” in that specific situation or at least provide additional information from a foreign, but neighbouring perspective.

**Germany:** There is no clear picture in regard to trust in media in general, except for the social media, which appeared to not be considered trustworthy as such by the attendees, for literally everyone can post what s/he wants. Therefore, the risk of a “fake disaster post” was tangible and made explicit in the groups. There was a slight tendency in the diverse groups that radio is most preferred as meaningful and trustworthy media in case of a disaster. Furthermore, public TV (Öffentlich-Rechtliche Anstalten) is considered slightly more trustworthy than private TV. Internet was possibly the medium with the most diverse answers, ranging from one extreme: Internet is trusted because it is up to me to visit just those websites that I personally regard as trustworthy – to the other extreme: the Internet is

just a bunch of information where I can find anything I want and there is no distinguishing between important and authoritative and unimportant and uninteresting information.

**France:** In general, attendees would trust information provided by mass media (*TV, radio, written press*), through news journals or short news flashes. However, they mentioned that some channels are more trustworthy than others on TV: the national public channels (France 2, France 3) were expected to give more “true” information than “commercial” channels, or some channels having the reputation of being close to the current government (TF 1). The specialised information channels cited (LCP, BFM) would be used more if one is looking for information on an event, which would be the case in a critical situation:

“(…) well, I generally do not have it switched on all the time, because having news all the time is too much and too boring – but if I would need information, or if I would get partial information, I would turn to those to get the whole thing.” (*female, 25-60, big city*)

Generalist radio channels were expected to give only brief news, however, information provided through those is judged trustworthy. If ever attendees were looking for more detailed information as in case of a crisis, they would turn to national (France Info) or local/regional (France Bleu) channels. National daily press is judged trustworthy, but “politically coloured”. The same is true for the regional daily press as the political orientation is still considered to be present, but attendees reported that they think the trustworthiness of regional daily press is less influenced by this. Moreover, the “local-ness” of information is the central reason why information is judged as trustworthy. Daily free press: those journals are always published in regional/local versions and distributed accordingly, more in medium-sized and big cities. Information provided through those papers was judged less trustworthy as sometimes they might include local rumours. Nevertheless, some attendees also mentioned that those short papers are often quicker than the “official” newspapers.

While the *Internet* is becoming a more and more generalized source of information, French attendees would not trust everything they’d find there, especially rapidly published information. Invested trust will strongly depend on the source: in case of a crisis, they would rather consult official web-sites (for nuclear incidents: Autorité de Sûreté Nucléaire<sup>3</sup> or national NGO’s sites, météo-France for weather-related incidents…), published by those judged trustworthy. More or less independent experts’ sites would be consulted more than “anonymous” sites, followed by web-sites published and managed by information channels present on TV or radio:

“If I would hear of an alert I would maybe first have a look at the website of France Info to get more information or to double-check what I heard, , then look at the links they provide and then search for other sources.” (*male, 25-60, big city*)

Here again, *Facebook* is seen less as a real source of information, rather than as a platform where existing “real-world” relationships between true people find a continuation. In case of a crisis – or even in every-day life – attendees would not believe everything that circulates through those new media:

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<sup>3</sup> The French expert institution for nuclear security and safety (public and «independent»).

“Facebook or Twitter, well, it is quick, but authors do not have time to double-check – and then, there are a lot of rumours circulating, and you have no idea if it is true, you only get the very short written text. If I do not know the author personally, I would first try to find out who he is, then check the information, then maybe believe it.” (*male, <25, big city*)

*SMS and mobile phones* would be a more trusted source of information – depending, of course, on the source of the message. If it would come from an official source (the mayor, the prefect, any official and known risk management involved institution or person), attendees would likely believe the content sent. They even asked for a reinforced use of this way of transmitting information in case of a crisis. If the source would be part of a social network – a known person – and, if possible, included in the official risk management chain, information would be even more trustworthy (knowing someone personally, knowing he is part of the official risk management chain and therefore supposed to be highly informed, makes him a crucial link in the risk information chain). Trustworthiness of alerts or information received through SMS therefore is strongly dependent on the trustworthiness of the sender, and linked to its degree of detail – the more detailed, the more adjusted to a very special local situation, the more trustworthy.

