Title:	Document Version:
D5.2 Human factors based procedures and communication strategies	1.0

Project Number:	Project Acronym:	Project Title:
H2020-740466	LETSCROWD	Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings

Contractual Delivery Date:	Actual Delivery Date:	Deliverable Type*-Security*:
M12 (April 2018)	M12 (April 2018)	R-PU

*Type: P: Prototype; R: Report; D: Demonstrator; O: Other.

**Security Class: PU: Public; PP: Restricted to other programme participants (including the Commission); RE: Restricted to a group defined by the consortium (including the Commission); CO: Confidential, only for members of the consortium (including the Commission).

Responsible:	Organisation:	Contributing WP:
Sabina Giorgi & Alessia Golfetti	Deep Blue	WP5

Authors (organisation):

S. Giorgi, A. Golfetti, A. Pasquini (Deep Blue); P. Townsend (CROWD); Andres Garcia Silva (Expert System); Giorgio Fumera (UNICA)

Abstract:

The D5.2 includes the first version of the Innovative Communication Procedures (ICP) that aim at improving security operators and first responders' situational awareness, intercultural competences and commitment in the pre-event phase and during the execution of the event. ICP consist both of general recommendations concerning the two phases of a mass-gathering event, and specific recommendations and solutions related to sporting events and festivals.

Keywords:

Communication, emergency, pre-event, event execution, strategies, procedures, recommendations, type of event, crowds' socio-cultural aspects

http://letscrowd.eu/

Law Enforcement agencies human factor methods and Toolkit
for the Security and protection of CROWDs in mass gatherings

Revision History

Revision	Date	Description	Author (Organisation)
V0.01	07.12.2017	ToC	Sabina Giorgi (DBL), Alessia Golfetti (DBL)
V0.02	22.03.2018	Contribution from CROWD	Townsend (CROWD)
V0.03	20.04.2018	Full draft –ready for peer review	S. Giorgi, A. Golfetti, A. Pasquini (DBL)
V0.04	24.04.2018	Peer reviewed version	Andres Garcia Silva (Expert System)
V0.04	25.04.2018	Peer reviewed version	Giorgio Fumera (UNICA)
V1.00	26.04.2018	Final version ready to be submitted to EC	S. Giorgi, A. Golfetti, A. Pasquini (DBL)

Executive Summary

Effective communication is of prime importance for running an event smoothly and safely. The provision of clear, unambiguous information to visitors can help prevent dangerous situations arising. This deliverable reports the LETSCROWD communication guidelines - Innovative Communication Procedures (ICP), which aim at improving security operators and first responders' situational awareness, intercultural competences and commitment in the pre-event phase and during the execution of the event. The ICP also aim to support the actors building their context-specific tool for an effective multicultural crowd management during normal and critical situations.

WHO THE GUIDELINES ARE FOR?

- Law Enforcement Agencies (LEAs) personnel
- Security operators
- First responders

WHAT DO THE COMMUNICATION GUIDELINES LOOK LIKE?

This first version of ICP includes:

- General and specific communication recommendations and solutions addressing socio-cultural aspects of relevance to communicate with multi-cultural crowd (Section 7). In particular, sporting events (Section 7.3.1) and festivals (Section 7.3.2) are the specific types of events addressed by ICP in the first version of the deliverable;
- Specific template for identifying the specific target audience attending an event (ANNEX A - 10.1);
- Specific template for supporting the mapping of the channels with the message to be delivered (ANNEX A - 10.2);
- Specific template for constructing warning messages (ANNEX A - 10.3);
- Triggering questions that can be used as check list by the ICP users when setting up their own communication strategy (Section 5).

WHAT IS THE COMMUNICATION GUIDELINES ADDED VALUE?

ICP show an integrate picture of the LEAs existing communication procedures (Section 4.1) and practices (collected through qualitative interviews – Section 4) merged with the literature review on crisis and risky communication. The topic around which the integrated view is built concerns the socio-cultural aspects affecting the communication process.

NEXT STEPS

The second update of the deliverable (D5.6) will improve some aspects of the current version, as follows:

- Useful feedback and suggestions will be gathered during the practical demonstrations (planned in WP6) to refine ICP content and structure.

- Socio-cultural elements influencing the communication face-to-face with the public will be explored more in detail. Dedicated cards focused on non-verbal communication will be developed in order to increase awareness on it when information is provided through the human direct contact.

- In order to make ICP recommendations usable and useful for the crowd-modelling tool (see D5.1 "Crowd modelling and planning tool"), some ICP features will be increased to enrich the model.

1   Index

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

This deliverable reports the Innovative Communication Procedures (ICP), which aim at improving security operators and first responders' situational awareness, intercultural competences and commitment in the pre-event phase and during the execution of the event.

The ICP also aim to support the actors building their context-specific tool for an effective multicultural crowd management in case of emergency. It means that the ICP users could use the LETSCROWD communication guidelines to refine their current communication practices taking into account the context – specific characteristics of a given event (e.g. socio-cultural characteristics of the crowd; crowd motivation; regulations of the country hosting the event; etc.).

Far from being exhaustive, guidelines stand as a starting point for further actions. They do not provide a list of specific messages or communication measures, but present general and specific recommendations (related to certain types of events) and trace a process for building collaborative partnerships to enhance LEAs' multi-cultural communication competences.

1.2 SCOPE OF THE DOCUMENT

WP5 aims to develop a Human–centred supporting toolkit for LEAs that can integrate different tools, technologies and methodologies:

- Task 5.1: crowd modelling tool;
- Task 5.2: innovative procedures and communication strategies based on human factors;
- Task 5.3: Semantic intelligence applied to social networks and Web contents acquired by a focused crawler;
- Task 5.4: Human-centred computer vision for crowd protection.

The scope of this document is to present the first version of the LETSCROWD communication guidelines (ICP) while the second version will be reported in D5.6.

1.3 STRUCTURE OF THE DOCUMENT

The document is organised in 7 main sections:

1) Section 2 presents the list of requirements identified for the communication guidelines;

2) Section 3 reports the literature review on socio-cultural issues and crowd behaviours; risk and crisis communication;

3) Section 4 presents the data collection of LEAs' procedures, practices and needs;

4) Section 5 introduces the key elements of the communication process that have been taken into account for developing the LETSCROWD communication guidelines;

5) Section 6 reports selected real life examples discussed with LEAs during the qualitative interviews;

6) Section 7 introduces the preliminary version of the LETSCROWD communication guidelines (ICP) composed by general recommendations related both to pre-event and communication guidelines related to specific types of events (i.e. sporting events and festivals);

7) Finally conclusions and next steps are discussed in Section 8.

2   LETSCROWD communication guidelines requirements from D2.2

In the deliverable D2.2 *LETSCROWD Use Cases, Scenarios and KPIs identification* (1), some leading requirements for the ICP (Innovative Communication Procedures) development have been identified. They were created through a reiterative process among the LETSCROWD partners. Reiterations were supported by the LETSCROWD *Volere* website. Requirements generated for the communication guidelines are reported in TABLE 1.

ID	Description	Type	Rationale	Acceptance criteria
ICP_001	Guidelines shall include an emergency communication framework to support LEAs and other involved stakeholders in developing an effective strategy to communicate with the public	The purpose of the product	The emergency communication framework will include the identification of the communication purposes, main actors/ stakeholders involved and related roles, channels, illustrative cases, socio-cultural aspects influencing the communication process	An emergency communication framework needs to be set up. This is the main purpose of the guidelines
ICP_002	Guidelines shall support LEAs and other stakeholders in identifying the best communication strategy to ensure public trust the information received and behave properly during the emergency	Functional and data requirements	Building trust in the public warning system is a long-term process to be taken in charge by LEAs and other stakeholders in order to assure a proper public reaction during an emergency	Linguistic, cultural and other differences do not obstacle significantly a proper reaction of the public
ICP_003	Guidelines shall support LEAs and other stakeholders in identifying the best communication strategy to ensure a proper management of the public (avoiding risks), during the emergency	Functional and data requirements	A proper management of the public behaviour (e.g. to avoid high density of people) may help in avoiding risks before an emergency arise	Proper comprehension and reaction of the public to instructions by the organizers
ICP_004	Guidelines shall support LEAs and other stakeholders in identifying a participative communication strategy to ensure the collaboration of the public in recognizing and managing possible critical situations	Functional and data requirements	The collaboration of the public is essential in preventing, identifying, and reporting possible risks due to several causes (e.g. crowd behaviour, suspicious behaviours)	Trusted accounts and links, synchronized social media (e.g. WhatsApp) are already available and used by LEAs
ICP_005	Guidelines shall address the following socio-cultural factors when developing a communication strategy for multiple risk	The scope of the product	Socio-cultural factors influence the effectiveness of messages. Guidelines aims at developing a specific awareness on these	Competence on socio-cultural factors

	scenarios: Age, Gender, Social Identity, Language, Signs/ Symbols, Individual differences		issues when implementing a communication strategy for risk scenarios (e.g. by supporting a public segmentation strategy)	
ICP_006	Guidelines will be in English and easy to be translated into other languages by their users.	Usability and humanity requirements	English should be the main language since it's the most common one used	The tool is in English.
ICP_007	Guidelines shall include a multi-channel approach to effectively communicate with a multicultural crowd	Functional and data requirements	A multi-channel approach could include social media, cell-broadcasting, signals in crowd events to reach specific target groups	A multi-channel approach is already used by LEAs
ICP_008	Guidelines shall include the state of the art in emergency communication with multicultural crowd	Functional and data requirements	In order to propose innovative communication solutions, the existing emergency communication procedures and guidelines have to be surveyed.	Maturity level of the literature review
ICP_009	Guidelines shall clearly identify other stakeholders that could be involved and their roles in the communication strategy	Users of the product	Guidelines will be addressed to LEAs and other stakeholders involved in the event management. The emergency communication strategy aims at identifying also their roles and responsibilities to assure the effectiveness of the communication	Level of stakeholders identification
ICP_010	Guidelines shall include illustrative cases to facilitate the application of the communication strategy set up	Functional and data requirements	Illustrative cases - mainly collected by surveying LEAs' past experiences - allow a better understanding of how to apply the guidelines content and in which scenarios	Relevance of illustrative cases identified

TABLE 1 – Innovative Communication Procedures requirements specification

3   Literature review

3.1   SOCIO-CULTURAL ISSUES RELEVANT FOR COMMUNICATING WITH THE CROWD IN MASS-GATHERING EVENTS

When organising an international event, where people from different countries are expected to come, socio- cultural factors are important to take notice of, both during emergencies and in the pre-event phase. In the pre-event phase, these should be taken into account when preparing the communication plan to be implemented during the event for delivering effective messages to the crowd. According to the type of the event, crowds are characterized by the presence of many internal and different socio-cultural subgroups (see section 3.1.1). Therefore, it is important to be aware that **"there is never just one point of view" within the crowd** (2). The interpretation people have of reality depends on the colour of the lenses given them by their cultural backgrounds (2) social identities and socio-demographic factors (e.g. social standing, education, family, school and other social environments, age, gender). The LETSCROWD communication guidelines refer to these aspects as essential elements in making sense of communication. Their aim is to foster, for what it is possible, the ***intercultural communication***[1] (3) within the crowd, between communicators and audience, taking into account what happens when people from different cultural background interact, especially in critical situations. The intercultural communication approach has been typically studied in the business and management/ communication domain and in the marketing field of application. However, an increased attention towards cultural aspects of the communication is more and more addressed also in the disaster risk communication when dealing with cultural differences (4). An intercultural communication approach aims at reducing ethnocentrism, stereotyping, prejudice and discrimination.

3.1.1   Social identity and cultural background as major socio-cultural factors influencing communication

According to the *social identity theory* (5), social categories including large groups (e.g. nations) and small groups (e.g. football fans) provide their members with a sense of who they are. **Groups give people a sense of belonging to the social world**. People are inclined to divide the in-group ("us") from the out-group ("them") through a process of social categorization. Social identity theory states that to increase their self-image, people usually enhance the status of the group to which they belong, for instance by holding prejudice and discriminating the group they don't belong to. According to Tajfel, stereotypes (i.e. putting people into groups and categories) are part of the normal cognitive process, even if people tend to exaggerate in doing this. People conform to the beliefs and behaviours of their in-group, perceiving its members to be more similar than they actually are, while perceiving their in-group and other out-groups to be more different than they actually are (6).

Research focused on people's real-life social identities found that people hold multiple social identities simultaneously and that they switch between these fluidly depending on the situation (7). At home someone may be a parent, at work an engineer, and at a football match a supporter.

---

[1] When two or more people with different cultural backgrounds interact and communicate with each other or one another, intercultural communication has taken place (166).

Among the others, nationality is one particularly powerful social identity (8) of high relevance for the LETSCROWD project and the ICP.

According to the different types of event taken into account within LETSCROWD, social identity can be classified in:

- **Large group identity** (i.e. nationality; ethnicity/ cultural group belongingness);

- **Subgroup membership/ belongingness** (i.e. team supporters; fans; religious and political groups; families; groups of friends; etc.);

- **Transitory cluster** (people sharing a transitory belongingness for a specific event in a given time and place, e.g. people attending large international festivals like the Tomorrowland music festival).

Socio- demographic factors such as age, sex, educational and instruction levels, etc. contribute to the perception of in-group and out-group differences.

Concerning the cultural background in a broader sense, it contributes to provide people with a sense of belonging to certain large group identities (see above), even though - as Hannerz suggested (9) - many people include different personal cultural repertoires in themselves that share with different collections of people according to contexts and situations. Generally speaking, **the term "culture" is used in many different ways** (often in combination with other words) and with a variety of different meanings. These variations of meaning of culture move between contexts and domains. Singer (1998), for instance, defined culture by underlining the strong relationship with the communication process. For this communication scholar, culture can be descried as "a pattern of learned, group related perceptions including both verbal and non-verbal language, attitudes, values, belief systems, disbelief systems and behaviours that is accepted and expected by an identity group." (10). Other scholars engaged in the intercultural communication studies, proposed definitions of culture that take into account social group memberships. Arent (11) pointed out that when talking of other culture "we mean not only those who speak a language that is different from ours or who live in a different country or region; we also mean those who live in the same city or region but who do not share the same social groups. For example, a 14-year-old teenager does not typically communicate the same way as an 82-year-old senior citizen". **The LETSCROWD communication guidelines try to consider this nuanced view of culture and intercultural communication.**

3.1.1.1 Social identity and crowd behaviour

Social identities are powerful influences on people's behaviour. That is why the *social identity theory* has important implications for the management and the communication with the crowd members in emergency situations. Drury[2], Reicher and Cocking carried out several studies including experiments using specially designed "virtual reality" animation (12) and interviews with survivors from events such as the 7 July 2005 London bombings (13) (14). Researches highlighted that **emergencies generate a sense of "common fate" that fosters the creation of an *emergent-shared identity* (sense of unity, psychological togetherness, groupness) among the crowd members.** This enhances an adaptive collective response and support the co-operative and coordinated behaviour

---

[2] http://impact.ref.ac.uk/CaseStudies/CaseStudy.aspx?Id=28487

frequently observed in emergencies and disasters. Especially from the study on the 2005 London bombing (14), the evidence was that social, and even helpful behaviour, rather than mass panic, "selfish", competitive and disorderly behaviour, is usually evident in mass emergencies and that people may rapidly form bonds with strangers to cope with the critical situation (see also Section 3.2). This *informal collective resilience* (13) in crowds operates to transform psychological self-perception from "me" to "we": i.e. from a personal to a shared *social* identity (14) (15). It is the basis of social *solidarity* that is the motivation to *give* help and the expectation that others will support us. This expectation of support allows collective action and agency. **In critical situations, the *emergent-shared identity* and the arising collective resilience** (it is largely endogenous and arises "naturally" from a shared experience) **could be facilitated by the communication.** In order to foster a shared identification among crowd members it is important to be aware of spontaneous group affiliations: if in-group enlargement is stimulated, competition and out-group perception may be mitigated.

How can a shared identification and resilience be facilitated (16)**?**

- Including the attending public;

- Trusting the crowd and the public to self-organize;

- Providing information;

- Prioritizing 'public health' resources over social control;

- Promoting unity: 'we' (the authorities, public etc.) are 'all in the same boat'

What are the main factors undermining a shared identification and resilience?

- Excluding the public (authorities *versus* public);

- Distrusting the mass;

- Restricting information;

- Prioritizing "public order" over "public safety";

- "Pathologizing" the mass (pathology model of the crowd that ascribes a mass panic reaction to the crowd even thought researchers highlight that panic is rare in crowds).

Analysis described above contributed to the development by the *Elaborated Social Identity Model* (ESIM) of crowd conflict dynamics, which principles are enshrined in the UK key official public-order guidance manual produced by ACPO, ACPOS, NPIA (17)[3]. These principles consist in:

- understanding the social identity of the crowd;

- facilitating crowd aims;

- communicating with crowd members; and

- differentiating between crowd members, rather than treat them indiscriminately.

---

[3] http://www.statewatch.org/news/2012/jan/uk-manual-public-order-2010.pdf

3.1.1.2 Communication aspects and crowd behaviours influenced by cultural background and social-identity in mass-gathering events

A review of the influences of the social identity and the cultural background on the communication process carried out with multicultural crowds in mass gathering events is provided in this section. It summarises some relevant results from the EU funded project IMPACT[4], where an extensive and exhaustive literature review of cross – cultural psychology has been carried out, identifying some main communications aspects and crowd behaviours that – in emergency - can be influenced by cultural differences. Among them, the most relevant ones for the development of the LETSCROWD communication guidelines are:

- language (i.e. verbal and non-verbal);

- signs comprehension (i.e. safety signs, hand and verbal signals);

- spatial navigation/ walking speed (i.e.)..

Language (verbal and non-verbal communication)

In the case of international events, language barriers may be led to miscomprehension of warnings and signals, especially if organisers do not have the chance to develop any awareness of warnings, or to implement preventive measures to ensure people understand or receive the planned communication and messages (e.g. dynamic translation systems, leaflets describing safety procedures in different languages, etc.) (18). In the case of international sporting events (e.g. final football cup) – for instance - specific subgroups of foreign spectators are expected and the supporters will speak at least two different languages. **A multi-language strategy has to be applied to ensure messages comprehension by the crowd.** Even though the communicator and the audience utilise the same language, local variations or dialects may use similar words with different meanings. Furthermore, communicators could use a technical language – a specific *jargon* - that is not familiar to the audience. It needs to be translated into words understandable to the public. Communicators have to learn what words and phrases target audience use when talking about their activities and their fields of experience (see section 5.11).

Cultural and linguistic appropriateness of messages should be always guaranteed and verified. Research indicates that messages need to be culturally adapted to different country settings (4). Messages should be coherent (not offensive) with the values and perceptions of socio-cultural groups attending the event.

Beyond the language, the non-verbal communication (e.g. facial expression, gestures, etc.) affects face-to-face communication and contributes to the message understanding and effectiveness. Compared to verbal communication, nonverbal messages – both intentional and unintentional - operates at a lower level of awareness and are more spontaneous and mindless than language. That is why they are more powerful and ambiguous, also because they are interpreted through multiple channels (e.g. facial expressions, body language, tone of voice, spatial relationships, and the environment). Most of the nonverbal behaviours show a considerable imprint of culture (19).

In case of emergency, LEAs and other security staff who are on the ground to directly cope with the critical situation need to be aware both of their non-verbal communication and that of attendees.

---

[4] http://www.impact-csa.eu/

When crowds are multicultural, many different non-verbal codes are enacted at the same time. Awareness of other countries' practices and cultural codes helps prompt responses and stimulate an open and inclusive approach in others.

According to Zani et al. (20), especially **face-face communication requests some specific skills** to produce and understand messages and, therefore, to interact with others, among them:

- *linguistic skill*, i.e. the ability to produce and interpret verbal signs;

- *paralinguistic skill*, the ability to produce and interpret elements that modulate communication, such as emphasis and accent in pronunciation, exclamations;

- *kinesic skill*, the ability to communicate through gestures as well (nods, facial expressions, hand movements, etc.);

- *proxemic skill*, the ability to vary the relationship with the space in which interaction takes place (the distance between people, mutual contact, etc.);

- *performative skill*, the ability to use a linguistic act intentionally in order to achieve the purpose of communication;

- *pragmatic skill*, the ability to make practical use of linguistic and non-linguistic signs in a manner that is suitable for the situation and one's aims;

- *socio-cultural skill,* the ability to interpret correctly social situations, role relationships and the elements that characterise a specific cultural group.

Among the non-verbal interaction elements having a relevant impact on codifying a received message within a crowd, Thovuttikul et al. (21) highlight the touch eye contact (eye gaze) role. According to the scholars, eye gaze cues are typically used to make inferences about others' cognitive activity, including their focus of attention, intention, desire and knowledge about the current state of affairs. Gaze functions are to: (a) provide information, (b) regulate interaction, (c) express intimacy, (d) exercise social control, and (e) facilitate service and task goals. People share information about intentions and future actions using eye gaze. The eye gaze plays an important role in establishing quick and smooth interaction among the people. This aspect is particularly relevant in situations where a person is moving with others, like within a crowd.

Signs comprehension

Communication through pictograms/ visual symbols – but also by hand signals - often fails because the audience does not recognize what they represent. Interpreting signs and signals is a skill, which has to be learned (22). Signs that people need to know and understand when attending an event include:

- **safety signs placed in the event venue** (e.g. emergency exit/ escape route signs; first-aid signs; warning signs; etc.);

- **hand signals code**;

- **verbal signals** (e.g. public announcements).

The use of effective signs and maps in the organisation of mass gatherings (both indoor and outdoor) is critical to enable people to efficiently and effectively navigate around them. Signs become even more important in emergency situations, and Tang et al. (2009) investigated this

through a virtual reality experiment where participants had to exit a simulated building as quickly as possible. Beforehand, the minimal possible time a person familiar with the environment would require to evacuate was calculated as a benchmark time. The results showed that, in the absence of any signs, participants took three times longer to evacuate than this benchmark time, whereas they only took around twice as long to evacuate when guided by two versions of signs (23).

In order to make understandable signs and signals to the major number of people attending an event, **it is necessary to create knowledge on them, by sharing their meanings among the public directly involved** in the pre-event phase. Meanings concerning codes chosen for the verbal, hand signals and pictograms have to be consistent throughout all phases of the event (pre and execution phases) and properly shared among people by means of an appropriate "training" awareness activities/ measures.

A study conducted on a sample of 100 participants to verify whether persons from different cultures, age, groups and literacy levels interpret standard healthcare symbols correctly demonstrated that (24):

- symbols referring to abstract concepts were the most misinterpreted;

- interpretation rates varied across cultural backgrounds and increased with higher education and younger age;

- pictograms with human figures and synthetic description of actions are better understood than abstract concepts.

Also the interpretation of hazard-related colours is not consistent across different cultures and may possibly vary within different countries (25). This specific aspect need to be considered when using signs to warn and generally to communicate with a multicultural crowd.

When unfamiliar with the safety signs code in use, an appropriate training is needed also for security staff, stewards, LEAs, etc., who have to be aligned in using them.

Spatial navigation/ walking speed

Cultural differences in traditional clothing could impact evacuation behaviour and movement speeds. Almejmaj, Meacham and Skorinko (26) studied the effect of female dress in Saudi Arabia on walking speed during the emergency evacuation. Outcomes of the analysis indicated that dress length has a significant effect on walking speed on flat surfaces as well as on staircases.

3.1.2 Individual differences

In this section, crowd members are considered as individuals in their own right, each with characteristics that may affect how they behave when attending a mass-gathering event. According to Challenger et al. (27), each individual crowd member has various personal characteristics that may influence, or moderate, how much individuals conform to the behaviour of the rest of the crowd. Among the individual characteristics identified in the EU funded project IMPACT mentioned above, some of them are more interesting from the LETSCROWD perspective, such as:

- level of compliance with warnings, signs, and rules;

- risk perception.

Compliance

Notable demographic and cultural differences have been reported with respect to compliance with warnings, signs, and rules. Results from researches on gender and level of compliance (28)- (29), showed that women are more likely than men to comply with official regulations and socially acceptable behavioural norms. Generally speaking, for men it is more important to be able to deal with the expected danger, while for women, it is more important to act in accordance with society's expectations. Other researches focused specifically on compliance with orders or instructions related to emergencies (30) - (31) showing that women are more likely than men to comply with government requests during disasters.

Also the national culture could be a kind of predictor when considering the level of compliance with rules and regulations. The government of India, for instance, released a guide for disaster management (32). The document cites "crowd behaviour" issues, such as "crowds attempting to enter a venue after the start/closing time", "religious leaders taking a route (in wrong direction) in violation of orders in force". These suggest a group-level lack of compliance with official rules and regulations, typical of socio-cultural contexts characterized by low levels of rule of law.

Risk perception

Understanding how people perceive risks is an important factor contributing to successful risk communication.

Risk perception is important in a discussion of crowd management during disasters as it affects evacuation (33) - (34) and risk-taking. Concerning this, Byrnes et al. (35) conducted a review of 150 studies on gender differences in risk-taking, concluding that men are less risk-averse than women. Age-related differences have also been documented: older people are more risk-averse than younger people (36).

3.2   CROWD BEHAVIOURS IN EMERGENCIES

A brief review of crowd behaviours is useful for the generation of the communication guidelines since it provides information on how to exploit positive crowd behaviours, lowering socio-cultural hazardous behaviours.

The definition of "crowd" adopted by the LETSCROWD project is the following: *A sizable number of people gathered or considered together at a specific location for a measurable time period, with common goals and displaying common behaviours. It is beneficial to distinguish between physical crowd-i.e., a group of people who simply share a location- and a psychological crowd- i.e. a group of people who share a social identity* (37).

Certain crowd behaviours are also commonly presumed to occur, although evidence suggests otherwise. This can create adverse situations rather than prevent them, and will therefore have an effect on the derived communication strategy.

It is important to note that individual behaviour may occur which does not represent the crowd's behaviour in general, and is isolated. It is also important to note that traditional understanding based on Gustave Le Bon's theory (38), which is that any individual in a crowd for a length of time becomes "mindless" and "hypnotised", behaving as if they are not making their own decisions. This has been rebutted in modern understanding of crowd psychology (for example in (39)), where the individuals in a crowd are seen to act with a shared identity, and therefore are not mindless. Thus,

the crowd behaviours described in this section are attributed to individuals, but are common place, representing the behaviour of the majority of crowd members.

3.2.1 Preconceived Notions of Crowd Behaviour

The following is a short summary of the behaviour that is often presumed to occur within crowd, where the tendency has been to blame the crowd for a particular disaster due to their behaviour, with little basis (40). A review of an outdoor music event (40) showed that "There is also evidence that those responsible for managing crowd safety view crowds as a source of psychological danger, views which may themselves impact upon crowd safety; yet there has been little examination of how such "disaster myths" operate in practice".

Panic and Mass Panic

The media often use the term "panic" or "mass panic" after a disaster. This implies that there is uncontrolled emotion and selfish behaviour of crowd members, when in fact, considering all evidence, the opposite is true. (41). That is not to say that an individual in the crowd may panic and exhibit such behaviour in response to acute stress (42).

(40) states the following based on evidence of the perception of crowd behaviours in relation to panic: "**Communication with the crowd is crucial**. This in turn means prioritizing systems of communication (e.g. public address systems) over physical features such as exit widths, and providing alarm signals that are informative about the nature of the emergency. **Crowds evacuate more effectively when trusted with information** rather than treated as untrustworthy and prone to panic".

However, there is evidence to show that as escape time diminishes, the crowd will exhibit more selfish behaviour leading to less orderly evacuation. This implies that preventing such adverse behaviour remains key. So the design of the event spaces to allow sufficient physical capacity for exit is important as a basic need, but when this has been confirmed, the understanding by LEAs that **mass "panic" is highly unlikely to occur during emergency** should help to steer the communication strategy.

Pathological Crowds and Civil Disorder

The general perception from LEAs and security staff analysing crowd behaviour post-event (as directly highlighted in (40)) is often that crowds always tend towards disorder, i.e. that they are inherently irrational, people abandon their sense of personal identity. Such perceptions that the crowd is irrational and pathological affect the methods of policing (43). This perception has been shown to be false in general. The crowd in general is not "mad" and does not have a tendency to be disorderly be default as taught in many textbooks on the subject (44).This has profound implications on LEA tactics and communication procedures, whereby the crowd should *not* necessarily be seen as something that must be controlled, and that the LEA's role in a mass gathering should be there to support lawful gatherings and to facilitate legitimate behaviour[5].

3.2.2 Evidence Based Crowd Behaviours

The following crowd behaviours have been shown to be exhibited and are commonplace within crowds in general.

---

[5] http://www.bbc.co.uk/news/uk-37646972

Following Familiar Routes

The process through which people navigate through natural and built environments has been the focus of much research. Referred to as way-finding, it is a complex activity comprising navigation and locomotion, towards a destination that is either pre-determined or emergent, and with or without the use of navigational tools (23).

Crowd members are typically motivated to move to familiar places and to use routes which they are most familiar, not necessarily those which are closest or give the quickest exit time. This is true in both normal and emergency situations[6].

People have mental routes for familiar environments and use these automatically without conscious thought. According to the scripts theory, individuals are likely to develop and follow scripts or schema for familiar places and these scripts automatically govern how they behave in familiar environments. Similarly, social facilitation theory (45) would also lead to this conclusion, crowd members will typically use the exit route with which they are most familiar because when around other people, an individual's performance on easy or well learned tasks improves and hence they are more likely to perform a habitual behaviour.

More importantly, a number of studies have shown that this is in fact the case, when disasters have subsequently been reviewed (46), (47), (48). It is noted in this literature that the choice of route is a combination of factors – i.e. people are not guaranteed to head to their exit, being influenced by the perception of threat (e.g. can see fire), or the others behaviours noted in this section. However, it is a prominent behaviour that must be considered in deriving a communication strategy.

> Event organisers, LEAs, first responders and all the actors involved in the management of large crowds attending a mass gathering, should be made aware that people familiar with an environment will have a tendency to behave and move via familiar routes and that this tendency is persistent, even during emergencies. In emergencies, they should therefore provide people with clear and direct instructions about the most suitable exits and evacuation routes, and to understand whether or not this behaviour would affect an evacuation or other movement during a mass gathering (23).

Waiting for others (move towards familiar people)

During evacuation, members belonging to a group, such as families or groups of friends are typically motivated to move towards familiar people and evacuate with the entire group even when evacuation is urgent (49).

These behaviours can slow down the entire evacuation process, because they may be slower to begin evacuation with respect to the other members of a crowd (49).

> LEAs, first responders and other actors involved in the management of large crowds attending a mass gathering, should therefore be made aware that, even in emergency situations, people may wait and be looking for friends/family who have been separated during e.g. the evacuation.

---

[6] https://www.evacservices.com.au/human-behaviours-during-emergencies/

Cooperation and coordination

The effect of social identities on peoples' behaviour is crucial (see section 3.1.1): a shared social identity amongst crowd members increases the prevalence to exhibit collective behaviours (i.e. coordination, cooperation and helping behaviours) (14).

Examples of crowd members self-organising and helping one another based upon a shared group identity include [July 7th London bombings[7]], (50), (51).

(52) takes the following information from a number of sources that have based this theory on evidence obtained from mass gatherings: "A crowd's ability to spontaneously behave in a socially coherent manner without any apparent pre-planning, communication or direction can be explained by the social identity model of crowd behaviour. Therefore, **if a social identity is particularly salient in a crowd, it is more likely that individuals within that crowd will form a stronger sense of cohesion as a united group** and that their actions will be more influential over the crowd's behaviour as a whole".

> The LEA communication strategy should take into account this type of cooperative behaviour. It may be the case that, if the crowd shares a social identity, the crowd members themselves can help to prevent disasters, supporting each other during emergency and be more cooperative for the crowd as a whole (which may include LEAs and others). Creating a shared social identity within the crowd may be beneficial, and including LEA personnel within this shared identity would likely promote better cooperation and easier communication.

Inter-Group Behaviours

There are many examples of crowds that fall into different groups, such as football matches with opposing fans, opposing political groups or even protesters and LEAs present at the same protest (53).

One group's actions may be incorrectly interpreted by the other even if the group did not intend this interpretation (53). For example, a crowd at a mass gathering may act excitedly (e.g. football fans shouting and moving as they watch a game); but another group - i.e. the LEA - may interpret this as indicative of crowd disorder and may then react. This is contradictory to the crowd's intentions to watch the game and be excited and could lead to an adverse reaction such as opposing the LEA and then becoming disorderly, even though that was not the original intention. The reverse may also be true – an action by a LEA such as moving a number of police officers nearer the crowd could be interpreted as being overly aggressive, rather than precautionary and the crowd could react adversely.

> LEAs should be aware that their interpretation of crowd behaviour might be incorrect (possibly due to a preconceived notion discussed earlier) so they should consider what the actual intention of the crowd is before acting, and what the interpretation of their actions may be to the crowd. This applies not only to physical presence for LEAs, but also in the way communication is enacted.

---

[7] https://ac.els-cdn.com/S2352146514001355/1-s2.0-S2352146514001355-main.pdf?_tid=2f52cc94-10d7-11e8-b6b4-00000aab0f6c&acdnat=1518537883_2a043f89816daf0a3add208381f13a05

Starting to Evacuate

The evacuation process is composed of three main phases (54), (55):

- *interpretation*: time taken to initiate movement (the time taken to recognise there is a danger);

- *preparation*: time taken to decide which is the most appropriate course of action;

- *action*: the time taken to move towards an exit.

Especially during the interpretation phase, people have the tendency to consult other people and seek confirmation from other people that emergencies are real. This is also in line with the natural predisposition of people to believe a situation is normal for as long as possible, and so behave as usual for as long as possible (56).

Traditionally, it has been held that not telling the truth about evacuation 'if panic is to be avoided' (see above for discussion on panic). However, studies have shown that **providing information through multiple forms to the public as quickly as possible provides the best response in evacuation time** (47).

> Event organisers, LEAs, first responders and all the actors involved in the management of large crowds attending a mass gathering, should therefore provide clear and timely instructions about how to exit and why. The verbal instructions should also be accompanied with hand gestures or signs indicating which direction to evacuate in, so that people with audio-visual impairments and those who do not speak the language are also alerted and encouraged to a quick response (23).

3.3 RISK AND CRISIS COMMUNICATION

Differences between risk and crisis communication have been recognized in the early literature on the domain (57). They mainly concern: objectives, phase of the crisis, the time in which they are delivered and the type of messages issued.

Risk communication (RC) mainly is:

- Persuasive;

- Pre-crisis;

- Long term.

RC concerns the production of public messages regarding risks and environmental hazards. Messages delivered seek to induce behavioural change by presenting a threat and describing behaviour or behavioural change that may reduce the threat. They are problem–solution messages that aim at enhancing persuasion.

On the contrary, **Crisis communication (CC)** is:

- Principally informative;

- During the crisis;

- Short term.

CC seeks to explain the specific event, identify likely consequences and outcomes, and provide specific harm-reducing information to affected communities. It is a *sense-making process* where reality is negotiated and constructed together with people affected by the emergency in cultural contexts and situations, rather than top-down distributed (58).

RC is associated with the identification of risks and efforts to persuade the public to adopt less risky behaviours (58). Otherwise, CC strategically manages and frames public perceptions of an event to reduce and contain harm, providing specific information to stakeholders, initiating and enhancing recovery, managing image and perceptions of blame and responsibility, generating support and assistance, explaining actions, learning and changing (57) CC depends on situational factors (i.e. stakeholders' expectations; developmental stage of the crisis). It is carried out within a context of immediacy, threat, and high uncertainty. It aims at strengthening people's sense of self-efficacy and encouraging them to take of protective measures. Some main best practices have identified in the CC (59) such as:

- *Establishing a partnership with the public* by means of dialogical approach that envisages a two-way communication to facilitate the exchange of information during the crisis;

- *Listening to the public's concerns and understand the audience*. A number of investigations indicated that establishing positive relationships before an event is critical to the successful management of a crisis;

- **Collaborating and coordinating with credible sources;**

- **Meeting the needs of the media and remain accessible;**

- **Accepting uncertainty and ambiguity;**

- **Issuing messages of Self-Efficacy.**

However, as underlined by Palttala et al. (60), goals of the emergency communication may generate conflicts since they try to answer different needs at the same time, both at public and institutional level, i.e. rescuing people and reduce harm on one side, and limiting reputational damage on the other side.

In order to offer an integrate perspective, Reynold and Seeger (57) proposed a comprehensive model – called **CERC (Crisis and Emergency Risk Communication Model)** (61) - that incorporates both risk and crisis communication. The model covers all the crisis phases by identifying five steps in which communication should be deployed, i.e. I. Pre-crisis; II. Initial event; III. Maintenance; IV. Resolution; V. Evaluation. This "communication lifecycle" (see Figure 1) allows helping communicators to anticipate information needs of the media, agencies, organizations, and the general public. CERC suggests which types of information have to be created and delivered to the specific audience. This successful model has been embedded into processes and protocols currently used by many organizations in several domains, including LEAs.
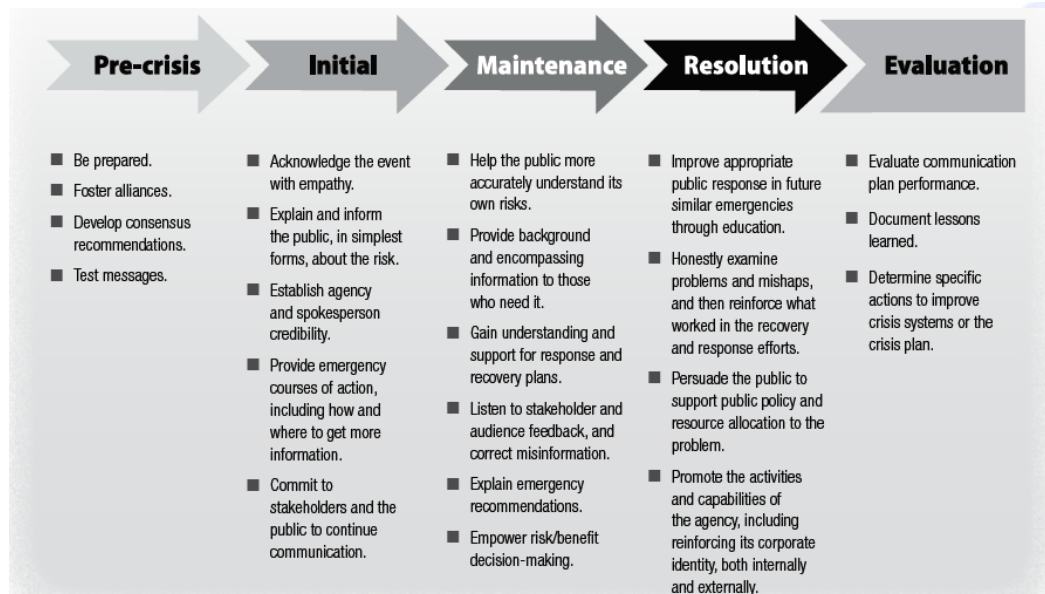
Figure 1: Crisis and Emergency Risk Communication (CERC) Lifecycle

Most recent approaches tend to unify the two types of communication (RC and CC), speaking more generally about "Disaster Risk communication" (DRC) (4). DRC is described as a social process, aiming at preventing and mitigating harm caused by disaster, preparing the population, disseminating information during disaster and nurturing the recovery. This approach underlines the importance to enable a two-way communications with the public affected, in order to facilitate the exchange of information on emergency between the communication staff, the affected people and the first responders. A growing amount of empirical investigations (62) show that a two-way dialogue between the public and professionals is more effective than the traditional unidirectional model of risk communication that was typically one-way and top-down.

Areas of innovation in the DRC concern several aspects regarding technology infrastructures, new communication patterns to reach specific audience (e.g. "millennials") and the citizen participation (62). The development of digital technologies and platforms are contributing to foster a more *people –centred approach*, linked to people's needs, socio-cultural characteristics and information practices. In particular, the use of social media has led new ways of delivering better targeted risk information to diverse publics overcoming multicultural and multi-jurisdictional barriers.

4   Collecting LEAs and first responders' communication procedures, practices and needs: methodology and main results

4.1   LEAS' EMERGENCY COMMUNICATION PROCEDURES

The review of the communication procedures and processes that LEAs involved in the LETSCROWD project currently use allows identifying already existing recommendations and missing points.

One of the most structured procedures is the IPO – Security Planning model (63) that includes communication as one of the five key concepts of the governance (together with leadership, structure, coordination, and legacy) in charge of leading, planning and implementing security measures for major events. The other procedures are mostly documents internal to the several organizations – often written in the local language – that LEAs selected and shared in the consortium for the project purposes.

Some main topics have been identified across the reviewed documents. They can be reported as follows:

Communication Roles and Responsibilities

Relevant differences among countries have been recognized in the communication management for major events, such as:

- In Belgium a "crisis center" (a service of the *Federal Public Service Domestic Affairs*) is responsible for the emergency planning organization and coordination. Communication is carried out by the "communicator" of the level announced (municipality, province or national). However, a strong coordination is requested among all levels. Communication is not a police's task;

- In the Basque Government, domain-specific offices - hierarchically organized – manage communication (e.g. Office of Cabinet and Communication of the Basque Government; Communication Directorate of the Security Department; The Directorate of Emergency Care and Meteorology, etc.). The *Communication Directorate*, in particular, coordinates general information to citizens in case of emergency.

Distinction between internal and external communication

- *Internal communication* (among stakeholders involved). It aims at 1. Enhancing coordination; 2. Allowing authorities to disperse information; 3. Keeping everyone up to date and help in terms of understanding what is expected in operational terms;

- *External communication* (with the crowd/ public). It aims at 1. Enhancing public confidence and community trust; 2. Minimizing potential harm to the reputation of the event security organizers; 3. Providing security-related information and public reassurance; 4. Keeping media informed.

Main communication functions, during the emergency

- Alerting;

- Situation and evolution updating;

- Informing (e.g. phone number to call);

- Providing measures that the target groups should observe;

- Adopting a "tactical communication", taking into account psychological characteristics of the crowd.

Public/ Audience

- Target groups are identified on the basis of the level of involvement in the emergency (i.e. directly involved population; Involved population; population in general); OR

- The distinction is between the *public inside* a designated security arena and *outside*;

- The identification of target audience is high recommended to enhance communication effectiveness.