**Hungary:** Though a variety of media is used daily, trust in media appeared to not be very high in Hungary. Primarily the national commercial channels seem to lose their role as authentic sources of news. People living in big cities had the most intense opinions about the media. According to them the media are extremists in every direction. Some of them underplay everything and the tabloid media would usually exaggerate everything. The media is not a good solution in a crisis situation. Afterwards it can be judged who was right but in the midst of disaster there is no time for it. Keeping silent at the time of the Chernobyl catastrophe was a specifically Hungarian experience of the media taking up a distorting role and offering wrong information. Though it was 25 years ago, in another political system, its memory is still very vivid in everyone who lived at that time. This is why the idea emerged that it could be repeated in a grave situation. People from small towns considered the task of the media to be to give information and not induce panic and to offer information as fast as possible. In a dangerous situation people would rather trust public service broadcasts and local and regional sources of news even if their usual set of programmes is not so rapidly updated.

**Italy:** We asked the participants which media they would use to get reliable information in case they hear vague information about a disaster that involves their city/village. Despite that we expected many answers focusing on television, the important role of the *Internet* emerged (only one out of 50 reported to mistrust the Internet). The main features of the Internet are, according to the participants, the abundance of information and the rapidity, while television is considered slower and less reliable. In general, the participants reported that they don't trust the media except for the Internet and, in some cases, the local media (local televisions and newspapers). They don't trust media, especially the national televisions and the national newspapers, for several reasons. Firstly, due to the sensationalism and the need to attract broad audiences, media tend – using the participants' words – “to not say the truth”. Secondly, they give reasons for their mistrust arguing that on several occasions they noticed that different news outlets reported the same events in different ways. Thirdly,

they consider the Italian national media to be too connected with the power elite (with the government that was led by the owner of the most important private national television station when the field research was conducted, but also with other undefined powers). This is another reason why – according to some participants – the news “media say only what they want to say”. Finally, some participants explained that they wouldn’t trust media especially in case of disaster, because they think that, in order not to spread alarmism, the media wouldn’t report all the aspects and the consequences of an emergency. The mistrust in media is even stronger within the natural risk group. All the participants appeared to be strongly disappointed, one even angry, with the journalists and the media because of the news coverage they had after the flood in 2009. In total, Italy appears by far to be the country with the least trust in public media of all examined countries.

**Sweden:** The opposite of Italy in regard to trust in media is Sweden. In general any information broadcasted by Swedish authorities and media enjoy high trust by the broad majority. Both, authorities as well as media in general, are regarded as an integral part of the open and cooperative Swedish society that has no reasons for concealing or manipulating “the truth”:

“I think that Sweden is such an open country that yes I trust the media. There is no reason for them to lie, I can’t see that [...] Otherwise one mistrusts the entire democracy.” (male, 25-60 years, rural area)

„It feels safe in some way; it is the state, that would be it. I can trust the state.” (male, 25-60 years, small city group)

“Even if there was someone who called me or knocked on my door, I would check it with an authority because I don’t know where that person got their information from and ehhhh... the only thing I think is trustworthy comes from authorities” (female, 35 years, small city)

Moderator: “If there is different information on these different channels, which ones would you trust the most?”

“Public service” (female, < 25 years, large city)

Several: “Yes, guaranteed”

Public sources enjoy very high trust by many attendees, not least because they are appreciated as non-commercial and less sensational. Private media enjoy high trust, too, but less than authorities; especially tabloids are believed to write everything that sells and therefore the likelihood of exaggeration is given. However, most media are believed to report correctly in a serious crisis. Also, in contrast to Italy, Swedes perceive their media as not influenced by political standpoints, in particular when disasters occur.