Communication channels

Pre-crisis

Several direct communication channels (e.g. mobile APPs; social media – twitter) are setup by public authorities (including LEAs) to strengthen a trusted relationship with citizen in the ordinary time. Their use from citizen supports the idea to be part of an "open government" focused on pillars as transparency, participation and collaboration. Confidence built by means of these specific communication tools supports and improves communication between authorities and public also in critical situations.

In the pre-event phase it is highly recommended to test the *Public Warning System* that will be used in case of emergency (64). Test allows at: a) increasing the public awareness of the system so that citizens can recognize it; and b) reassuring the public that the system works in proper order when needed.

During a crisis - Warning systems

Public Warning System (PWS) can be defined as "the capability to bring to the immediate attention of all people who might be directly impacted following the onset, or predicted onset, of an emergency so that they can take action to mitigate the impact of this incident" (64). In general, a multi-channels approach is proposed because there is not a single technology solution or channel that fits all of the requirements for the timely notification of an emergency incident to all people affected. In few cases – within the LEAs' procedures - specific channels and related communication functions were mapped according to the target groups.

Suggestions to deliver effective messages

Technical solutions and suggestions to develop effective key messages are identified and provided, for instance:

- People should be kept honestly informed and updated;

- Authorities should objectively highlight the risks and issues but promote the counter measures too;

- The reason for certain restrictions has to be explained in simple terms and stressing their temporary nature;

- When an incident occurs, a detailed message template/ map should be available to support the message creation.

Evidences and gaps

From the LEAs' communication procedures review, some evidences and gaps can be recognised, as follows:

- Heterogeneity across LEAs' procedures concerning the level of details provided. A first objective could be collecting and sharing practices, methods and recommendations across LEAs;

- Even though targeted communication is highly recommended, methods or tools to identify target groups are generally missing;

- Low attention paid to "vulnerable groups". They are rarely mentioned in the procedures explored;

- Crowds' socio-cultural characteristics are usually not taken into account. Spoken language (i.e. foreign language or specific dialect) is the only socio-cultural aspect sometime pointed-out;

- There are not specific recommendations for communicating in specific types of mass-gathering events (festival; concerts; etc.);

- Recommendations are usually very generic and they do not provide information on how the specific action has to be carried out.

4.2   DATA COLLECTION METHODS

4.2.1   T5.2 Workshop with LEAs

The T5.2 workshop on Innovative communication procedures was carried out in Rome during the first LETSCROWD plenary meeting (21-09-2017). It involved two LEAs and one emergency service participating in the project, i.e.: Ertzaintza – Gobierno vasco – Departamento de Seguridad (2 participants); Ministero dell'Interno – Italy (1 participant) and the European Emergency Number Association (1 participant).

The workshop was mainly aimed at collecting LEAs' experiences in communication in mass-gathering events (pre-event and execution phases). Discussion focused on:

- practices and communication strategies currently used for preparing and managing mass gathering events;

- practices/ methods used to understand the crowd composition;

- socio-cultural aspects in crowd behaviour that are relevant for emergency communication.

During the workshop detailed notes were taken to inscribe the discussion content.

4.2.2   Interviews

Eight qualitative interviews have been carried out with LEAs and emergency services involved in LETSCROWD to understand the current communication experiences and practices applied to mass gathering events. Among them:

- 2 with emergency services (European Emergency Number Association – Belgium – **EENA**; SMURD – Department of Emergency Situations - Ministry of Internal Affairs – **MAI**);
- 6 with LEAs (Policía Municipal de Madrid – Ayuntamiento de Madrid – **ADM**; Hochschule für den Öffentlichen Dienst in Bayern – Bavarian Police - **BAYHfoeD**; Ertzaintza – Gobierno vasco – Departamento de Seguridad - **ERTZ**; Italian Ministry of the Interior- Polizia di Stato - Department of Public Security – **INTERNO**; Local Police Voorkempen – Lokale Politie Voorkempen – **LPV**; Ministerio da Administracao Interna - Polícia de Segurança Pública Portugal – **PSP**)
- 1 with an expert on crisis communication (National Crisis Centre – Belgium – external to the LETSCROWD project) who usually collaborates with EENA.

The interviews were conducted through WebEx meetings, lasting 1 hour and half.

The interviews objectives were the following:

Obj 1: Understanding the type of communication to be applied **with regard to several types of mass-gathering events** (pre-event and execution phases, during normal as well as critical situations);

Obj 2: **Recognising socio-cultural issues affecting the communication**, when managing a multicultural crowd during a mass-gathering event, especially in case of emergency;

Obj 3: **Collecting best practices** on communication strategies gathered in the management of multicultural crowds;

Obj 4: **Identifying innovative communication solutions** to exploit positive crowd behaviours during a mass-gathering event;

Obj 5: **Identifying "unsatisfied" needs** related to the communication with multicultural crowds, especially in case of emergencies.

According to the Obj1, the interviews started with the identification – by each LEA and emergency service – of a specific type of mass-gathering event to be discussed from the communication perspective. The events have been chosen among the selected real life examples proposed by LEAs and included in D2.2 (see section 5 for their short description). All the real life examples could be regrouped into five main categories of mass-gathering events, i.e.:

- Festivals;

- Religious or traditional celebrations;

- Concerts;

- Sporting events;

- Political events (e.g. demonstrations).

The general aim was to concretely discuss communication strategies applied (or to be applied, in case of the identification of new solutions) to a specific kind of event as representative of a certain category.

TABLE 2 includes the timeline of the interviews carried out, the participants involved and the type of event (category) discussed.

List of interviews	Date	Participants	Type of organization	Interview type	Type of event discussed
INTERNO	7.12.2017	2 Public Order Unit Managers – Polizia di Stato – Italian Ministry of Interior 1 VQA (vice adjunct police commissioner) – Police forces Coordination and planning - Polizia	LEA	- Group interview - Face-to-face	National sporting event

		di Stato – Italian Ministry of Interior			
MAI	14.12.2017	1 Communication Adviser for the Secretary of State - Department for Emergency Situations (SMURD) – Romanian Ministry of Interior	Emergency service	- Individual interview - WebEx meeting	National religious pilgrimage and celebration (pilgrimage in the eastern Romanian city of Iasi)
PSP	19.12.2017	1 Subintendent – Chef of the Cooperation and Analysis Division 1 police officer Ministry of Home Affairs - Public Security Police - Portugal	LEA	- Group interview - WebEx meeting	National sporting event (i.e. Final Football Cup);
ERTZAINTZA	09.01.2018	2 police officers 1 Communication Director Security Department – Basque Government	LEA	- Group interview - WebEx meeting	International sporting event (European Rugby Champions Cup Bilbao)
BayHfoeD	09.01.2018	1 police officer – University of Applied Sciences for Public Service in Bavaria Department of Policing	LEA	- Individual interview - WebEx meeting	International Festival (i.e. Oktoberfest - Munich)
PLV	11.01.2018	1 Chef of Police Forces 1 police officer Voorkempen Police (Belgium)	LEA	- Group interview - WebEx meeting	International sporting event (i.e Cyclocross - Malle); Festival (i.e Tomorrowland)
EENA	16.01.2018	1 Project Manager - European Emergency	Emergency service	- Individual interview	At general level (e.g. overview of the use of

		Number Association – EENA 112 (Belgium)		- WebEx meeting	the social media during an emergency)
ADM	18.01.2018	1 police officer – International Division - General Directorate of Municipal Police Government Area of Health, Safety and Emergencies – Madrid (Spain)	LEA	- Individual interview - WebEx meeting	International Concert (i. e during the San Isidro feast – Plaza Major)
NATIONAL CRISIS CENTER – in collaboration with EENA	08.02.2018	1 crisis communicator (spokeman) of the at National Crisis Center (Belgium) – coordinator of the Belgian crisis communicators	National Crisis Center	- Individual interview - WebEx meeting	International festival (i.e Tomorrowland)

TABLE 2 –Overview of the qualitative interviews with LEAs and Emergency services participating in LETSCROWD

The interviews were semi-structured and organized in main sections concerning:

- **General information** about the event (i.e. main actors involved in the event management, also including the communication domain; availability of a communication plan; crowd composition; crowd motivation; environmental conditions/ physical design of the venue; ingress, circulation and egress conditions);

- **Communication approach in the Pre-event phase** (e.g. communication scopes; comm. flow; comm. strategies used to prepare the public to the event; tools used to collection information about the crowd expected for the event; main comm. channels; types of messages delivered);

- **Communication approach in the Execution phase** (both in normal and in critical situations) (see above: same sub-topics explored in the pre-event phase);

  o Identification of *hazards and threats* that may occur during the scenario, increasing the risk of an emergency.

- **Socio-cultural aspects** affecting the communication both in the pre-event and in the execution phases;

- **Successful communication strategies** applied in past experiences to exploit positive crowd behaviours during an emergency;

- **Innovative communication strategies and solutions** to overcome socio-cultural issues and critical crowd behaviours in the pre-event and execution phases in case of emergency;

- **Unsatisfied needs** related to the communication management of multicultural crowd;

- **Other general questions** (e.g. involvement of the public as partner in the co-construction of the crisis communication strategy; training in socio-cultural aspects concerning the communication with multicultural crowds).

The interviews were audio-recorded, after having collected the informed consents from the participants. For this purpose, a specific informed consent form was created in agreement with the consortium coordinator and signed by each partner before participating in the interviews. During the interviews, one researcher did the talking, while the other took written notes.

The interview template (a power point presentation used for the discussion) and the informed consent form are provided in the ANNEX B - 11.1 and 11.2.

4.3   DATA ANALYSIS

A thematic analysis of the interviews collected and the notes taken during the workshop has been carried out, in order to identify the key themes and recurrent issues concerning the topics explored both in the interviews and workshop sections (see 4.2.1 and 4.2.2). At this step, all the themes came out from the data have been taken into account in order to provide a broad overview of the current practices and strategies adopted by the participants to communicate with the crowds in mass-gathering events.

In the following sections of the document, results are organized in general cross-sections with regards to the main topics explored in the interview (see 4.2.2).

It is important to point out that not all the five categories of mass-gathering events identified were discussed in the data analysis and in the specific communication guidelines (see section 4.2.2). That is why not enough data concerning concerts, religious/ traditional celebrations and political demonstrations have been gathered. Thus, this deliverable addresses only sporting event and festival.

4.4   SOME PRELIMINARY FINDINGS

From the data analysis some introductory results can be discussed, offering a general framework to the other specific findings that will be presented in the next sections.

Discussing with LEAs, they highlighted some aspects to be taken into account when thinking about communication with the crowd in mass gathering events. They concern:

- the **distinction between mass-gathering events directly managed by LEAs and those organized by other stakeholders** (e.g. sponsor or event organizer or promoter). In this last case, LEAs and first responders are partners among the others. This is a very relevant point affecting the communication both in the pre-event and execution phase, including crisis communication. When the event organizer is managing, it will directly communicate "with its crowd" (LEA, workshop, 21-09-2017) to inform people about actions to be carried out and how to behave. LEAs, first responders (e.g. fire brigades, medical services, civil protection, etc.) and the other stakeholders involved will be coordinated and work together in the backstage to guarantee the effective management of the crisis. A unique external

communicator is a more effective solution rather than fragmenting the communication among several stakeholders. **This point represents a critical issue in the current version of the LETSCROWD communication guidelines, where the event organizer's point of view is missing because, in general, the project is mainly focused on LEAs' perspective**;

- the relevance of the **pre-event phase** and the need to establish a **communication plan** that is agreed among the stakeholders. It aims at setting the communication strategy in which stakeholders' roles and responsibilities are well defined, thus enhancing the coordination and the communication effectiveness. "Communication is a cycle, and the crisis communication does not concern only the execution phase of the event. It has to start early, providing information before the event and identifying the different tools that could be used" (interview, Belgian National Crisis Center, 08-02-2018). The communication plan has also to consider different communication measures with regards to diverse types and sizes of events. In the case of the sponsor is responsible for the event, it is also in charge of providing the communication plan;

- the distinction between "planned" (e.g. sporting events) and "unknown" events (e.g. free festivals). If in the first case, formal or informal leaders can be more easily identified to enhance the communication effectiveness and thus supporting the event monitoring and management. In the second case only generic advices can be provided on the available communication channels. This topic highlights the need to identify key roles within the crowd in order to optimize the information spreading. **LETSCROWD communication guidelines will cover only the management of planned and known events.**

4.5 COLLECTING EXPERIENCES: SUCCESSFUL COMMUNICATION STRATEGIES

Engaging citizens by enabling a two-way communication flow

At general level, it was pointed out that the relationship between LEAs and people is something to be worked out and improved. People's good perception of LEAs is not obvious (workshop, 21-09-2017). Trust needs to be constructed and strengthened also by means of specific communication strategies that increase the possibility to easily interact with the police in the daily life, asking and receiving back answers on specific issues concerning their domain. LEAs should be able to speak people's language. It means efficiently interacting with different groups of people and being competent of their specific socio- cultural characteristics (workshop, 21-09-2017). A successful communication approach in the daily life or in the pre-event phase enhances the communication during a crisis.

For this purpose, some successful experiences have been collected and told by LEAs. They essentially concern **how people can enhance their preparedness to be able to properly behave** during a mass-gathering event, both in normal situations and when something critical occurs. The market plays a crucial role in fostering people knowledge on two-way communication channels set up for supporting communication between public and stakeholders in charge of the security. Once a mobile app or a specific social media account has been created to enable communication with public, it needs to be disseminated, spread out by marketing campaigns carried out by the responsible public authorities. Furthermore, these channels have to be active everyday, to gain trust by the people and maintain digital reputation.

Several LEAs mobile apps have been developed to engage citizens and fostering the idea to be part of more transparent governments. These Apps[8] usually allow to: anonymously communicate information to police; find police stations in Google map; communicate with police in normal situations by means of phone, email, SMS, WhatsApp, Twitter; communicate with public in emergency situations through the emergency telephone number (112) and the other channels above; read news and advices from police.

Mobile Apps introduced and trusted in the preparation phase have strong chances to be rightly used when a critical situation occurs. Furthermore, to increase their effectiveness in case of emergency, a successful strategy consists in enabling more mobile Apps working contemporary to support communication between public and stakeholders. For instance in Spain, the LEAs mobile App usually works in coordination with the Civil Protection Mobile App. They are complementary and synchronized and managed by a central crisis centre.

Another side of the two-way communication flow concerns **people as "sensors"**, capturing and reporting information directly from the crowd. People can be involved to gather information on the field by means of specific tools. The most suitable - identified by LEAs – are:

- Links to upload pictures and short videos;
- Trusted accounts to share information;
- Synchronized WhatsApp;
- Mobile Apps.

However, ethical and security issues arise when talking about this possibility. LEAs' concerns mainly address the matter that people need to be safeguarded and not exposed to dangers.

An example of citizens' participation and its management by LEAs comes from the Bavarian police and refers to the Munich shopping moll shooting in 2016[9] (65). In this case, the construction of a *Community policing* strategy close to the citizens, especially to the minority groups (refugees – migrant communities) by the Bavarian police in the time before the attack occurred, allowed to gain trust, accountability, collaborative working and to positively enhance the perception people had of the police. An increased use of social media use (e.g. twitter) by the police in the daily routine contributed to strengthen the relationship with minority communities that usually do not use traditional communication channels. This built "communication culture" had a relevant role during the shopping moll incident. In this case, the police-citizen partnership improved the capability to face and contrast misinformation and untruthfulness of the communication distributed in the social media, and to send effective messages to citizens (e.g. tweets requesting the people to *stay away* from the venue or to *stay at home* or to *not upload any picture or video that could be used by the criminals*). Furthermore, tweets of the Munich police department were often mentioned and retweeted, confirming the trust gained by police and its leading role in sharing information and - so doing - in coming down the crisis escalation trough the communication.

---

[8] See, for instance, the *Ertzaintza Police App*:
https://play.google.com/store/apps/details?id=com.gvdi.b70.ertzaintza&hl=es_419

[9] See https://www.theguardian.com/world/2016/jul/22/munich-shopping-centre-evacuated-after-reported-shooting-germany

4.6 IDENTIFYING NEEDS AND GAPS

From the workshop and the interviews analysis, some main gaps and needs - concerning the communication with the public in mass-gathering events - have been identified.

At general level, it was pointed out that a communication strategy for the preparedness of people participating in religious pilgrimages and traditional celebrations and involving thousands of people is often missing. These types of events rarely can count on systematic communication approaches.

Other gaps refer to specific key elements of the communication process, especially:

- The *time taken to answer to the people's requests* during an emergency. As LEAs explained in the interview taking into account people's point of view: *"Every second is too long when you are waiting"*. The time depends on the LEAs' capacity to answer, to provide useful information in the right time. According to LEAs, this capacity could be improved;

- The *type of information provided by LEAs to the people*. People have specific expectations on the information they need. They ask for detailed information. On the contrary, often LEAs are able to provide only the main information, because the time is missing. This gap is frequently perceived as frustrating by LEAs.

- **Socio-cultural aspects that could affect the communication with the crowd**. LEAs are usually not trained in this domain and the socio-cultural aspects are not taken into account when communication measures and solutions are developed. They especially highlight the importance of the non-verbal language (i.e. eye gaze, voice volume, proximity, hand gesture, facial expression, posture) when communicating with people: *"It could be a point of interest to know how we can use this to manage the event and especially during a crisis. It is certainly interesting to know how we can use this kind of info to improve our way of working"*, and *"Of course if we have guidelines and training program on how to use these things, I think that a lot of people will be quite happy. It will be something new for us because we should consider them but no-one tells us how"* (interviews with LEAs).

Other needs are related to **new context-based communication solutions** to be worked out and applied to certain types of mass-gathering events held in venues with specific physical characteristics that do not allow to easily communicate with people, i.e.: a written system to communicate with a non-cooperative crowd in the case of demonstrations.

5 Key elements of the communication process

This chapter includes the description of the communication model and its key elements used to organize the structure and the content of ICP/ communication guidelines.

"Communication is a process of reaching mutual understanding, during which participants (communicator and audience) exchange, create, and share thoughts, opinions, and information (A/N message). Effective communication requires an understanding of the audience, the goal, the message, and the most effective way to achieve the desired outcome (A/N channels). […] Effective communication is a two-way activity. Listen to your audience and acknowledge their concerns." (66). Therefore, every communication activity is a circular process where communicator and audience, in turn, take on the roles both of the communicator and audience.

Communication includes **verbal**, **paralinguistic** and **non-verbal** aspects. If the first concerns the communication content (w*hat*), the second and the third elements regard *how* the communication

is carried out. Tone, volume, rhythm and timbre of voice are paralinguistic elements. Gestures, facial expression, wearing and personal space distance are components of the non-verbal communication. They complete the verbal content, for instance by strengthening it (e.g. with gestures), communicating an emotional state (e.g. with the voice tone or the facial expression) or attitudes towards others (e.g. with the gaze direction or the physical closeness) (2).

When communication takes place among people belonging to the same culture, it satisfies an extensive set of behaviour rules that are taken for granted. Despite this, the communication is anyway a complex process that needs to consider all the elements described above to be effective. On the other hand, the communication among people from different cultural backgrounds (i.e. intercultural communication) implies the relationship among different *fields of experience* (see section 5.11). They refer to different communication skills, that are effective and relevant to communicate in the socio-cultural contexts to which they belong and not automatically in others as well (2).

These aspects have been taken into account in the LETSCROWD communication guidelines (ICP) that aim at supporting security operators and first responders' intercultural competences for an effective multicultural crowd management in case of emergency. In the ICP, mainly the verbal and non-verbal aspects of the communication have been explored.

The figure below (Figure 2) presents the communication model used to organize the ICP structure and content, and its key elements. The model has been created working out inputs from (22). Awareness on these key elements enables the identification of the most relevant influencing factors in communication.
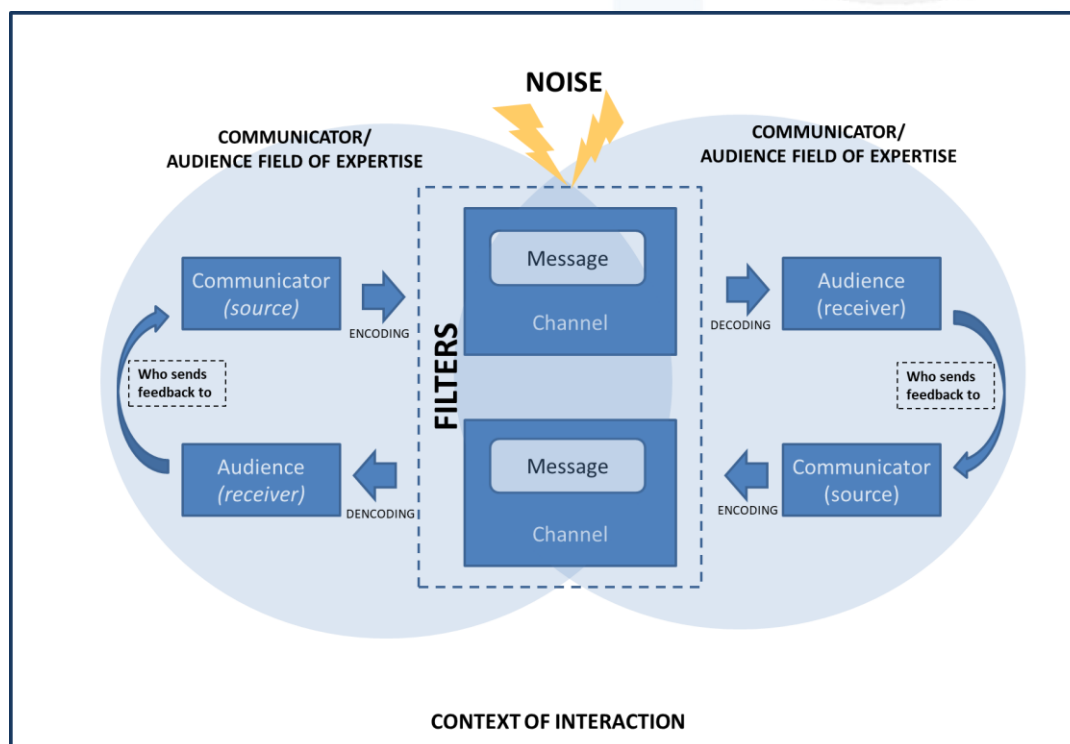
Figure 2: Communication model

As shown in the figure above, the communication key elements are:

1. Communicator;

2. Encoding;
3. Message;
4. Channels;
5. Filters;
6. Noise;
7. Decoding;
8. Audience;
9. Feedback;
10. Context of interaction;
11. Communicator/ Audience's field of expertise;
12. Shared experience (between communicator and audience).

They will be described in the following sections as basic elements to start the communication guidelines development. They refer both to the pre-event and execution phase of a mass-gathering event. Each section includes some *triggering questions[10]* (67) that can be used to help ICP users focus on essential issues (Table 3, Table 4, Table 6, Table 7 and Table 8). They can be utilized as checklist when setting-up a communication strategy.

5.1 COMMUNICATOR

The communicator is the *source* of the information, where the idea comes from. When communicating with a crowd, any communicator at any level (e.g. international, national, local) has to consider the entire key elements of the communication model (see Figure 2), as they all contribute to the communication effectiveness.

Source trust and credibility are key principles of a successful communication (66). In order to ensure a proper level of preparedness and a prompt response to an emergency, communicators have to be recognized as "trusted sources" from the event attendees. Trust could depend on direct experience as well as historical, socio-cultural, or legal reasons.

In the pre-event phase of a mass-gathering event, stakeholders in charge of the communication with the crowd (i.e. communicators) have to develop a communication plan/ communication strategy in which – together with communication purposes, channels to be used, and type of information to be delivered -, roles and responsibilities of all the stakeholders are clearly defined. Stakeholders need to work in cooperation to assure a powerful communication. When preparing a big event, three are usually the levels of crisis communication that should be coordinated: the National level (National communicator team); the local level (governor and/ or the major team) and the event organizer's communication team. For this purpose, prior coordination meetings among the event organizer (i.e. the main communicator) and the other stakeholders should be organized to prepare and discuss all the aspects concerning the event, among them "what happens if", "what can be done for".

An analysis of the situation, crowd composition, context and risks has to be carried out before setting-up the communication strategy. Successively, the event organizer will carry out the communication with the public according to the measures identified. A unique external

---

[10] Triggering questions were mainly selected from the *Darwin Management Resilience Guidelines* (https://h2020darwin.eu/wiki/page/Interacting_with_the_public_not_yet_involved).

communicator is a more effective solution rather than fragmenting the communication among the several stakeholders involved.

Table 3: Communicator – triggering questions

Pre-event phase

- Do we have a crisis communication plan or a communication strategy that gives guidance on who and how to communicate?
- Are relevant roles aware of their responsibilities on communication?
- Is our communication plan sufficiently coordinated with other relevant authorities/organizations?

Pre-event and Execution phases

- Does our communication strategy adequately encourage trust and acceptance by the public?
- Is our information presented in a way or place that makes it trustworthy?

5.2   ENCODING

Encoding means converting or translating the idea into a perceivable form that can be communicated to others.

5.3   MESSAGE

The message is the information or idea that is communicated. It can be oral, written, symbolic or non-verbal. Concerning the content of the message, a balance must be achieved between what the audience want to know and what the communicator feels the audience ought to know (22).

A messages map to support the message creation needs to be prepared in advance for making sure that messages correctly reach the public. It has to be related to likely incident scenarios that could occur in the event. Scenarios should be identified in advance in the communication plan. Even if the communication is context-based and changes according to the critical situation, few basic instructions can be identified. The most relevant is that messages have to consist in simple and short sentences delivered in time to take appropriate actions. It is important to bear in mind that cultural and linguistic appropriateness of messages should be always guaranteed and verified (see section 3.1.1.2).

Alerts and warning messages should be created and tested in advanced to be properly used during critical situations. Alerts are necessary to gain people's attention that an emergency is taking place, they are usually provided separately from the warning messages (25).

Warning messages are generally used to provide people with up to date information about the state of an emergency and to indicate how to behave in response to the critical situation.

A **template for writing warning messages** is provided in ANNEX A - 10.3. It is an effective tool that can help the message creators to keep in mind all the relevant information for creating an effective warning message. To be sure that the audience has the necessary information to take actions and make decisions, a warning message delivered during critical situations should contain five important topics (25):

- Who is providing the message? (the communicator)

- What should people do? (guidance on the actions that people can do to protect themselves and others and not to cause any greater harm to the situation)

- Why do people need to act? (information on what is it happening)

- When do people need to act?

- Where is the emergency taking place?

(25) highlighted that in emergencies people are **information seekers** because have the tendency to consult other people and seek confirmation from others that emergencies are real (see section 3.2.2). Therefore, it is important to ensure that the entire audience is able to receive the alerts and the warning messages at the right moment. Some strategies might help to issue the warnings can reach the majority of the audience directly involved in the venue by adopting a multi – channel strategy and by ensuring the redundancy of the messages.

Table 4: Message – Triggering questions

Pre-event and Execution phases
- What should the content be? What are the audience's expectations? (22)   - What form should the message take? How can the message be put into the words, pictures or symbols that the audience will understand and take notice of? (22)   - Have we considered in which languages the information needs to be communicated?   - Do we need to disclose more information and be more transparent to increase acceptance and trust by the public?   - Do we have a strategy to counter misinformation and fake news?

5.4 CHANNELS

Channels are the means of transmitting the message to the audience. Once the communicator has encoded the objective of the communication into a message, the next step is to select a suitable medium for transmitting it to the audience. Channels may vary according to the type of events. Thus they should be selected taking into account the purpose of the communication, the audience and their availability in the venue. **A multi-channel approach is highly recommended in emergency communication** (4) **to disseminate the warning messages by using a combination of audible and visual means.** Face to face communication should always accompany the audible and visuals warnings. Increasingly, police and emergency services have adopted a two - way communication with the public by incorporating social media and apps in their communication plans to disseminate warnings during critical situations. Social media can enable the exchange of information among people, LEAs and the other key stakeholders involved. Social media can be used to build communities in order to (4):

- Allow people to report and disseminate emergency news and information;

- Facilitate people sharing and seeking information during critical situations.

The table below reports the main channels used for the external communication with the public directly involved (inside and outside the venue) in the preparation and execution phases of the event.

COMMUNICATION CHANNEL	DESCRIPTION	EVENT PHASE IN WHICH THE CHANNEL CAN BE USED
Face-to-face communication (verbal and non-verbal codes; e.g. stewards)	Direct contact between personnel and the public is an important communication channel, particularly in emergencies. Personnel should give people clear and concise directions, instructions and advice during normal and emergency situations. Staff with any safety role should be easily identifiable by wearing high-visibility items of clothing. These allow the public to seek them out as a source of assistance and to recognise their authority when appropriate.	Execution phase
Public announcements (PA) (public address system)	PA system is a vital channel of communication with the audience. It can be used to inform and direct people. The messages should be clear, audible and intelligible for everyone of normal hearing in all parts of the venue, including people in the immediate surrounds.	Execution phase
Information displays boards (electronic boards, visual panels, dynamic/ mobile displays, giant screens)	Information displays boards represent handful tools to increase spatial awareness. They can used to provide up-to-date directional instructions, and the position of rescuers and safe areas. During an emergency they can reinforce the warning messages and give information to those who have hearing impairments or speak other languages and may not understand the message delivered through PA system.	Execution phase
Websites	Website is a helpful tool for informing the public about logistic, public transports, traffic restrictions and for providing people with the general security measures applied inside and outside the venue.	Preparation phase
Social media (Facebook; twitter)	Social media are highly interactive digital tools that encourage interaction and dialogue between users, creating a common space of dialogue and a constant flow of information (4). On the other hand, social media can be sometimes difficult to manage during complex critical situations. Dedicated social media channels can be used in both the preparation and the execution phases to deliver specific message to the audience. Social media channels like Twitter are more and more used by the emergency services to disseminate alerts and warnings. They are really useful to reach specific target audience.	Preparation and Execution phase

Cell broadcasting (text messages)	Cell Broadcast (CB) is a helpful channel that can overcome language barriers because it allows sending text message to a large number of subscribers, including visitors from other countries in their desired language (64).	Execution phase
Safety signs placed in the event venue (e.g. emergency exit/ escape route signs; first-aid signs; warning signs; etc.) and hand signals.	Safety signs are critical to enable people to navigate around them efficiently and effectively in the venue. They should be sufficiently large, clear and readable by the audience inside venue. Safety signs should be placed in locations where people can easily notice them. During emergencies flashings lights, as opposed to static lights can be used to grab people's attention to the visual warnings (25). Hand signals represent gestures and movements adopted by the security staff on the ground to communicate with the public during the event execution.	Execution phase
Mobile Apps	Dedicated mobile apps – expressly set up for the event - can be used both in the preparation and the execution phases to deliver specific message to the audience such as: logistics, traffic changes, safety measures, news, etc.	Preparation and Execution phase
Traditional media (Newspapers, international/ national/ local press; TV) – unidirectional	Traditional media can provide information about the event logistic, public transports, traffic restrictions. Radio and TV are only capable of reaching citizens when they are listening or viewing. (64)	Preparation phase
Contact centers/ Call centers (Unique Emergency Number – 112)	Contact centers represent direct channels to contact emergency services during critical situations. It is a useful channel to enable two-way communication. At European level a unique 112 application do not exist yet (64).	Execution phase
Alert system	Alert systems are generally powerful tools for communicating with the audience directly involved during a crisis situation. They are normally used by the governments to inform a large number of residents, through different channels at the same time: spoken calls, text messages; mails. An example of alert system used by the POLITIEZONE BRECHT-MALLESCHILDE-ZOERSEL (LPV) in Belgium is *BE-ALERT* (http://www.be-alert.be/).	Execution phase
Promotional materials (leaflets, posters)	Printed and promotional materials can provide information about the event, the layout, the venue entry details, safety and security measures, etc. Printed and promotional materials can be translated in the major languages spoken by people attending the event to ensure that no English proficient people can be informed.	Preparation phase
Sirens/ loudspeakers	Sirens and loud speakers are generally used during the	Execution

	event execution, especially during emergencies, to inform and direct people to the nearest emergency exits or safety areas. Loudspeakers should be placed at strategic points in the venue to be effectively used by security staff, police and stewards for urgent communication. They can work as a back – up in the PA system fails (68).	phase
Neighbourhood meetings	Neighbourhood meetings are generally organized by the event organiser in case that the event venue is close to neighbourhoods. They aim at increasing the people's event awareness and getting their support and cooperation in case of e.g. noise disturbance, thousand people camping and moving.	Preparation phase

TABLE 5 – Main Channels used for the external communication with the public directly involved (inside and outside the venue) in the pre and execution phases of the event

A **communication channel template** is available in ANNEX A - 10.2 for mapping out the communication channels suitable to communicate with the audience taking into account both the channel characteristics and the audience needs and specificities.

Table 6: Channels – Triggering questions

Pre-event and Execution phases

- Through what kind of channels are we able to communicate?
- Are people aware of where they can access the information?
- Do we use communication channels that people already use every day?
- Are the communication channels sufficiently up-to-date?
- Does the selection of our communication channels take into account the target stakeholders?
- Do our communication channels risk being overloaded?
- What are the receiver's expectations? (22)

5.5   FILTERS

Filters can inhibit and interrupt the communication process. It is highly recommended to take them into account when designing the communication with multi-cultural crowd, especially in case of emergency.

The main filters categories depend on:

1. **Major socio-cultural factors** (i.e. social identity; ethnicity/ cultural group belongingness; nationality) affecting both the verbal communication (e.g. oral and written language; pictograms) and non-verbal communication (e.g. gestures, facial expression, wearing, personal space distance). They influence the comprehension and understanding of messages (verbal and written), signs comprehension and situational conditions (e.g. critical situations).

2. **Individual characteristics**, that can be related both to social components (e.g. level of compliance with the authority; risk perception) and physical ones (e.g. hearing/ visual impairments, use of drugs and alcohol).

Filters act on three main stages of the response to a message:

- **Attention** concerns the level of consideration/concentration paid by the audience to the information they receive;

- **Comprehension/ awareness** is related to the right understanding of the message provided within the communication interaction;

- **Belief of information: a**ctors involved in the communication process have to believe the information (in other terms, information have to make sense for them) in order to act properly according to the situation.

<div align="center">

Table 7: Filters – Triggering questions

</div>

Pre-event and Execution phases
- Is the audience able to understand the information (e.g. use of complex probabilistic models, language barriers etc.)?   - Is our information sufficiently accessible to the public?   - Is our communication adequate to meet the actual needs of the public/media?

5.6   NOISE/ INTERFERENCES

Interferences are environmental factors that can interfere from rightly receiving emergency information (i.e. promptly, timely, from a trusted source, clearly understandable). In emergency situations they can inhibit individuals from receiving the correct information.

Noise and environmental factors might vary according to the type of the event (indoor or outdoor) and the phase of the event (execution in both normal and emergency conditions). They can be:

- visual/ audible pollution (noise; loud music);

- weather conditions (storm; rain, wind, fog);

- environmental cues from the emergency (e.g. smoke, flames from a fire, loud-sounds, physical obstacles);

- visual clutter (e.g. too much information in the environment dispersing attention).

5.7   DECODING

Decoding is the audience's interpretation of the communicator's message. The audience interpret the message received, trying to understand it, and decide which is the most appropriate action to undertake. The decoding phase is affected both by filters (see section 5.5) and noise/interferences (see Section 5.6). Effective communication occurs only when both the communicator and the audience assign the same meanings to the message, achieving a shared understanding of the situation.

5.8   AUDIENCE

Audience is the receiver of the message in a communication process. In this document it refers, at general level, to the crowd attending a mass-gathering event and to distinct groups of people that can be directly or indirectly involved in the event.

For the purpose of the LETSCROWD project, the public involved in the communication process could be classified as follows:

- **Public directly involved, inside the venue** hosting the mass-gathering event: people attending the event both as spectators and participants, people working at the event;
- **Public directly involved, outside the venue**: people selling drinks and food; people attending the event without tickets; people waiting to enter the venue, waiting for others, camping nearby;
- **Citizens**: neighbourhood, resident, people living in the city hosting the event;
- **Generic public** at national and international level that receive information especially from social media and traditional media (e.g. national/ international press; TV; Radio).

In order to shape and deliver clear, effective and strategic messages, the audience knowledge is crucial.

A worksheet for identifying the specific target audience and its key characteristics is included in the Annex A - 10.1.

Table 8: Audience – Triggering questions

Pre-event and Execution phases
- What information does the receiver want or need? (64)   - How much does the receiver already know about the particular topic? (64)   - Do we clearly communicate responsibilities of individuals both in the pre-event phase (to be trained in how to behave in case of emergency), and in the execution phase (to be properly active and reactive in case of emergency)?   - How do we seek feedback from the public?   - What capability do we have to respond to information requests or other interactions with the public?
Execution phase (in case of emergency)
- Are we communicating in a way to lessen the psychological impacts of people involved and to mitigate the escalation of risky behaviours?   - How are we responding to information needs of the public?   - How are we using the public as a partner in the crisis?   - Are we giving to the public sufficient opportunities to help in gathering and spreading relevant information?   - How are we recognizing and reinforcing supportive behaviours by the public?

5.9 FEEDBACK

Feedback means audience's response to the communicator's message. Who initially receives the message becomes in turn - sending a feedback - a communicator. At the same time, the original communicator becomes audience.

The basic assumption is that communication is a circular process and feedback is the essence of two-way communication. Current digital technologies allow the public attending the event (inside and outside the venue) to generate data, share information and report about hazard and threats from on the ground during an event. It is the idea that people are "sensors" who detect and report emergency information. These exchanges of *user-generated content* increase the need for a major quality assessment from LEAs and emergency services (4).

5.10 CONTEXT OF INTERACTION

Any communication exchange takes place in an environment that provides the reference context for a preliminary attribution of the meaning to the messages (18). The context in which communication takes place also represents a background that sets limits and restrictions to conveying certain meanings.

LETSCROWD communication guidelines refer to two main reference contexts concerning the mass-gathering event, i.e.:

- Pre-event phase;

- Execution phase.

5.11 COMMUNICATOR/ AUDIENCE'S FIELD OF EXPERIENCE

When communication takes place between people belonging to the different cultures and sharing different set of values, behaviours and rules, the communicator should carefully choose the right words, gestures, tone of voice in order to be able to effectively transmit his/her message to others.

The communicator and audience's field of expertise generally refer to those aspects used for encoding and decoding a message such as:

- Socio-cultural background (e.g. nationality);

- Professional expertise;

- Attitudes (e.g. concerning the topic of the communication);

- Skills;

- Perceptions;

- Communication styles.

In order to reach an effective communication, it is important that the communicator and audience use the same meanings for the words, signs, pictures and symbols used in communication. If this does not happen, various kinds of problems can arise (22).

5.12 SHARED EXPERIENCE

Communication is successful when the audience can interpret the information that the communicator has put into the message. The aim is to reach a common understanding of the

message content and the on-going situation. For this purpose, the communicator and audience's fields of experience need to somehow overlap.

Using a concept coming from the cultural anthropology, it is possible to call this overlapping space as the "third space" (69). It refers to changes or adjustments occurring when people from different cultural backgrounds interact. More specifically, it describes the possibility to find a new way to interact and communicate making adjustments to people's own sense of cultural identity in order to find new opportunities for conducting their relationships. Within the third space, individuals need to draw on their capacity for empathy and pay attention to alternative perspectives (69).

Professionals involved in the communication – especially in case of critical situations – need to be aware that the communication is the main mean to create this special space of common understanding which is something of totally new with regards to their own fields of experience.

6 Selected real life examples: sporting events and festivals

The tables below synthetize two categories of the real life examples proposed by LEAs (see D2.2) and discussed during the qualitative interviews. The general aim was to concretely discuss communication strategies applied (or to be applied, in case of the identification of new solutions) to a specific category of event (see Section 7.3). In particular, the selected real life examples are:

- Festivals:
  - *Tomorrowland* (Boom – Belgium);
  - *Oktoberfest* (Munich – Germany).
- Sporting events:
  - European Rugby Champions Cup Bilbao Finals 2018 (Bilbao – Spain);
  - Cyclocross (Malle – Belgium).
  - Final Football Cup (Portugal). It is not included in the real life examples but it has been discussed in the interview with Polícia de Segurança Pública Portugal (PSP).

These tables include information on:

- General information about the event:
  - Type of the event
  - Event organizer
  - Other stakeholders involved
  - Environmental layout
  - Ingress and egress conditions
- Type of crowd:
  - Size
  - Density
  - Motivation
  - Composition

o   Behaviours

Type of event and specific real example	General information about the event				Crowd				
	Event organizer	Other stakeholders involved	Environmental layout	Ingress and egress conditions	Size	Density	Motivation	Composition	Behaviour (i.e. spectator crowd; ambulatory c.; static c.; participatory/expressive c.; pilgrimage c.; anarchist c.)
Sporting event **Final Football Cup** (national event); **European Rugby** Champions Cup (international event)	**FOOTBALL CUP:** National Football Federation **RUGBY CUP:** private company	**FOOTBALL CUP:** National authorities; local authorities (i.e. City Hall); local police; national police; teams managements; private security; other police services; fire brigade; emergency services; media partners. **RUGBY CUP:** national authorities (e.g. communication directorate - governmental level); local	*Indoor and confined space* (e.g. stadium). Pre-defined and separate entrances/ exits. In the Football Cup, they allow teams supporters to enter and exit keeping teams supporters separated. *Venue capacity*: 40.000-80.000 people. *Outside the event venue*: a huge number of people attending the event without tickets; people selling drinks,	Ingress and egress conditions are pre-determined (ingress with tickets).	Large	High	Entertainment	**FOOTBALL CUP:** Teams supporters; Families; Small groups; Mostly men, aged between 18 and 50 (intergenerational composition); Mostly national attendees. **RUGBY CUP:** Teams supporters (no violent people - no hooligans); Families; Children; International	*Spectator crowd;* **FOOTBALL CUP:** Teams supporters could be non-cooperative. **RUGBY CUP:** In the opposite of the football team supporters, usually the rugby supporters are friendly and cooperative.

		authorities; National Rugby Federation, other stakeholders (e.g. broadcast and media partners), national and local police, emergency services, etc.	food and alcoholics.					attendees.	