Trust in social media is complex in Sweden: Trust in social media is high when the information comes from (online-)friends; trust in social media is lower when the source is unfamiliar; trust in social media is high when the sources are official, which is why several recommend this option as an alerting channel for authorities.

## 5 Conclusions

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Choosing the right alerting channel and message design is a key element in efficient crisis communication. This challenging task faces several, and sometimes different, prerequisites in each of the examined countries, a fact that should be considered in order to optimize alerting strategies.

One such prerequisite is knowledge of everyday media use and related consumption patterns. Knowledge of general media preferences is important to reach people unaware of an impending or acute crisis situation. This applies not only to regions without sirens or loudspeakers but also to cases where the signals of sirens are unknown or mistaken as a practice alert. Therefore, radio, TV and, with certain limitations regarding age, mobile phones and the Internet are valuable channels for informing citizens of urgent matters as they are broadly used in all countries. In Austria and Germany the TV Teletext system is another promising channel used by many people to receive information independent of the ongoing TV program. In France and Hungary, local TV channels have been additionally mentioned as important sources of everyday information.

The picture changes in some terms, however, if people are already aware that a critical situation has occurred. For example, in France the Internet becomes more important in this stage, as people start to look for background information. Furthermore, *trust* becomes a key factor when actively choosing a certain information source. This is most evident in Italy where national TV-programs enjoy very little trust despite their frequent use, which is why people change from TV to the Internet when they actively look for important information. By contrast, in Austria, Germany and Sweden trust in media is generally very high, with the notable exception of the Internet and especially social networks. The Internet plays an ambivalent role in this context as, on the one hand, sources like online editions of newspapers or websites of authorities are trusted indeed and false information can be easily identified via cross-checking with other sources. On the other hand, people realise that websites can be manipulated and some users abuse the Internet and especially social networks to spread false information, a view which is especially common in Austria, Germany and France.

Regarding the classic media, TV, radio and newspapers, trust is again generally very high in Austria, Germany and Sweden. Though tabloids are known to exaggerate or distort stories for reasons of profit they are expected to transfer basic crisis information correctly as well. In some countries like France and Hungary, people make a distinction between nationwide and local TV stations, with the latter enjoying a higher level of trust.

It has to be noted that trust in crisis information is an issue that strongly depends on the type of event as well. This becomes evident particularly regarding the topic of nuclear accidents, where even Austrian and Swedish participants began to feel unsure whether their government would provide them with full and unbiased information. In Hungary the experience of being left in the dark during the Chernobyl accident has resulted in a high distrust in public information still today, a memory certainly influencing perceptions should there be another accident of this kind. In such a case it is not unlikely that political biases will become a trust issue too - most likely in France and Italy where politics are regarded as very

influential in the media landscape -, though otherwise politics are judged to be rather irrelevant in the disaster context.

If people were to choose the alerting channels, a facet we could call *proactivity* becomes relevant next to media habits and trust. It means that the recipient should not be dependent on searching for information on his own accord but rather is provided with the information without asking for it (what is called ‘information push’ in the French study). This applies in particular to the ‘classic’ alerting tool sirens, a crisis-proof device which is rated positively in all countries, but also to loudspeakers which have replaced sirens in several regions nowadays and include the advantage of being able to issue precise messages. Next to these channels, the option of SMS-alerting is increasingly well-known and supported in most countries with the exception of elderly people who are often not used to this technology.

Another criterion for voting for a certain alerting option is *accessibility*. The popularity of SMS is founded on the fact that almost everybody (with the mentioned exception of basically elderly people) is in possession of a mobile phone nowadays, a device which is for most people present in every situation in contrast to other channels like TV or Internet. To a lesser but still considerable extent this is also true for the radio (as one could listen to the radio in the car or at work or even via smart phone everywhere), which is why this has been mentioned in several countries by most participants. Radio was positively mentioned throughout all age groups.