Type of event and specific real example	General information about the event				Crowd				
	Event organizer	Other stakeholders involved	Environmental layout	Ingress and egress conditions	Size	Density	Motivation	Composition	Behaviours (i.e. spectator crowd; ambulatory c.; static c.; participatory/expressive c.; pilgrimage c.; anarchist c.)
Festival **International music festival** (i.e. Tomorrowland - Belgium); **Traditional festival involving local and international attendees** (i.e. Oktoberfest in Munich -	**International music festival**: Private event organizer. **Traditional festival (local and international)**: The City Hall (local authority).	**International music festival:** Municipality; Governor of the Province for what concerns security measures and the security/ emergency plan; police; first responders (i.e. fire-fighters, medical emergency service); defence/Army; Civil Protection; Communicator.	**International music festival:** outdoor, with neighbourhoods around. Within the venue, activities are carried out in many different places/ stages, together with other internal services (e.g. info point, first aid, post office, photo point, stores, Wi-Fi hotspot, restaurants, etc.). Many	**International music festival**: Highly controlled ingress with tickets. **Traditional festival (local and international)**: free ingress. Crowd moves around two big streets and from one entrance to	**International music festival:** Large (e.g. 100.000 people). **Traditional festival (local and international)**: more than 6 million people.	High	Entertainment in general. **Traditional festival (local and international):** young people participating especially to drink.	**International music festival:** mostly young people. **Traditional festival (local and International**: very heterogeneous crowd composition (also from the gender point of view). It differs also with regards to the daily time and week time: international	*Ambulatory crowd*

| Germany). | | **Traditional festival (local and international):** police; private security staff; first responders (i.e. fire-fighters, medical emergency service); private owners of the tents where activities take place. | entrances/ exits. **Traditional festival (local and international)**: outdoor. The venue hosts one biggest tent and 13 small tents (small tent capacity 30.000 - 50.000 people). Two large streets are between tents where the activities are carried out. Streets are divided in right and left side. | the other one. No specific control measures are usually taken over people attending the event. | | | | groups of young people (tourists), especially in the weekend (many small groups with high level of intoxication); local families in the weekend; older adults usually coming at lunchtime. | |

7   LETSCROWD communication guidelines (ICP)

This chapter presents the first version of the LETSCROWD communication guidelines that include:

- general communication recommendations for communicating with multi-cultural crowds both in the preparation and in the execution phases (Section 7.2);

- context – based communication recommendations related to specific types of events such as festivals and sporting events (Section 7.3).

Before introducing the guidelines, the process used to generate the guidelines is reported in Section 7.1.

The LETSCROWD communication guidelines are mainly focused on the external communication (communication with the public). Their aim is to support the LEAs and the other key stakeholders involved in the communication process in building their context-specific tool for an effective multicultural crowd management in case of emergency. Far from being exhaustive, guidelines stand as a starting point for further actions. They do not provide a list of specific messages or communication measures, but present general and specific recommendations (related to certain types of events) and trace a process for building collaborative partnerships to enhance LEAs' multi-cultural communication competences.

7.1   THE PROCESS USED TO DEVELOP THE GUIDELINES

The process followed to develop the LETSCROWD communication guidelines (Sections 7.2 and Section 7.3) integrates data collected by the interviews with LEAs, the main inputs from the literature review described in Sections 3 - 4 and the key elements of the communication process worked out in Section 5. All the elements are synthetized in the figure below.
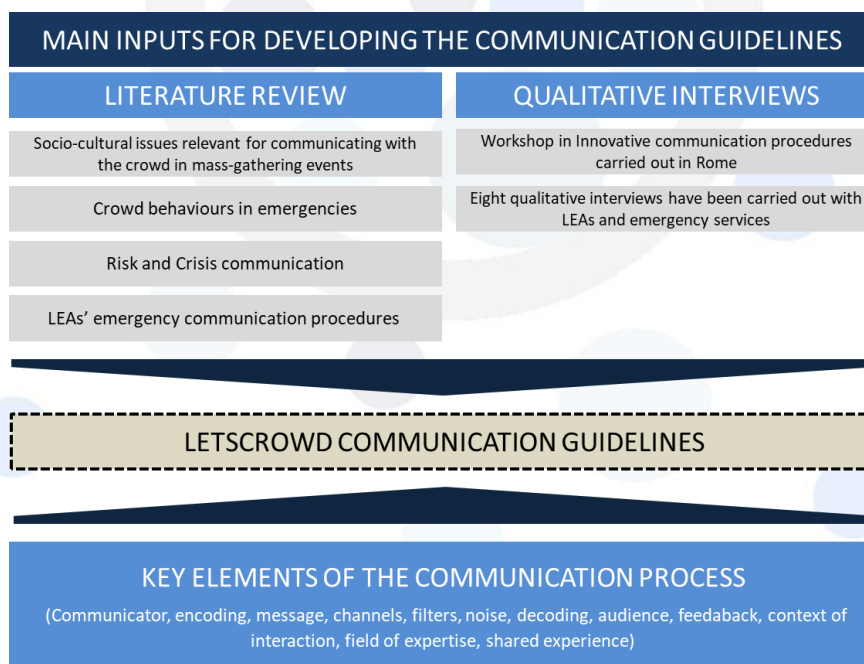
Figure 3: Main inputs used for developing the communication guidelines

7.2   ICP GENERAL RECOMMENDATIONS

7.2.1   Socio-cultural aspects to be taken into account when communicating with a multicultural crowd

As pointed out in (2), since it would be impossible to obtain one's own communication skills in the many different cultural backgrounds to which people from different cultural groups attending a mass-gathering event belong, it is important to recognise two fundamental rules:

- bear in mind that **what goes without saying in communication between people sharing the same cultural *background* is not necessarily obvious to someone belonging to a different culture** and should therefore be rendered explicit;
- all elements of non-verbal communication (e.g. gestures, body position, distance between people who are communicating, gaze, etc.) are culturally established. Since the non-verbal communication often carries more weight than the verbal content when communicating, a great deal of attention to these aspects must be payed.

Moreover, some generic solutions and practices regarding effective communication[11] with multicultural crowds can be time by time verified and applied according to characteristics of the event, e.g.:

- Be aware of the broader social, cultural or political considerations that may influence communication with your audience (66);
- Translate written materials in the major languages spoken by people attending the event to ensure limited national language and not English proficient people are informed and receive meaningful access to warnings and emergency-related information. Information about the event should be provided in different languages, including English, the national language and those of the major groups of attendees. Cultural and linguistic appropriateness of messages disseminated should be always guaranteed and verified;
- Set up language services (e.g. information desk in different languages) and notify crowd that they are available;
- Reach out to media (television, radio, websites, social media) of local cultural communities/ ethnic groups to help delivering information to specific cultural groups in the crowd (inside and outside the event venue);
- Identify bilingual/ multi-language employees who can provide assistance to people attending the event, keeping in mind that individuals who serve as translators and interpreters must be competent to do so;
- Improve signs and signals recognisability. Help broader comprehension of safety signs and signals by creating knowledge on them: i.e. sharing meanings concerning codes chosen for the verbal, hand signals and pictograms among the audience (especially public directly involved) in the pre-event phase.

7.2.2   Communication in the pre-event phase

Communication in the pre-event phase is characterised by some main aspects (18):

- It is carried out with no time pressure;

---

[11]https://www.dhs.gov/publication/tips-effectively-communicating-protected-populations-during-preparedness-response-and

- The target of the communication is people involved in ordinary activities or routines. In these cases psychological processes quite flow without particular constraints;
- People presenting special needs have the possibility and time to be supported. Their necessities can be identified in advance.

The specific objectives of communication in the pre-event phase is to provide information on:

o logistic public transports, traffic (e.g. changes in mobility; access restrictions, etc.) concerning the event;

o safety and security measures that will be applied in the event venue;

o tips concerning weather conditions and suggestions to cope with them;

o different risks that could occur during the event.

For these characteristics, the main principles for communication guidelines in the pre-event phase are to:

- Exploit time resources to predefine the communication strategy and collect information on the audience attending the event;
- Define communication messages according to the identified target audience;
- Select the most suitable channels to be used to communicate during the event;
- Foster the emergency preparedness by implementing measures to raise audience's awareness on safety behaviours and attitudes.

The communication network during this phase is wide and involves a range of communication activities and information requirements (68), among them:

- Intelligence gathering about the event characteristics, etc.;
- Coordination meetings among stakeholders involved in the event planning;
- Preparation of detailed communication strategy that could be part of the contingency plan of the event;
- Commercial arrangements - ticketing policy, publicity, contracts, etc.

The list below reports **general communication recommendations for the preparation phase** (66), (17):

- **Identify roles and responsibilities** across the key stakeholders (e.g. Event organiser; Municipality and Governor of the Province; police/ security staff; first responders - i.e. fire-fighters, medical emergency service-; defence/Army; Civil Protection; media partners; the communication coordinator at national and local level, and the communications support team);
- **Identify communications goals**;
- Adopt a **people-centred communication approach**. Identify target audiences to communicate with, and evaluate their information needs and communication preferences (see the template for identifying the target audience ANNEX A - 10.1). Especially, knowledge of the groups and their social identities within a crowd will assist key stakeholders in understanding the nature of

individuals who are motivated towards violence and risky behaviours;

- **Take account of the** extent to which a **crowd** has leadership and organisation, its level of cohesion and the identity of its key influencers, depending on the type of the event;

- **Identify communication resources and channels** that can be used to reach and influence the target audiences (see the template on communication channels ANNEX A - 10.2). A **multi-channel strategy** is highly recommended in order to reach the major number of people as possible;

- Prepare a **communications plan** in which all the aspects listed above have to be included. Planning should incorporate information and expectation concerning audience's behaviour based on typologies;

- **Hold meetings with key representative stakeholders** to coordinate and discuss collaborative communications actions and needs;

- **Coordinate and collaborate with other credible sources that will help key stakeholders to get key messages across with greater effectiveness**. Collaborate with volunteers, community groups, and religious leaders. These groups can offer a greater understanding of how their members may react in certain crises and emergencies. The "community mediators" play a special role in providing key information regarding specific groups and/ or communities. Mediators may:
  - o   have influence or authority;
  - o   be part of the community or represent it;
  - o   be a member of an organisation with statutory responsibilities – have an awareness of community issues;
  - o   Use of media to communicate key information.

  They are a useful contact since they are able to assist in dispelling rumour, reducing conflict and facilitating the flow of information to and from the community (17).

- **Increase public awareness on the event** by sharing information on security and safety measures that will be adopted for the event**;**

- **Foster the emergency preparedness. "Everyone has to be actor of her/ his own security"**. A change of mentality and culture is needed. It concerns private event organizers, local authorities but also people. They need to be more aware and informed on the safety and emergency measures in order to be prepared and adequately respond during critical situations, knowing how to properly behave. They do not just wait for an external help. Everyone has to be actor of his own security (e.g. actively exchanging information; creating a strategy with the people attending an event, etc.).

7.2.3   Communication in the execution phase (during the emergency)
Communication in the execution phase is characterised by some main aspects (18):

- It is carried out with time pressure;

- The target of the communication is composed of people undergoing traumatic or stressful situations. In this condition, psychological processes are altered by the ongoing experience and cannot flow in a harmonized and effective way;

- People presenting special needs may not have the possibility to be supported by relatives and/or be incapacitated to ask for help.

The specific objectives of communication during emergency are:

- Alerting;

- Saving lives and minimizing injuries;

- Situation and evolution updating;

- Providing measures that the target groups should observe;

- Preparing the people egress from the venue and optimize the evacuation time;

- Facilitating rescue response;

- Promoting cooperation among crowd members in order to enhance an *emergent-shared identity* (sense of unity, psychological togetherness, groupness) and a collective resilience among the crowd members (see section 3.1.1);

- Keeping media informed.

For these characteristics, the **main principles for communication guidelines in the execution phase** – in case of emergency - are to (66):

- **Monitor and analyse what is happening on the field**. The assessment is the basis for decision concerning means and measures;

- **Exploit communication strategies identified in the pre-event phase** (e.g. concerning channels);

- **Use information collected in advance on target audience to frame adequate messages** to communicate with them;

- **Reach vulnerable audience** (e.g. visually impaired visitors, auditory limited visitors, etc.);

- **Issue effective warning messages** that should be **timely, reliable, credible and concise** (see template for creating effective warning messages in ANNEX A - 10.3);

- **Enhance public's self-efficacy**, self-reliance and a shared responsibility for event safety;

- **Ensure redundancy**. All warning messages should be issued via any available channel and repeated consistently (apply the multi-channel strategy set-up in the pre-event phase);

- **Tell people how to behave**. Provide guidance on actions people should take to cope with the specific critical situation. Guidance on actions has to take into account the types of audience involved at different level (i.e. people attending the event inside and outside the venue, citizens and generic public);

- **Facilitate information seeking** in the event venue. Help people seeking information by ensuring that safety signs and signals used (verbal, hand signals and pictograms) are placed where people are expected to find or look for it;

- **Address people's** (i.e. citizens and generic public) **concerns** with concrete answers and, if applicable, specific actions they can take;

- **Show that you care about the situation** and understand what is going on. Empathy is the ability to identify with and understand somebody else's feelings or difficulties;

- Make sure that the **communication** at local level is **coordinated** with the regional and national levels.

7.3   COMMUNICATION GUIDELINES RELATED TO SPECIFIC TYPE OF EVENT

This section reports the communication guidelines in a selection of real life examples (see Section 6). Specific communication guidelines and recommendations for LEAs, event organisers and the other stakeholders involved in the communication process have been generated for two types of mass gatherings: sporting events (Section 7.3.1) and festivals (Section 7.3.2).

The key elements of the communication process introduced in Section 5 as well as the socio –cultural issues relevant for communicating with the crowd (Section 3.1) have been used to organise the structure of the guidelines. Meanwhile, literature review and data collected through the qualitative interviews are the main sources of information for the communication guidelines content.

The starting point for generating the guidelines is the specific phase of an event (preparation and execution). Then, for each phase, five questions have been used as key drivers for their creation:

1. WHAT do we communicate? (Objectives and sub – objectives of the communication)
2. WHO are the main communicators and audiences? (main actors involved in the communication process)
3. HOW do we communicate and what?
4. WHICH socio- cultural issues can affect the communication?
5. GENERAL RECOMMENDATIONS: How can we address communication filters depending on the crowds' socio cultural characteristics?

The communication guidelines presented in the following sections could be customised and enriched by LEAs and the other key stakeholders involved in the communication process according to the type of event under evaluation.

The guidelines are presented in the format of the figure below, filled in with all concerned information.

WHAT DO WE COMMUNICATE?	WHO ARE THE MAIN COMMUNICATORS AND AUDIENCE?	HOW DO WE COMMUNICATE AND WHAT?	WHICH SOCIO-CULTURAL ISSUES CAN INFLUENCE THE COMMUNICATION?	HOW CAN WE ADDRESS COMMUNICATION FILTERS DEPENDING ON CROWDS' SOCIO-CULTURAL CHARACTERISTICS?
The first block reports the main **objectives** and **sub-objectives** of the communication during both the preparation and the excecution phases.	The second block specifies the communicators and the main target audience of the communication (e.g. Public directly involved, inside the venue, Public directly involved, outside the venue, Citizens, Generic public).	The third block includes the main channels to be used to deliver specific information and messages according to the main phase of the event.	The fourth block synthetises the main **crowd's socio-cultural characterics** and the **filters** affecting the communication process.	The final block reports a number of **general recommendation** for addressing the communication filters during the preparation and execution phase on an event.

Figure 4: Structure of the guidelines

7.3.1 Communication guidelines (ICP) for sporting events

SPORTING EVENTS - PRE EVENT PHASE (EXTERNAL COMMUNICATION)								
ID	WHY DO WE COMMUNICATE?		WHO ARE THE MAIN COMMUNICATORS AND AUDIENCE?		HOW DO WE COMMUNICATE AND WHAT?		WHICH SOCIO-CULTURAL ISSUES CAN INFLUENCE THE COMMUNICATION?		HOW CAN WE ADDRESS COMMUNICATION FILTERS DEPENDING ON CROWDS' SOCIO-CULTURAL CHARACTERISTICS?
	MAIN OBJECTIVES	SUB-OBJECTIVES	COMMUNICATOR	AUDIENCE	CHANNELS	MESSAGES	CROWDS' SOCIO-CULTURAL CHARACTERISTICS (a more detailed description is reported at the end of table)	FILTERS AFFECTING THE COMMUNICATION	GENERAL RECOMMENDATIONS (a more detailed description of each recommendation is reported at the end of table)
#1	MARKETING AND INFORMING ABOUT THE EVENT AT GENERAL LEVEL	_	Event organizer (e.g. National Football Federation) in coordination and in agreement with all the stakeholders involved (e.g. national and local authorities, national and local LEAs, first responders, broadcast and media partners).	Generic public	Multi-channel strategy: Social Media; Traditional media (TV; papers; radio) at international and national level	N/A	Social identity: Nationality as large group identity in the case of international matches; Subgroup membership. i.e. football match, the crowd is composed of two large groups supporters of competing teams. Two different shared social identities are in strong competition with each other.	Language. It depends on the type of competition (i.e. national, international). In the case of international matches (e.g. rugby cup), specific subgroups of foreign spectators are expected. Supporters will speak at least two different languages.	(1) REACH ALL AUDIENCE: A multi-channel strategy has to be developed at general level taking into account channels usually used by the audience attending sporting events, and those typically adopted by the teams supporters.

| #2 | INCREASING CITIZENS AND PUBLIC AWARENESS ON THE EVENT | #2.1 Facilitating two-ways communication among communicators and audience | Many communication flows go in parallel. Several communicators: - Event organizer - Local authorities (e.g. City Hall) - Local LEAs | **Public directly involved** that will attend the event inside and outside the venue; **Citizens** | **Multi-channel strategy: Social media** (i.e. event organizer's Facebook page and twitter account; LEA's Facebook page and twitter account); **LEA's mobile App** | N/A | See above | See above | **(2) BUILD AND ENABLE TWO-WAY COMMUNICATION SYSTEM**, that allows a two-way communication, providing public directly involved with a trustworthy and dedicated account in social media. |
| | | #2.2 Informing about logistic, public transports and traffic (e.g. changes in mobility and traffic; recommended routes, road closures, access restrictions, etc.) | Many communication flows go in parallel. Several communicators: - Event organizer - Local authorities (e.g. City Hall) - Local LEAs | **Public directly involved** that will attend the event inside and outside the venue; **Citizens** | **Multi-channel strategy: Social media** (i.e. event organizer's Facebook page and twitter account; LEA's Facebook page and twitter account); **LEA's mobile App; City Hall website; Traditional media** at local level (TV; papers; radio) | N/A | See above | See above | **(3) REDUCE LANGUAGE BARRIERS (a)**: in every channel information about the event should be provided in different languages. The information could be also printed on the ticket or promotional leaflet. |

#2.3 Informing on the general security measures applied inside and outside the venue	Local LEAs	**Public directly involved** that will attend the event inside and outside the venue; **Citizens**	**Multi-channel strategy: Social media** (i.e. LEA's Facebook page and twitter account); **LEA's mobile App**	N/A	See above	See above	
#2.4 Warning the people off to reduce risk and avoid overcrowding (e.g. discouraging people to attend the event outside the venue)	Many communication flows go in parallel. Several communicators: - Local authorities (e.g. City Hall) - Local LEAs	**Public directly involved** that aim at attending the event **outside the venue; Citizens**	**Multi-channel strategy: Social media** (i.e. LEA's Facebook page and twitter account); **City Hall website; Traditional media** at local level (TV; papers; radio)	N/A	See above	See above	
#2.5 Fostering emergency preparedness	Many communication flows go in parallel. Several communicators: - Event organizer - Local authorities (e.g. City Hall) - Local LEAs	**Public directly involved** that will attend the event inside and outside the venue; **Citizens**	**Multi-channel strategy: Social media** (i.e. event organizer's Facebook page and twitter account; City Hall Facebook page and twitter account; LEA's	A **messages map** to support the message creation has to be prepared in advance for making sure that messages correctly reach the public. For this purpose, likely incident scenarios have to be identified in advance in	See above	**Language.** See above. **Signs comprehension.** The interpretation of safety signs placed in the event venue (e.g. emergency exit/ escape route signs; first-aid signs; warning signs; etc.), as well as hand signals code and verbal signals (e.g. public announcements) may possibly vary within different countries.	**(3) REDUCE LANGUAGE BARRIERS** (see above). **(4) ESTABLISH CONTACTS AND BUILD PARTNERSHIP** with local trusted sources to communicate with the specific cultural groups attending the event. Maintain a database of the trusted sources identified that could provide support for emergency communication.

| | | | | | Facebook page and twitter account); **City Hall website; Exclusive channels** (i.e.: dedicated websites and Facebook pages) have to be established and managed by the national authorities to disseminate information on preparedness. Information concerning different risks that could occur in several types of mass-events and how to properly behave in case of emergency should be disseminated. | the communication plan. Even though the communication is context-based and changes according to the critical situation, few common instructions can be identified: small sentences and delivered in time to decide **- SEE TOOL #3 "Warning message map template"** | | | | **(5) RAISE SAFETY AWARENESS.** Inform about preparedness measures and how to behave in case of emergency. Maps and safety instructions should be printed and/ or available online. Be sure that mother-tongue professionals translate them in different languages.

(6) ENHANCE SIGNS COMPREHENSION. To make understandable signs and signals to the major number of people attending an event, it is necessary to create knowledge on them, by sharing their meanings among the public directly involved in the pre-event phase. |
| 3. | **BUILDING PARTNERSHIP WITH** | **#3.1** Informing | National and local LEAs | *Spotters*/ negotiators that will be | **Face-to-face communication** (i.e. spoken | N/A | | | **Language.** See above | **(7) REDUCE LANGUAGE BARRIERS (b).** LEA officers should know the |

| SPOTTERS AND NEGOTIATORS CLOSE TO THE TEAMS SUPPORTERS | teams supporters about how they have to behave | | part of the **public directly involved inside the venue**. Spotters communicate with the teams supporters that will attend the event both inside and outside the venue | information - human direct contact) | | | | teams supporters' jargon to communicate with the *spotters*/ negotiators (who usually belong to the team supporters communities) LEA officers also need to be aware of their paralinguistic (e. g. voice tone) and non verbal communication (e.g. facial expression, gestures) and those characterizing *spotters*/ negotiators as members of the team supporters communities. |

SPORTING EVENT

WHICH socio- cultural issues can affect the communication?

Social identity. Two different types of social identity should be considered, i.e. the nationality as large group identity in the case of international matches, and subgroup membership. Often, in a sporting event (i.e. football match, the crowd is composed of two large groups supporters of competing teams. The belongingness to a team overcomes other in-group differences (e.g. linked to the age). A common social identity reinforces a shared behaviour within the group of supporters. In the case of the football supporters, two different shared social identities are in strong competition with each other. This aspect should be considered to communicate with them.

On the contrary, in the RUGBY matches, despite two different teams are in competition with each other, supporters are more cooperative and show a broader belongingness approach: to the sport of rugby in general. This perspective allows overcoming antagonism and related behaviours.

During an emergency it is important to encourage a shared identity across the rival teams supporters to ensure collaborative behaviours. However, in the case of football matches, different emergency pathways and exits have to be used during the evacuation to keep supporters of the two different teams separated.

PREPARATION PHASE

HOW CAN WE ADDRESS COMMUNICATION FILTERS DEPENDING ON CROWDS' SOCIO-CULTURAL CHARACTERISTICS?

GENERAL RECOMMENDATIONS

(1) REACH ALL AUDIENCE: A multi-channel strategy has to be developed at general level taking into account channels usually used by the audience attending sporting events, and those typically adopted by team supporters.

(2) BUILD AND ENABLE TWO-WAY COMMUNICATION SYSTEM, that allows a two-way communication among communicators and audience, providing public directly involved with a trustworthy and dedicated account in social media (e.g. twitter) or a mobile application that allow them to directly communicate with LEAs and the event organizer. This account has to be active everyday in the pre-event phase to gain trust by the people and maintain the communicators' digital reputation.

(3) REDUCE LANGUAGE BARRIERS (a): in case of international sporting events (e.g. European Rugby Champions Cup) where international attendees are expected, in every channel information about the event (e.g. transport details, venue rules, and prohibitions) should be provided in different languages, including English, the national language and those of the major groups of attendees. Cultural and linguistic appropriateness of messages disseminated should be always guaranteed and verified.

The information could be also printed on the ticket or promotional leaflet.

To inform about general security measures applied at the venue, electronic boards at the venue's entrances and exits (when available) could be used to inform people about the items (e.g. tickets, ID card) they need to have ready, and the prohibited items that cannot brought to the event (e.g. glass bottles, pyrotechnic materials). Information should be provided in different languages, including English, the national language and those of the major groups of attendees.

(4) ESTABLISH CONTACTS AND BUILD PARTNERSHIP with local trusted sources (i.e. formal and informal leaders of the different communities on the territory) to communicate with the specific cultural groups attending the event. Maintain a database of the trusted sources identified that could provide support for emergency communication, in case of emergency during the event execution, e.g. to verify the cultural and linguistic appropriateness of messages disseminated.

(5) RAISE SAFETY AWARENESS. Inform about preparedness measures and how to behave in case of emergency by providing, e.g.: event venue map where evacuation locations, emergency exits, medical service points on the ground and other general safety instructions are included. Maps and safety instructions should be printed and/ or available online. Be sure that mother-tongue professionals translate them in different languages. When online, be sure that this information is easy to find.

(6) ENHANCE SIGNS COMPREHENSION. In order to make understandable signs and signals to the major number of people attending an event, it is necessary to create knowledge on them, by sharing their meanings among the public directly involved in the pre-event phase. Meanings concerning codes chosen for the verbal, hand signals and pictograms have to be consistent throughout all phases of the event (pre and execution phases) and properly shared among people by means of an appropriate "training" awareness activities/ measures. Some specific strategies should be used to prepare people to be more reactive during a critical situation, i.e.: to enhance the understanding of safety signs and hand signals that will be used in the event, a number of cards clearly explaining them and their meanings could be provided in advance to the public directly involved in the event (inside and outside). They can be spread by using different channels, e.g.: City Hall website; dedicated websites addressing how to be prepared to cope with risky situations and emergencies; social media; flyers that have to be prepared in the pre-event phase and distributed before the event starts (execution phase). Cards should be comprehensible for all audience from different nationalities/ cultures. Preferably, they should contain a minimum amount of written information.

(7) REDUCE LANGUAGE BARRIERS (b). LEA officers should know the team supporters' jargon to communicate with the spotters/ negotiators (who usually belong to the team supporters communities). LEA officers also need to be aware of their paralinguistic (e.g. voice tone) and non-verbal communication (e.g. facial expression, gestures) and those characterizing spotters/ negotiators as members of the team supporters' communities.

		SPORTING EVENTS - EXECUTION PHASE (EXTERNAL COMMUNICATION)						
ID	**WHY DO WE COMMUNICATE?**		**WHO ARE THE MAIN COMMUNICATORS AND AUDIENCE?**		**HOW DO WE COMMUNICATE AND WHAT?**		**WHICH SOCIO-CULTURAL ISSUES CAN INFLUENCE THE COMMUNICATION?**		**HOW CAN WE ADDRESS COMMUNICATION FILTERS DEPENDING ON CROWDS' SOCIO-CULTURAL CHARACTERISTICS?**
	MAIN OBJECTIVES	**SUB-OBJECTIVES**	**COMMUNICATOR**	**AUDIENCE**	**CHANNELS**	**MESSAGES**	**CROWDS' SOCIO-CULTURAL CHARACTERISTICS**	**FILTERS AFFECTING THE COMMUNICATION**	**GENERAL RECOMMENDATIONS** (a more detailed description of each recommendation is reported at the end of table)
#1	**INFORMING ON THE SAFETY MEASURES AND BEHAVIOURS TO BE APPLIED IN CASE OF EMERGENCY (BEFORE THE EVENT STARTS)**	**#1.1** Increasing safety awareness	Event organizer	**Public directly involved inside the venue**	**Multi-channel strategy:** Integrated audio (i.e. **loudspeakers**) and visual system (i.e. **electronic boards/ giant screens**/ dynamic displays).	Information to be communicated: - Instructions on safety behaviours; - Venue map (focus on emergency exits, escape routes); - Explanation of the safety signs and signals (verbal, hand signals, pictograms) placed in the venue and that will be used to communicate with the crowd in case of emergency.	**Social identity**: **Nationality** as large group identity in the case of international matches; **Subgroup membership**. i.e. football match, the crowd is composed of two large groups supporters of competing teams. Two different shared social identities are in strong competition with each other. **During an emergency** it is important to **encourage a shared identity across the rival team supporters** to ensure	**Language**. It depends on the type of competition (i.e. national, international). In the case of international matches (e.g. rugby cup), specific subgroups of foreign spectators attend the event. Supporters speak at least two different languages. This aspect could interfere with the verbal signals comprehension. **Signs comprehension**. The interpretation of safety signs both showed by the electronic boards and placed in the event venue (e.g. emergency exit/ escape route	**(1) ENHANCE SAFETY AWARENESS**: before the event starts, the giant screens placed in the venue together with the stadium audio system should be used to share with the crowd information concerning the safety measures and behaviours to be applied in case of emergency. **(2) USE A MULTI-LANGUAGE APPROACH (a)**. Information has to be provided in different languages, including English, the national language and those of the two groups of team supporters.

						collaborative behaviours. In the case of football matches, different emergency pathways and exits can be used to keep supporters of the two different teams separated.		signs; first-aid signs; warning signs; etc.) may possibly vary within different countries.	
#2	**MONITORING AND CONTROL THE CROWD IN ORDER TO IDENTIFY POTENTIAL THREATS (IN NORMAL SITUATIONS)**	**#2.1** Maintaining separation between the two teams supporters in the case of football matches in order to avoid risky behaviours	National and local LEAs	*Spotters*/ negotiators that are part of the **public directly involved inside the venue**. Spotters, in turn, communicate with the teams supporters.	**Face-to-face communication** (spoken information - human direct contact).	N/A	**See above**	**Language**. It concerns not only the different languages spoken by the subgroups of foreign spectators attending the event, but also the specific supporters' jargon (both verbal and non verbal) shared within the team supporters communities.	**(3) REDUCE LANGUAGE BARRIERS.** LEA officers should know the team supporters' jargon to communicate with the *spotters*/ negotiators. LEA officers also need to be aware of their paralinguistic (e.g. voice tone) and non-verbal communication (e.g. facial expression, gestures) and those characterizing *spotters*/ negotiators as members of the team supporters' communities.
#3.	**WARNING THE CROWD IN THE CASE OF SOMETHING CRITICAL OCCURS**	**#3.1** Influencing public's risk perception and behaviour to allow a timely and effective response	Many communication flows go in parallel. Several communicators: 1. Event organizer 2. National and Local LEAs	1. **Public directly involved inside and outside the venue;** 2. *Spotters*/ negotiators who, in turn, communicate	**Multi-channel strategy:** **1. Electronic boards/ giant screens.** The visual system typically used to visualize the match during the event	A **warning message** provides information on: **What actions** people should take and **Why** these actions are necessary.	**See above**	**See above**	**(4) REACH ALL AUDIENCE (a):** the multi-channel strategy set up in the pre-event phase has to be applied. **(5) ENSURE COMMUNICATION REDUNDANCY:** Warning messages framed in the pre-event phase (see

				with hooligans.	switches functionality showing short warning messages and safety signs; **Loudspeaker system** in the venue (verbal signals); **Text-messages/ Cell broadcast**. It allows sending a huge number of text messages to the public directly involved in real-time and in different languages even when the network is congested, without preliminary registration; **Social media** (LEAs twitter account); **Event organizer** or **LEA's mobile App**, when available. **2. face-to-face communication** (spoken information - human direct	Some generic principles have to be taken into account: "Tell the crowd as much as they have to know"; "Think of the psychological impact if you tell them more than they need to know or less"; - Its **structure** may vary according to the type of channel used to issue warnings; - It should be delivered taking into account the **message map** worked out in the **pre-event phase**; - Warning messages should be **repeated at intervals**, rather than consecutively; - They have to **clearly address distinct**			"Fostering emergency preparedness" sub-objective) should be issued using the available channels identified and repeated consistently. **(6) USE A MULTI-LANGUAGE APPROACH (b).** Warning messages should be provided in different languages, including English, the national language and those of the two groups of team supporters. Cultural and linguistic appropriateness of messages disseminated should be always guaranteed and verified, by activating the partnerships with the local cultural/ linguistic communities built in the pre-event phase. Moreover, the use of the Cell broadcast system allows overcoming the linguistic issue. **(7) BE AWARE OF NON-VERBAL COMMUNICATION**. In case of emergency, stewards, police and the other first responders on the ground have a direct interaction with the public. They need to be aware of their non-verbal communication.

						contact).	**audience** within the message, e.g.: "Instructions for families" [followed by message for families]; "Instructions for people outside the event venue" [followed by the message].			

#4	PREPARING THE EGRESS AND OPTIMIZING THE EVACUATION TIME	#4.1 Providing information to the public directly involved about how they have to behave (**WHAT TO DO**) during the emergency	Many communication flows in parallel. Several communicators: 1. Event organizer 2. National and local LEAs 3. *Command post* established on the ground with representatives of the main stakeholders involved in the event management (e.g. LEAs, private security staff, local and national authorities, first responders, broadcast and media partners)	**Public directly involved** inside and outside the venue	**Multi-channel strategy: 1. Integrated audio (i.e. loudspeakers) and visual system (i.e. electronic boards/ giant screens/ dynamic displays)** should be used to repeatedly inform public on how to escapes. To optimize the effectiveness of the loudspeakers communication, the same message should be recorded in	1. Messages content varies according to the type of emergency e.g. "Stay calm, stay where you are"; "Leave the place"; "Follow the instructions given by the police"; "Listen the instructions and execute them".	See above	See above	(8) REACH ALL AUDIENCE and USE A MULTI-LANGUAGE APPROACH (a). All the instructions provided in the evacuation phase have to be delivered using a multi-channel strategy and a multi-language approach (see above). During the evacuation, clear and accurate information is mandatory. A helpful tool for supporting the warning messages can be the use of dynamic displays/ electronic boards to show pre-recorded videos with security staff and/ or stewards indicating the nearest emergency exits.
		#4.2 Avoiding risky	See above	**Public directly**				See above	See above	(9) PROMOTE COOPERATION among

	behaviours in the public directly involved (e.g. running; moving in the wrong direction; blocking exits; tackling each other)		**involved** in the event inside and outside the venue.	each loudspeaker. **Way marking** (helping public to find the way); **Text-messages/ Cell broadcast**, to spread out text messages in real time and in differ languages.				crowd members, recommending helping attitudes and collaborative behaviours within the crowd.
	#4.3 Preventing public directly involved outside the venue from coming in the venue		**Public directly involved** outside the venue.	**2 and 3. Face-to-face communication (i.e. spoken information - human direct contact).** Positioning stewards (police officers and/ or private security staff) in pre-determined conflict points (e.g. in front of the main panels; at the top of the stairs, i.e. in the places where people usually stop) to indicate the most appropriate way to egress. Conflict points		See above	See above	**(10) REACH ALL AUDIENCE and USE A MULTI-LANGUAGE APPROACH (b).** All the instructions provided in the evacuation phase have to be delivered using a multi-cannel strategy and a multi-language approach (see above).

					have to be identified in the emergency plan					
		#4.4 Avoiding fighting and violence between the teams supporters	National and local LEAs supported by the *Command post* established on the ground	**Public directly involved** inside and outside the venue.	**Loudspeakers** in the venue **Face-to-face communication** (i.e. spoken information - human direct contact)	N/ A				−

#5	**TAKING CARE ABOUT SOCIAL MEDIA COMMUNICA TION ROLE**	**#5.1** Managing the two-way communication system enabled in the pre-event phase	National and local LEAs	**Public directly involved** inside and outside the venue; **Citizens**	**Multi-channel strategy:** **Social media** (LEAs twitter account). **LEAs mobile App**, when available.	N/ A	**See above**	**See above**		**11) USE A MULTI-LANGUAGE APPROACH (c).** See above Thanks to the communication strategy/ plan developed in the pre-event phase, call centers, LEAs in charge of managing social media should be available, ready to mobilize extra communication resources.

SPORTING EVENT – EXECUTION PHASE

HOW CAN WE ADDRESS COMMUNICATION FILTERS DEPENDING ON CROWDS' SOCIO-CULTURAL CHARACTERISTICS?

GENERAL RECOMMENDATIONS

(1) ENHANCE SAFETY AWARENESS. Before the event starts, when attendees are inside the venue waiting for the match, the giant screens placed in the venue together with the stadium audio system should be used to share with the crowd information concerning the venue map, channels used to communicate, safety measures and behaviours to be applied in case of emergency.

(2) USE A MULTI-LANGUAGE APPROACH (a). Information has to be provided in different languages, including English, the national language and those of the two groups of team supporters.

(3) REDUCE LANGUAGE BARRIERS. LEA officers should know the team supporters' jargon to communicate with the spotters/ negotiators (who usually belong to the team supporters communities).

LEA officers also need to be aware of their paralinguistic (e.g. voice tone) and non-verbal communication (e.g. facial expression, gestures) and those characterizing spotters/ negotiators as members of the team supporters' communities.

(4) REACH ALL AUDIENCE (a). The multi-channel strategy set up in the pre-event phase has to be applied.

(5) ENSURE COMMUNICATION REDUNDANCY. Warning messages framed in the pre-event phase (see "Fostering emergency preparedness" sub-objective) should be issued using the available channels identified (i.e. electronic boards/ mobile displays placed in the venue, loudspeaker system, text-messages/ Cell broadcast) and consistently repeated. Take into account that the Public Warning consists of some main aspects: time to communicate the critical information; the ability to deliver the right information, to the right audience, at the right time.

(6) USE A MULTI-LANGUAGE APPROACH (b). Warning messages should be provided in different languages, including English, the national language and those of the two groups of team supporters. Cultural and linguistic appropriateness of messages disseminated should be always guaranteed and verified, by activating the partnerships with the local cultural/ linguistic communities built in the pre-event phase. Moreover, the use of the Cell broadcast system allows overcoming the linguistic issue.

(7) BE AWARE OF NON-VERBAL COMMUNICATION. Facial expression, gestures, tone of voice, eye contact, etc. affect face-to-face communication and contribute to the message understanding. In case of emergency, stewards, police and the other first responders on the ground have a direct interaction with the public. They need to be aware of their non-verbal communication.

(8) REACH ALL AUDIENCE and USE A MULTI-LANGUAGE APPROACH (a). All the instructions provided in the evacuation phase have to be delivered using a multi-channel strategy and a multi-language approach (see above). During the evacuation, clear and accurate information is mandatory. A helpful tool for supporting the warning messages can be the use of dynamic displays/ electronic boards to show pre-recorded videos with security staff and/ or stewards indicating the nearest emergency exits.

(9) PROMOTING COOPERATION among crowd members, recommending helping attitudes and collaborative behaviours within the crowd.

(10) REACH ALL AUDIENCE and USE A MULTI-LANGUAGE APPROACH (b). All the instructions provided in the evacuation phase have to be delivered using a multi-channel strategy and a multi-language approach (see above).

(11) USE A MULTI-LANGUAGE APPROACH (c). See above.

Thanks to the communication strategy/ plan developed in the pre-event phase, call centers, LEAs in charge of managing social media should be available, ready to mobilize extra communication resources.

(12) REACH ALL AUDIENCE (b). Keep in touch with the partner local communities somehow related with the audience involved, to maximize communication dissemination and contrast fake news through their channels (e.g. social media, specific twitter account and/ or Facebook pages).

7.3.2 Communication guidelines (ICP) for festivals

ID	WHY DO WE COMMUNICATE?		WHO ARE THE MAIN COMMUNICATORS AND AUDIENCE?		HOW DO WE COMMUNICATE AND WHAT?		WHICH SOCIO-CULTURAL ISSUES CAN INFLUENCE THE COMMUNICATION?		HOW CAN WE ADDRESS COMMUNICATION FILTERS DEPENDING ON CROWDS' SOCIO-CULTURAL CHARACTERISTICS?
	MAIN OBJECTIVES	**SUB-OBJECTIVES**	**COMMUNICATOR**	**AUDIENCE**	**CHANNELS**	**MESSAGES**	**CROWDS' SOCIO-CULTURAL CHARACTERISTICS** (a more detailed description is reported at the end of table)	**FILTERS AFFECTING THE COMMUNICATION**	**GENERAL RECOMMENDATIONS** (a more detailed description of each recommendation is reported at the end of table)
#1	**Marketing and informing about the event at general level**	_	Event organizer in coordination and in agreement with all the stakeholders involved (e.g. Municipality; LEAs; first responders - i.e. fire-fighters, medical emergency service-; defence/Army; Civil Protection; Communicator; broadcast and media partners)	**Generic public**	**Multi-channel strategy: Social Media Event webpage Traditional media** (TV, papers) at international and national level	N/A	**Social identity.** Different categories of social identity should be considered, i.e. the **nationality** as large group identity (festivals are international events); the **subgroup membership** (e.g. fans groups or fans communities); **transitory cluster** (people sharing the "collective effervescence" and the transitory belongingness to the specific festival).	**Language.** Festivals are international events. Groups attending them come from different foreign countries. The crowd is composed by a huge number of not native speakers. Also depending on the kind of festival (i.e. music; cinema; comics; theatre, etc.), specific subgroups using different types of *jargons* are expected.	**(1) REACH ALL AUDIENCE**: A multi-channel strategy has to be developed at general level taking into account channels usually used by the audience attending festivals. Channels are different according to the specific type of festival.