In Hungary and Sweden social media are considered an appropriate and efficient way of transmitting alerting messages by several participants as well, though we have seen that the question of credibility was an important issue. Therefore it is advisable to include telephone-numbers in messages sent via this channel where citizens can verify the information quickly. The Swedish example also shows that social networks could become more relevant in the future particularly as a very effective multiplier among friends, with one person sharing an official alerting message with his private contacts. In such cases the problem with credibility is substantially reduced. In other countries the role of the sender of alerting messages via social media was also discussed: if the sender is an official trustworthy source, then alerting via Facebook or other social media might potentially work.

Concerning special preferences or needs of certain parts of the population, age is clearly the most influential factor. As was to be expected, new media are used especially by younger people while older persons are basically unfamiliar with such technologies. They prefer classic channels like radio, TV or telephones which would allow them to personally talk to rescue services or a municipality office. Having an immigration background is relevant as well in terms of alerting preferences, though this was not addressed by people with language problems themselves (who were not part of the discussion groups for obvious reasons) but by other participants. In this context the Internet was regarded positively particularly in Italy, but also in Germany, as it offers a broad range of information in different languages, either provided by bilingual users, multi-lingual websites or simply by online translation tools, something which was considered to be very useful for tourists, too.

In contrast to individual characteristics of the recipient, like age or migration background, the risk area seems to play no consistent role regarding information behaviour. Rather the size of a settlement is of some relevance insofar as in rural areas personal communication with friends and neighbours is of higher importance compared to urban areas. The French

discussion groups also reminded us that in many rural areas there is no (fast) Internet access, a shortcoming not limited to France only.

There were only a few specific references in the discussions regarding the content of alerting messages. In France, Hungary and Sweden an explicit wish for more information in crisis situations was expressed, though. While in Hungary and Sweden, and also in Austria, a clear preference for the inclusion of recommendations for safe behaviour was visible, in France the picture was divided. French discussion participants showed rather a strong interest in the possibility to individually customize the message in advance – preferably via the Internet –, not only regarding the content (size, frequency, thresholds, regional/national focus etc.) but also concerning the form (i.e. written or oral). Though this was not stated explicitly, this preference may also be regarded as a hint that content customization is more likely to be accepted if it can be controlled by the recipient.

Especially in France, Sweden, Germany and Hungary there were recommendations for improving current risk and crisis communication strategies. One point not central to the question of alerting in an acute crisis situation, but which was mentioned in several countries, was that people felt a lack of related risk communication. Participants criticized the lack of proactive information regarding the meaning of the sirens' signals and basic rules of conduct in emergencies, something that should be part of compulsory trainings in schools and at workplaces at regular intervals. Concerning the actual crisis communication there were different ideas for additional channels or forms: In France regular (i.e. hourly) updates were discussed, as well as using highway message boards and message boards at public transport stops. Some Hungarians recommended 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. In Sweden 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. In the large city group loudspeakers at tram stations were discussed as effective means of alerting, an idea which is already implemented in Germany in the long-distance traffic system.

All in all, the focus group discussions have revealed that new media (SMS, Internet) are becoming more and more important for crisis communication without rendering classic channels redundant. The use of social media for alerting purposes would be currently accepted only in Hungary and less in Sweden to a noteworthy degree. In all other examined countries social media would currently not work as an appropriate alerting tool – not even for the younger ones who otherwise enjoy these kinds of media frequently- for staying in touch with friends. However, the social media platform Facebook was only established eight years ago, it might well develop into a media which could be used sometime in the nearer future as an alerting tool as well.

A multi-channel approach seems best suited to maximize efficiency in all countries. At the same time, certain country particularities and socio-demographic factors (especially age) should be considered in order to address existing problems like trust issues or the limited reachability of certain groups or areas. On top of that, the current development in the media landscape connected to portable devices with Internet connection should be closely watched as they do not only 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.