						Age is a socio-demographic aspect that could be very influential in this type of event, especially in case of music festivals usually attended by young people. Communicating with *millennials* is an issue to be more explored. New communication patterns are requested according to how *millennials* use social media and mobile technologies.			
#2	**INCREASING CITIZIENS AND PUBLIC AWARENESS ON THE EVENT**	**#2.1** Facilitating two-ways communication among communicators and audience	Event organizer *International music festival*: A unique external communicator is a more effective solution rather than fragmenting the communication among the several stakeholders involved. If it is necessary to distinguish the communication made by a specific stakeholder, the	**Public directly involved** that will attend the event inside and outside the venue; **Citizens**	**Multi-channel strategy:** **Social media** (i.e. event Facebook page and twitter account); **Event mobile App (i.e. a** mobile app created and customized for the specific event) **Call-centers**	N/A	See above	See above	**(2) BUILD AND ENABLE TWO-WAY COMMUNICATION SYSTEM,** that allows a two-way communication among communicators and audience, providing public directly involved with a trustworthy and dedicated account in social media (e.g. twitter) or a mobile application - customized for the event - that allow them to directly communicate with the event organizer. This account has to be active everyday in the pre-event phase to gain trust by the people and maintain the

		organizer can says, "this instructions are from the police", etc. ***Traditional festival (local and international):*** In this case information are provided by the City Hall as event organizer						communicator' digital reputation.
		#2.2 Increasing residents' awareness of the event (neighbourhoods close to the festival)	See above	Citizens (i.e. residents)	**Neighbourhood meetings** (organized in case that the event venue is close to neighbourhoods). They aim at getting people's support and cooperation in face of e.g. noise disturbance, thousand people camping and moving	A messages map to support the message creation has to be prepared in advance for making sure that messages correctly reach the public. SEE TOOL #3 "Warning message map template"	See above	See above	**(3) PROMOTE A MORE INCLUSIVE APPROACH TO THE INFORMATION.** Citizens will have the feeling that their contribute is highly relevant are appreciated by the authorities. From their side, authorities have to take into consideration people's risk perception related to a specific event and act accordingly, recognizing citizens' expertise and local knowledge.
		#2.3 Informing about the event, access conditions, accessibility	See above	**Public directly involved** that will attend the event inside and outside the	**Multi-channel strategy.** It could be differentiate	See above	See above	See above	**(4) REDUCE LANGUAGE BARRIERS:** in every channel information about the event should be provided in different

		measures, logistic, rules and regulation		venue; **Citizens**	d according to the type of the festival, i.e.: *International music festival:* **Festival channels**: website; social media (i.e. Facebook page, Twitter account; Instagram); Event mobile App *Traditional festival – local, international* **Festival Channels**: website, social media (i.e. Facebook page, Twitter account); **City Hall website** (to deliver logistic information); **City Hall App for the public**				languages. Cultural and linguistic appropriateness of messages disseminated should be always guaranteed and verified. The information could be also printed on the ticket or promotional leaflet. To inform about general security measures applied at the venue electronic boards at the venue's entrances and exits (when available) could be used to inform people about the items (e.g. tickets, ID card) they need to have ready, and the prohibited items that cannot brought to the event (e.g. glass bottles, pyrotechnic materials).
		#2.4 Informing people on the safety and security measures applied and on measures to be taken in case of emergency (to be prepared to follow the instructions)	See above	**Public directly involved** that will attend the event inside and outside the venue; **Citizens**		See above	See above	See above	
		#2.5 Giving tips to the people concerning weather conditions	See above	**Public directly involved** that will attend the event inside and outside the venue; **Citizens**		See above	See above	See above	
		#2.6 Fostering emergency preparedness and informing about possible risks that could occur in the event (i.e. pre-event risk communication)	Event organizer together with LEAs	**Public directly involved** that will attend the event inside and outside the venue; **Citizens**		Likely incident scenarios have to be identified in advance in the communication plan. Few common instructions can be identified to deliver messages even though the		**Language**. See above. **Signs comprehension**. The interpretation of safety signs placed in the event venue (e.g. emergency exit/ escape route signs; first-aid signs; warning signs; etc.), as well as hand signals code and verbal signals (e.g. public announcements) may possibly vary within different countries	**(4) REDUCE LANGUAGE BARRIERS** (see above) **(5) RAISE SAFETY AWARENESS**. Inform about preparedness measures and how to behave in case of emergency. Maps and safety instructions should be printed and/ or available online. Be sure that mother-tongue professionals translate them in different

				transportatio n (for logistic information)	communicatio n is context-based and changes according to the critical situation: small sentences and delivered in time to decide				languages. When online, be sure that this information is easy to find. **(6) ENHANCE SIGNS COMPREHENSION.** It is necessary to create knowledge on them, by sharing their meanings among the public directly involved in the pre-event phase. Meanings concerning codes chosen for the verbal, hand signals and pictograms have to be consistent throughout all phases of the event (pre and execution phases) and properly shared among people by means of an appropriate "training" awareness activities/ measures.
#3	**BUILDING PARTNERSHIP WITH LOCAL CULTURAL COMMUNITIE S**	**#3.1** Supporting the communication with specific cultural groups attending the event	- Local authorities; - LEAs (at local level)	**Citizens**	**Face-to-face communicati on** (i.e. spoken information - human direct contact)	N/A	See above	See above	**(7) ESTABLISH CONTACTS AND BUILD PARTNERSHIP.** Establishing a network of local trusted sources, i.e. local cultural communities whose leaders should be prepared and involved in the communication strategy to work as contact/ reference points for communicating with people of the same culture/ country

									attending the event.
									Maintaining a database of the trusted sources identified that could provide support for emergency communication - by reducing language barriers- in case of emergency during the event execution.

FESTIVALS

WHICH socio- cultural issues can affect the communication?

Social identity. Different categories of social identity should be considered, i.e. the nationality as large group identity (festivals are international events); the subgroup membership (e.g. fans groups or fans communities); transitory cluster (people sharing the "collective effervescence" and the transitory belongingness to the specific festivals).

According to the several types of festival (e.g. music), many different kinds of group memberships can be identified. For instance, one function of music is considered to be defining social identity for oneself and for others. Several musical styles define specific social identities characterized by jargons, non-verbal codes, practices/ activities (including alcohol and drug assumption), attitudes (e.g. towards the authority), etc.

Age is a socio-demographic aspect that could be very influential in this type of event, especially in case of music festivals usually attended by young people. Communicating with *millennials* is an issue to be more explored. New communication patterns are requested according to how *millennials* use social media and mobile technologies.

During an emergency it is important to support the creation of an *emergent-shared identity* (sense of unity, solidarity, psychological togetherness, groupness) among the crowd members. Furthermore, public's self-efficacy, self-reliance and a shared responsibility for event safety also need to be fostered by the communication in order to empower the crowd's collective efficacy.

PREPARATION PHASE

HOW CAN WE ADDRESS COMMUNICATION FILTERS DEPENDING ON CROWDS' SOCIO-CULTURAL CHARACTERISTICS?

GENERAL RECOMMENDATIONS

(1) REACH ALL AUDIENCE. A multi-channel strategy has to be developed at general level taking into account channels usually used by the audience attending festivals. Channels are different according to the specific type of festival.

(2) BUILD AND ENABLE TWO-WAY COMMUNICATION SYSTEM, that allows a two-way communication among communicators and audience, providing public directly involved with a trustworthy and dedicated account in social media (e.g. twitter) or a mobile application - customized for the event - that allow them to directly communicate with the event organizer. This account has to be active every day -in the pre-event phase - to gain trust by the people and maintain the communicator' digital reputation.

(3) PROMOTE A MORE INCLUSIVE APPROACH TO THE INFORMATION. Citizens will have the feeling that their contribute is highly relevant are appreciated by the authorities. From their side, authorities have to take into consideration people's risk perception related to a specific event and act accordingly, recognizing citizens' expertise and local knowledge.

(4) REDUCE LANGUAGE BARRIERS. In every channel information about the event should be provided in different languages, including English, those of the major groups of attendees, the national language and local dialects if their use could improve the communication comprehension. Cultural and linguistic appropriateness of messages disseminated should be always guaranteed and verified.

The information could be also printed on the ticket or promotional leaflet.

To inform about general security measures applied at the venue electronic boards at the venue's entrances and exits (when available) could be used to inform people about the items (e.g. tickets, ID card) they need to have ready; and the prohibited items that cannot brought to the event (e.g. glass bottles, pyrotechnic materials).

(5) RAISE SAFETY AWARENESS. Inform about preparedness measures and how to behave in case of emergency by providing, e.g.: event venue map where evacuation locations, emergency exits, medical service points on the ground and other general safety instructions are included. Maps and safety instructions should be printed and/ or available online. Be sure that mother-tongue professionals translate them in different languages. When online, be sure that this information is easy to find.

(6) ENHANCE SIGNS COMPREHENSION. In order to make understandable signs and signals to the major number of people attending an event, it is necessary to create knowledge on them, by sharing their meanings among the public directly involved in the pre-event phase. Meanings concerning codes chosen for the verbal, hand signals and pictograms have to be consistent throughout all phases of the event (pre and execution phases) and properly shared among people by means of an appropriate "training" awareness activities/ measures. Some specific strategies should be used to prepare people to be more reactive during a critical situation, i.e.: to enhance the understanding of safety signs and hand signals that will be used in the event, a number of cards clearly explaining them and their meanings could be provided in advance to the public directly involved in the event (inside and outside). They can be spread by using different channels, e.g.: event organizer and/ or City Hall website; dedicated websites addressing how to be prepared to cope with risky situations and emergencies; social media; flyers that have to be prepared in the pre-event phase and distributed before the event starts (execution phase). Cards should be comprehensible for all audience from different nationalities/ cultures. Preferably, they should contain a minimum amount of written information.

(7) ESTABLISH CONTACTS AND BUILD PARTNERSHIP. Establish a network of local trusted sources, i.e. local cultural communities whose leaders should be prepared and involved in the communication strategy to work as contact/ reference points for communicating with people of the same culture/ country attending the event.

Maintaining a database of the trusted sources identified that could provide support for emergency communication - by reducing language barriers- in case of emergency during the event execution.

FESTIVALS - EXECUTION PHASE (EXTERNAL COMMUNICATION)								
ID	**WHY DO WE COMMUNICATE?**		**WHO ARE THE MAIN COMMUNICATORS AND AUDIENCE?**		**HOW DO WE COMMUNICATE AND WHAT?**		**WHICH SOCIO-CULTURAL ISSUES CAN INFLUENCE THE COMMUNICATION?**		**HOW CAN WE ADDRESS COMMUNICATION FILTERS DEPENDING ON CROWDS' SOCIO-CULTURAL CHARACTERISTICS?**
	MAIN OBJECTIVES	**SUB-OBJECTIVES**	**COMMUNICATOR**	**AUDIENCE**	**CHANNELS**	**MESSAGES**	**CROWDS' SOCIO-CULTURAL CHARACTERISTICS**	**FILTERS AFFECTING THE COMMUNICATION**	**GENERAL RECOMMENDATIONS** (a more detailed description of each recommendation is reported at the end of table)
#1	**INFORMING ON THE SAFETY MEASURES AND BEHAVIOURS TO BE APPLIED IN CASE OF EMERGENCY (BEFORE THE EVENT STARTS)**	Increasing safety awareness	Event organizer	**Public directly involved** inside the venue	**Multi-channel strategy:** Integrated audio (i.e. loudspeakers) and visual system (i.e. electronic boards/ giant screens/ dynamic displays).	Information to be communicated: - Instructions on safety behaviours; - Venue map (focus on emergency exits, escape routes); - Explanation of the safety signs and signals (verbal, hand signals, pictograms) placed in the venue and that will be used to communicate with the crowd in case of emergency.	**Social identity.** Different categories of social identity should be considered, i.e. the **nationality** as large group identity (festivals are international events); **subgroup membership** (e.g. fans groups or fans communities); **transitory cluster** (people sharing the "collective effervescence" and the transitory belongingness to the specific festival). **During an emergency** it is important to support the creation of an **emergent-shared identity** (sense	**Language.** Festivals are international events. Groups attending them come from different foreign countries. The crowd is composed by a huge number of not native speakers. Also depending on the kind of festival (i.e. music; cinema; comics; theatre, etc.), specific subgroups using different types of jargons are expected. **Signs comprehension**. The interpretation of safety signs both showed by the electronic boards and placed in the event venue (e.g. emergency exit/ escape route signs; first-aid signs;	**(1) ENHANCE SAFETY AWARENESS:** before each event included in the festival starts, the giant screens placed in the venue and/ or electronic boards on the field should be used to share with the crowd information concerning the venue map, channels used to communicate and safety measures and behaviours to be applied in case of emergency. Furthermore, stewards placed on the ground, at the venue entrances, shall provide public directly involved with flyers explaining safety information and measures. Event mobile App and/or social media (i.e. twitter) should also disseminate this type of

							of unity, solidarity, psychological togetherness, groupness) among the crowd members.	warning signs; etc.) may possibly vary within different countries.	information. **(2) USE A MULTI-LANGUAGE APPROACH (a)**. Information has to be provided in different languages, including English, the national language and other relevant languages (i.e. those of the major groups of attendees).
#2	**Warning the crowd in the case of something critical occurs**	**#2.1** Influencing public's risk perception and behaviour to allow a timely and effective response	Several communicators, depending on the type of the festival, i.e.: *International music festival:* **1.** the event organizer communicator's team is in charge of communicating with the public directly involved, inside and outside the venue. Local authorities work with the organizer team to coordinate the organizer's communication with the official communication made by the authorities; **2.** Majors of the municipalities around the festival work together to communicate with	*International music festival:* **1. Public directly involved** inside and outside the venue; **2. Citizens; 3. Generic public**	**Multi-channel strategy:** **1. Electronic boards/ giant screens**. The visual system typically used to display the events within the festivals switches functionality showing short warning messages and safety signs; **Loudspeaker system** in the venue; **Face-to-face communication** (spoken information; human direct contact;	*International music festival*: a common approach to prepare and deliver messages has to be shared among all the crisis communication levels (national, local and the organizer). The main principles of the communication delivered	See above	See above	**(3) REACH ALL AUDIENCE:** the multi-channel strategy set up in the pre-event phase has to be applied. **(4) ENSURE COMMUNICATION REDUNDANCY:** Warning messages framed in the pre-event phase (see "Fostering emergency preparedness" sub-objective) should be issued using the available channels identified (i.e. electronic boards/ mobile displays placed in the venue, loudspeaker system, text-messages/ Cell broadcast) and repeated consistently. **(5) USE A MULTI-LANGUAGE APPROACH (b).** Warning messages should be provided in

			citizens and people working and living in the neighbourhoods around the festival site; **3.** The national crisis communication team manages the communication addressed to all the generic public (including media). ***Traditional festival (local and international)***: the external communication is mainly managed by the City Hall - as event organizer - by means of LEAs. The mobile police station set up on the ground is in charge of communicating with the public directly involved in the venue.		stewards on the ground); **Social media** (festival twitter account); **Event mobile App** (disseminated by the organizer to the public of the festival in the pre-event phase); **Alert system** (e.g. BE-ALERT in Belgium) OR **Text-messages/ Cell broadcast**. They allow sending a huge number of text messages to the public directly involved in real-time and in different languages even when the network is congested, without preliminary registration. **2. Face-to-face communication** on the field (spoken information; human direct contact);	at the first stage of the critical situation should consist in communicating what "We Know, We Do, We Care". Some generic principles have to be taken into account: "Tell the crowd as much as they have to know"; "Think of the psychological impact if you tell them more than they need to know or less".		different languages including English, those of the major groups of attendees, the national language and local dialects if their use could improve the communication comprehension. E.g. Oktoberfest. Since many Bavarian people attend the festival, Munich public transportation decided to use also the Bavarian language to be more effective in the communication. Dialect seems to be more familiar, especially for drunk people. Type of issued announcement: "Hi you drunk guy! Go one step back" (in Bavarian dialect). Cultural and linguistic appropriateness of messages disseminated should be always guaranteed and verified (e.g. by the support of local trusted sources - local cultural communities; see pre-event phase). The use of the alert system or Cell broadcast allows overcoming the linguistic issue.

					LEA's social media; **Alert system**. **3. Social media;** **Traditional media** -TV, newspapers *Traditional festival - local and international* At least: face-to-face communication and LEA twitter account.				**(6) BE AWARE OF NON-VERBAL COMMUNICATION.** Facial expression, gestures, tone of voice, eye contact, etc. affect face-to-face communication and contribute to the message understanding. In case of emergency, stewards, police and the other first responders on the ground have a direct interaction with the public. They need to be aware of their non-verbal communication.
#3	**PREPARING THE EGRESS AND OPTIMIZING THE EVACUATION TIME**	**#3.1** Providing information to the public directly involved about how they have to behave (WHAT TO DO**)**	Many communication flows in parallel. Several communicators: *International music festival:* **1.** Event organizer **2.** Operational command post established on the ground with representatives of the main stakeholders involved in the event	**Public directly involved** inside and outside the venue	**Multi-channel strategy:** *International music festival (and Traditional festival):* **1.Electronic boards/ giant screen**s to guide pedestrian flow; **Loudspeaker system** in the venue; **Face-to-face**	A warning message provides information on: What actions people should take and Why these actions are necessary. - Its structure may vary according to the type of channel used to issue warnings; - It should be	See above	See above	**(7) ESTABLISH CONTACTS AND BUILD PARTNERSHIP.** Establishing a network of local trusted sources, i.e. local cultural communities whose leaders should be prepared and involved in the communication strategy to work as contact/ reference points for communicating with people of the same culture/ country attending the event. Maintaining a database of the trusted sources identified that could

			management. ***Traditional festival -local and international:*** Communication with the public is mainly managed by LEAs. The mobile police station set up on the ground is in charge of communicating with the public directly involved in the venue.		**communication** (stewards on the ground); **Way marking** (helping public to find the way); **Event mobile App**. **2. Face-to-face communication** (i.e. spoken information - human direct contact). Positioning LEAs and/ or private security staff and first responders on the ground to indicate the most appropriate way to egress.	delivered taking into account the message map worked out in the pre-event phase;			provide support for emergency communication - by reducing language barriers- in case of emergency during the event execution.
		#3.2 Avoiding risky behaviours in the public directly involved (e.g. running; moving in the wrong direction; blocking exits; tackling each other)		**Public directly involved** in the event inside and outside the venue		- Warning messages should be repeated at intervals, rather than consecutively; - They have to clearly address distinct audience within the message, e.g.: "Instructions for families" [followed by message for families]; "Instructions for people outside the event venue" [followed by the message].	See above	See above	**(8) REACH ALL AUDIENCE and USE A MULTI-LANGUAGE APPROACH.** All the instructions provided in the evacuation phase have to be delivered using a multi-channel strategy and a multi-language approach. During the evacuation, clear and accurate information is mandatory. Dynamic displays/ electronic boards showing pre-recorded videos with security staff and/ or stewards indicating the nearest emergency exits could help people egress.
		#3.3 Preventing public directly involved outside the venue from coming in the venue		**Public directly involved outside** the venue			See above	See above	**(6) BE AWARE OF NON-VERBAL COMMUNICATION.** See above. **(9) PROMOTING COOPERATION** among crowd members, recommending helping attitudes and

									collaborative behaviours within the crowd.

#4.	**TAKING CARE ABOUT SOCIAL MEDIA COMMUNICATION ROLE**	**#4.1** Managing the two-way communication system enabled in the pre-event phase	Event organizer	**Public directly involved** inside and outside the venue; **Citizens;** **Generic public**	Multi-channel strategy: **Call-centers**; **Festival Social media** (twitter account) **Event mobile App**	N/A	See above	See above	**(10) USE A MULTI-LANGUAGE APPROACH.** See above. Thanks to the communication strategy/ plan developed in the pre-event phase, the event organizer and other stakeholders (e.g. LEAs) in charge of managing social media should be available, ready to mobilize extra communication resources.
		#4.2 Checking the accuracy of the communication and mitigating the effects of fake news	LEAs (at local and national level)		**Festival Social media** (twitter account); **Event mobile App**; **Alert system/ Cell broadcast**	N/A	See above	See above	**(11) REACH ALL AUDIENCE.** Keep in touch with the partner local communities somehow related with the audience involved to maximize communication dissemination and contrast fake news through their channels (e.g. social media, specific twitter account and/ or Facebook pages).

FESTIVALS – EXECUTION PHASE

HOW CAN WE ADDRESS COMMUNICATION FILTERS DEPENDING ON CROWDS' SOCIO-CULTURAL CHARACTERISTICS?

GENERAL RECOMMENDATIONS

(1) ENHANCE SAFETY AWARENESS: before each event included in the festival starts, the giant screens placed in the venue and/ or electronic boards on the field should be used to share with the crowd information concerning the venue map, channels used to communicate and safety measures and behaviours to be applied in case of emergency. Furthermore, stewards placed on the ground, at the venue entrances, shall provide public directly involved with flyers explaining safety information and measures. Event mobile App and/or social media (i.e. twitter) should also disseminate this type of information.

(2) USE A MULTI-LANGUAGE APPROACH (a). Information has to be provided in different languages, including English, the national language and other relevant languages (i.e. those of the major groups of attendees).

(3) REACH ALL AUDIENCE (a): the multi-channel strategy set up in the pre-event phase has to be applied.

(4) ENSURE COMMUNICATION REDUNDANCY: Warning messages framed in the pre-event phase (see "Fostering emergency preparedness" sub-objective) should be issued using the available channels identified (i.e. electronic boards/ mobile displays placed in the venue, loudspeaker system, text-messages/ Cell broadcast) and repeated consistently.

(5) USE A MULTI-LANGUAGE APPROACH (b). Warning messages should be provided in different languages including English, those of the major groups of attendees, the national language and local dialects if their use could improve the communication comprehension.

E.g. Oktoberfest Since many Bavarian people attend the festival, Munich public transportation decided to use also the Bavarian language to be more effective in the communication. Dialect seems to be more familiar, especially for drunk people.

Type of issued announcement: "Hi you drunk guy! Go one step back" (in Bavarian dialect).

Cultural and linguistic appropriateness of messages disseminated should be always guaranteed and verified (e.g. by the support of local trusted sources - local cultural communities; see pre-event phase). The use of the alert system or Cell broadcast allows overcoming the linguistic issue.

(6) BE AWARE OF NON-VERBAL COMMUNICATION. Facial expression, gestures, tone of voice, eye contact, etc. affect face-to-face communication and contribute to the message understanding. In case of emergency, stewards, police and the other first responders on the ground have a direct interaction with the public. They need to be aware of their non-verbal communication.

(7) ESTABLISH CONTACTS AND BUILD PARTNERSHIP. Establish a network of local trusted sources, i.e. local cultural communities whose leaders should be prepared and involved in the communication strategy to work as contact/ reference points for communicating with people of the same culture/ country attending the event.

Maintaining a database of the trusted sources identified that could provide support for emergency communication - by reducing language barriers- in case of emergency during the event execution.

(8) REACH ALL AUDIENCE and USE A MULTI-LANGUAGE APPROACH. All the instructions provided in the evacuation phase have to be delivered using a multi-channel strategy and a multi-language approach. During the evacuation, clear and accurate information is mandatory.

Dynamic displays/ electronic boards showing pre-recorded videos with security staff and/ or stewards indicating the nearest emergency exits could help people egress.

(9) PROMOTING COOPERATION among crowd members, recommending helping attitudes and collaborative behaviours within the crowd.

(10) USE A MULTI-LANGUAGE APPROACH. See above.

Thanks to the communication strategy/ plan developed in the pre-event phase, the event organizer and other stakeholders (e.g. LEAs) in charge of managing social media should be available, ready to mobilize extra communication resources.

(11) REACH ALL AUDIENCE (b). Keep in touch with the partner local communities somehow related with the audience involved to maximize communication dissemination and contrast fake news through their channels (e.g. social media, specific twitter account and/ or Facebook pages).

8   Conclusions and next steps

The deliverable D5.2 includes the first version of the Innovative Communication Procedures (ICP), that aim at improving security operators and first responders' situational awareness, intercultural competences and commitment in the pre-event phase and during the execution of the event. ICP consist both of general recommendations concerning the two phases of a mass-gathering event, and specific recommendations and solutions related to sporting events and festivals. In fact, in this preliminary version not all the categories of mass-gathering events (i.e. sporting event; festival; concert; political demonstration; religious and traditional celebration) have been fully explored. It depends on the availability of data collected trough the qualitative interviews carried out with LEAs and first responders involved in LETSCROWD. LEAs were more experts in some types of events and less in others.

The key elements around which ICP have been constructed (and structured) are those of the communication process identified in the model drawn up in figure 2, i.e.:

1. WHAT do we communicate? (Objectives and sub – objectives of the communication)
2. WHO are the main communicators and audiences? (main actors involved in the communication process)
3. HOW do we communicate and what?
4. WHICH socio- cultural issues can affect the communication?
5. GENERAL RECOMMENDATIONS: How can we address communication filters depending on the crowds' socio cultural characteristics?

The main sources of the ICP content are evidences coming from the literature review (on socio-cultural issues and crowd behaviours; risk and crisis communication and LEAs' communication procedures) and data collected through the qualitative interviews. ICP could be customised and enriched by LEAs and the other key stakeholders according to the type of event.

In addition, D5.2 includes other tools that could be complementary used with ICP, such as:

- Specific template for identifying the specific target audience attending an event (ANNEX A - 10.1);

- Specific template for supporting the mapping of the channels with the message to be delivered (ANNEX A - 10.2);
- Specific template for constructing warning messages (ANNEX A - 10.3);
- Triggering questions that can be used as check list by the ICP users when setting up their own communication strategy (Section 5).

The second update of the deliverable (D5.6) will improve some aspects of the current version.

First of all, ICP will be tested in the practical demonstrations planned in the WP6. Useful feedback and suggestions could be gathered to identify weak points to be improved when guidelines are used within certain contexts, even thought simulated.

Secondly, the socio-cultural elements influencing the communication face-to-face with the public will be explored more in detail. Dedicated cards focused on non-verbal communication and how it is influenced by people's socio-cultural background will be developed in order to increase awareness on it when information are provided through the human direct contact.

The last aspect concerns the relationship between the ICP and the crowd-modelling tool (D5.1 Crowd Modelling and Planning Tool). In order to make ICP recommendations usable and useful for the tool, some ICP features will be refined to enrich the model.

9   REFERENCES AND ACRONYMS

9.1   REFERENCES

1. **LETSCROWD project.** *Deliverable D2.2 LETS-CROWD use cases, scenarios and KPIs identification.* 2017.

2. **Pirazzi, M., Johnson, P. & C. Di Persio.** *The police service for a multicultural society. A manual for the National Police. .* s.l. : COSPE and the Ministry of the Interior., 2004.

3. **Adrian Holliday, Martin Hyde and John Kullman.** Intercultural Communication. An Advanced Resource Book. London : Routledge, 2004.

4. **Poljanšek, K., Montserrat, Martin Ferrer, M., De Groeve, T., Clark, I.** *Science for disaster risk management 2017: Knowing better and losing less.* Luxembourg : EUR 28034 EN. Publications Office of the European Union, 2017. ISBN: ISBN 978-92-79-60679-3.

5. *Social identity and intergroup behaviour.* **Tajfel, H.** s.l. : Social Science Information, 1974, Vols. 13 (2), pp. 65-93.

6. *Intragroup processes, group structure and social identity.* **Hogg, M. A.** s.l. : Oxford: Butterworth-Heinemann, 1996, Vols. In W. P. Robinson (Ed.) Social groups and identities: Developing the legacy of Henri Tajfel, (pp. 6–94).

7. *Integration of social identities in the self: Toward a cognitive-developmental model.* **Amiot, C. E., De la Sablonniere, R., Terry, D. J., & Smith, J. R.** s.l. : Personality and Social Psychology Review, 2007, Vols. 11(4), 364–388.

8. *Multiple social identities and adjustment in young adults from ethnically diverse backgrounds.* **Kiang, L., Yip, T., & Fuligni, A. J.** s.l. : Journal of Research on Adolescence, 2008, Vols. 18(4), 643-670.

9. *'Reflections of Varieties of Culturespeak'.* **Hannerz, U.** s.l. : European Journal of Cultural Studies, 1999, Vols. 2:3 pp. 393–407.

10. *Perception and Identity in Intercultural Communication Yarmouth.* **R., Singer M.** s.l. : ME.: Intercultural Press, 1998, Vol. p.6.

11. **Arent, R.** *Bridging the Cross-cultural Gap.* s.l. : Michigan, ELT, USA, 2009.

12. *Cooperation versus competition in a mass emergency evacuation: a new laboratory simulation and a new theoretical model.* **Drury, J., Cocking, C., Reicher, S., Burton, A., Schofield, D., Hardwick, A., Graham, D. and Langston, P.** 41(3): 957–970, s.l. : Behavior Research Methods, 2009.

13. *Everyone for themselves? A comparative study of crowd solidarity among emergency survivors.* **Drury, J., Cocking, C. and Reicher, S.** s.l. : British Journal of Social Psychology, 2009, Vols. 48(): 487–506.

14. *The nature of collective resilience: survivor reactions to the 2005 London bombings.* **Drury,J., Cocking, C. and Reicher, S.** 27(1): 66– 95, s.l. : International Journal of Mass Emergencies and Disasters, 2009.

15. **Williams R., Drury J.** Personal and Collective Psychosocial Resilience: Implications for Children, Young People and Their Families Involved in War and Disasters. In: Cook D.T., Wall J. (eds) Children and Armed Conflict. Studies in Childhood and Youth. . London : Palgrave Macmillan, 2011.

16. *Mass media communications and mass reactions to emergencies and disasters. .* **Drury, J., Cocking, C.** London : RUSI Conference on the role of the media in emergencies, 2008.

17. **Association of Chief Police Officers/National Policing Improvement Agency.** *Manual of guidance on keeping the peace.* 2010.

18. **IMPACT project.** *Deliverable 4.3 Cultural-based Emergency Communication guidelines.* 2017.

19. **P., Andersen.** *The Basis of Cultural Differences in Nonverbal Communication. In L.A. Samovar,R. E. Porter, E.R. Mcdaniel (Eds).* Wadsworth : Cengage Learning., 2012.

20. **Zani B., Selleri P., David D.** *LA COMUNICAZIONE. Modelli teorici e contesti sociali.* Rome : Carocci, 1998.

21. **Thovuttikul, S., Lala, D., Ohashi, H., Okada, S., Ohmoto, Y., & Nishida, T.** Simulated crowd: Towards a synthetic culture for engaging a learner in culture-dependent nonverbal interaction. s.l. : In 2nd Workshop on Eye Gaze in Intelligent Human Machine Interaction, Stanford University, USA, 2011.

22. **Garforth, P. Oakley AND C.** *Agriculture Extension and Rural Development Centre.* s.l. : School of Education, University of Reading, UK, 1985.

23. **IMPACT proejct.** *"Deliverable D1.1 Review and Critical Analysis of Multi-Cultural Crowd Behaviour in Emergencies".* 2016.

24. *Interpretation of way-finding healthcare symbols by a multicultural population: Navigation signage design for global health. .* **Hashim, M. J., Alkaabi, M. S. K. M., & Bharwani, S.** 45(3), 503-509, s.l. : Applied Ergonomics, 2014.

25. **Kuligowski, E. D., & Omori, H.** *General guidance on emergency communication strategies for buildings.* s.l. : US Department of Commerce, National Institute of Standards and Technology., 2013.

26. *The effects of cultural differences between the west and Saudi Arabia on emergency evacuation—clothing effects on walking speed. .* **Almejmaj, M., Meacham, B., & Skorinko, J.** s.l. : Fire and Materials, 2014, Vols. 39(4), 353-370.

27. **Challenger, R., Clegg, C. W., & Robinson, M. A.** *Understanding crowd behaviours. .* s.l. : London: Cabinet Office, 2010.

28. *Factors related to flood warning response. Paper for the US-Italy Workshop on the*

Hydrometeorology, Impact, and Management of Extreme Floods. **Mileti, D.S.** Perugia : s.n., 1995.

29. *Crossing at a red light: Behaviour of individuals and groups. .* **Rosenbloom, V.** 389–394, s.l. : Transportation Research Part F: Traffic Psychology and Behaviour, 2009, Vol. 12 (5).

30. *Gender and evacuation: A closer look at why women are more likely to evacuate for hurricanes.* **Bateman, J. & Edwards, B.** 107–117, s.l. : Natural Hazards Review, Vol. 3(3).

31. *Predictors of emergency preparedness and compliance.* **Murphy, S.T., Cody, M., Frank, L.B., Glik, D., & Ang, A.** 1-9, s.l. : Disaster Medicine and Public Health Preparedness, Vol. 3.

32. **National Disaster Management Authority.** *A guide for state government, local authorities, administrators, and organizations.* s.l. : New Delhi: Government of India., 2014.

33. *Factors associated with high-rise evacuation: Qualitative results from the World Trade Center evacuation study.* **Gershon, R.M.R., Qureshi, K.A. Rubin, M.S., & Raveis, V.H.** 165-173, s.l. : Prehospital and Disaster Medicine, 2007, Vol. 22(3).

34. *Predicting evacuation in two major disasters: Risk perception, social influence, and access to resources.* **Riad, J.K., Norris, F.H., & Ruback, R.B.** 918–934, s.l. : Journal of Applied Social Psychology, 1999, Vol. 29(5).

35. *Gender differences in risk taking: A meta-analysis.* **Byrnes, J.P., Miller, D.C., & Schafer W.D.** 367-383, s.l. : Psychological Bulletin, 1999, Vol. 125(3).

36. *Risk taking during decision-making in normal volunteers changes with age. .* **Deakin, J., Aitken, M., Robbins, T., & Sahakian, B.J.** 590-598, s.l. : Journal of the International Neuropsychological Society, 2004, Vol. 10(4).

37. **University of Leeds.** *Understanding Crowd Behaviours: Guidance and Lessons Identified, ISBN 978-1-874321-20-0.].* s.l. : Cabinet Office - United Kingdom, 2009.

38. **Le Bon, G.** *The Crowd: A Study of the Popular Mind.* s.l. : Routledge, 1985.

39. **Reicher, S. D.** *The psychology of crowd dynamics (Vol. 44, No. 0, p. 182â).* s.l. : Blackwell handbook of social psychology: Group processes, 2001.

40. *Managing to avert disaster: Explaining collective resilience at an outdoor music event.* **Drury, J, Novelli, D and Stott, CJT (2015).** s.l. : European Journal of Social Psychology, 2015, Vols. 45 (4). 533 -.

41. *Talking about Hillsborough:'Panic'as discourse in survivors' accounts of the 1989 football stadium disaster.* **Cocking, C., & Drury, J.** s.l. : Journal of Community & Applied Social Psychology, 2014, Vols. 24(2), 86-99.

42. *Freeze, flight, fight, fright, faint: Adaptationist perspectives on the acute stress response spectrum.* **Bracha, H. S.** 679-685, s.l. : CNS spectrums, 2004, Vol. 9(9).

43. *Contemporary understanding of riots: Classical crowd psychology, ideology and the social identity approach.* **Stott, C., & Drury, J.** s.l. : Public Understanding of Science, 2017, Vols. 26(1), 2-14.

44. *The madding crowd goes to school: Myths about crowds in introductory sociology textbooks.* **Schweingruber, D., & Wohlstein, R. T.** 136-153, s.l. : Teaching Sociology, 2005, Vol. 33(2).

45. *Social facilitation.* **Zajonc, R. B.** 269-274, s.l. : Science, 1965, Vol. 149.

46. **CW, Johnson.** Lessons from the Evacuation of the World Trade Centre, September 11th. [Online] http://www.dcs.gla.ac.uk/~johnson/papers/9_11.PDF.

47. *Occupant behaviour and evacuation.* **G, Proulx.** s.l. : Proceedings of the 9th International Fire Protection Symposium (archive.nrc-cnrc.gc.ca), 2001.

48. *Affiliative behaviour during escape to building exits.* **Sime, J. D.** 21-41, s.l. : Journal of environmental psychology, 1983, Vol. 3(1).

49. *Understanding mass panic and other collective responses to threat and disaster. .* **Mawson, A. R.** 95-113, s.l. : Psychiatry, 2005, Vol. 68.

50. *To prevent'panic'in an underground emergency: why not tell people the truth?* **Proulx G, Sime JD.** 843–852, s.l. : Fire Safety Science, 1991, Vol. 3.

51. *Crowd disasters as systemic failures: analysis of the Love Parade disaster.* **Helbing D, Mukerji P.** 1–40, s.l. : EPJ Data Science, 2012, Vol. 1(1).

52. **CAbinet Office UK.** Understanding Crowd Behaviours: Guidance and Lessons Identified. [Online] http://library.college.police.uk/docs/cabinetoffice/guidancelessons1.pdf.

53. *Collective action and psychological change: The emergence of new social identities.* **Drury, J., & Reicher, S.** 579-604, s.l. : British journal of social psychology, 2000, Vol. 39(4).

54. *Exit choice behaviour during the evacuation of two lecture theatres.* **Kimura, M. and Sime, J. D.** s.l. : Fire Safety Science: Proceedings of the Second International Symposium, 1988.

55. *The impact of exit instructions and number of exits in fire emergencies: A computer simulation investigation.* **Johnson, N. R. and Feinberg, W. E.** 123-133, s.l. : Journal of Environmental Psychology, 1997, Vol. 17.

56. *Behavioral aspects of the King's Cross underground fire. .* **Donald, I. and Canter, D.** s.l. : David Fulton Publishers, 1990, Vols. In D. Canter (Ed.), Fires and Human Behaviour (2nd Edn.).

57. *Crisis and emergency risk communication as an integrative model. .* **Reynolds, B., & W. SEEGER, M.** 43-55, s.l. : Journal of health communication, 2005, Vol. 10(1).

58. *Multicultural crisis communication: Towards a social constructionist perspective.* **Falkheimer, J., & Heide, M.** 180-189, s.l. : Journal of contingencies and crisis management, 2006, Vol. 14(4) .

59. *Best Practices in Crisis Communication: An Expert Panel.* **Seeger, M. W.** s.l. : Journal of Applied Communication Research, 2006.

60. *Communication gaps in disaster management: Perceptions by experts from governmental and non-governmental organizations.* **Palttala, P., Boano, C., Lund, R., & Vos, M.** 1-12, s.l. : Journal of Contingencies and Crisis Management, 2012, Vol. 20 (1).

61. **Centers for Disease Control and Prevention.** *Crisis and Emergency Risk Communication.* s.l. : Edition, Atlanta, GA., 2012.

62. *"Shaping the societal impact of emergencies: striking a balance between control and cooperation".* **Willem Treurniet, Manne Messemaker, Jeroen Wolbers, F. Kees Boersma.** Issue: 1, pp.129-151. https://doi.org/10.1108/IJES-06-2014-0007 , s.l. : International Journal of Emergency Services, 2015, Vol. Vol. 4.

63. **UNICRI Internatinal Permanent Observatory.** *The IPO Secuirty Planning Model .* 2007.

64. **D., Sanders P. & Williams.** *EENA Operations Document: Public warning.* 2015.

65. **Nitsch, D. R. & Allertseder, S.** *Case study from Bavaria within the framework of the Unity project. (In preparation).*

66. **CRISIS AND EMERGENCY RISK COMMUNICATIONS. Foundamentals of communication during crisis and emergencies. [Online] http://www.paho.org/disasters/index.php?option=com_docman&view=download&category_slug=tools&alias=539-pandinflu-leadershipduring-tool-12&Itemid=1179&lang=en.**

67. **DARWIN project.** *D2.1 "Generic resilience management guidelines" .* 2017.

68. **Health and Safety.** *ExecutiveThe event safety guide (Second edition). A guide to health, safety and welfare at music and similar events.* 1999.

69. **Bhabha, H., K.** *The location of culture.* **London and New York : Routledge, 1994.**

70. **SmartGrids. SmartGrids. [Online] [Cited: 2009 03 15.] www.smartgrids.eu.**

71. NOBEL Consortium. *D8.1 Dissemination Master Plan.* Valencia, Spain : s.n., 2010.

72. —. NOBEL Annex I. Valencia : EC, 2009.

73. EC. *Annex II General Conditions.* Brussels : v5, 2009.

74. Tampere European Council. Presidency conclusions. European Parliament. [Online] 15 and 16 October 1999. [Cited: 10 October 2017.] http://www.europarl.europa.eu/summits/tam_en.htm.

75. European Union Chaphter of Fundamental Rights. [Online] 2000. http://www.europarl.europa.eu/charter/pdf/text_en.pdf.

76. European Convention of Human Rights. [Online] http://www.echr.coe.int/Documents/Convention_ENG.pdf.

77. European Commision- Horizont 2020. [Online] https://ec.europa.eu/programmes/horizon2020/h2020-sections.

78. European Court of human Rights . [Online] http://www.echr.coe.int/Pages/home.aspx?p=home.

79. Court of Justice of the European Union (CJEU). [Online] https://europa.eu/european-union/about-eu/institutions-bodies/court-justice_en.

80. International Human Rights Standards for law Enforcement. [Online] http://www.ohchr.org/Documents/Publications/training5Add1en.pdf.

81. Human Rights, Terrorism and Counter-terrorism . [Online] http://www.ohchr.org/Documents/Publications/Factsheet32EN.pdf.

82. Consolidated version of the Treaty on the Functioning of the European Union. *Eur-Lex.* [Online] 2012. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN.

83. Directive (EU) 2016/1919 on legal aid for suspects and accused persons in criminal proceedings and for requested persons in European arrest warrant proceedings. *Eur-Lex.* [Online] 2016. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016L1919&from=EN.

84. Directive (EU) 2016/680 on the protection of natural persons with regard to the processing of personal data by competent authorities for the purposes of the prevention, investigation, detection or prosecution of criminal offences or the execution of cri. *Eur-Lex.* [Online] 2016. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016L0680&from=EN.

85. Directive (EU) 2016/681 on the use of passenger name record (PNR) data for the prevention, detection, investigation and prosecution of terrorist offences and serious crime. *Eur-Lex.* [Online] 2016. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016L0681&from=EN.

86. Directive (EU) 2016/800 on procedural safeguards for children who are suspects or accused persons in criminal proceedings. *Eur-lex.* [Online] 2016. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016L0800&from=en.

87. Directive (EU) 2017/541 of the European Parliament and of the Council of 15 March 2017 on combating terrorism. *Eur-Lex.* [Online] 2017. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017L0541&from=EN.

88. Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications). *Eur-Lex.* [Online] 2002. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0058&from=EN.

89. Directive 2004/48/EC on the enforcement of intellectual property rights. *Eur_Lex.* [Online] 2004. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:195:0016:0025:en:PDF.

90. Directive 2006/54/EC on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation (recast). *Eur-Lex.* [Online] 2006. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006L0054&from=EN.

91. Directive 2012/13/EU of the European Parliament and of the Council of 22 may 2012 on the right to information in criminal proceedings. *Eur-Lex.* [Online] 2012. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:142:0001:0010:en:PDF.

92. Directive 2012/29/EU Establishing minimum standards on the rights, support and protection of victims of crime. *Eur-Lex.* [Online] 2012. http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32012L0029.

93. The Hague Programme: Strengthening Freedom, Security and Justice in the European Union. Eur-Lex. [Online] 2005. [Cited: 9 October 2017.] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:l16002.

94. The Stockolm Programme. Eur-Lex. [Online] 2010. [Cited: 9 October 2017.] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:jl0034.

95. Regulation (EU) 2016/794 on the European Union Agency for Law Enforcement Cooperation. *Eur-Lex.* [Online] 2016. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0794&from=EN.

96. Treaty of Lisbon strengthens European Union. *Eur-Lex.* [Online] 2007. http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:ai0033.

97. Regulation (EU) 2015/2219 on the European Union Agency for Law Enforcement Training (CEPOL) . *Eur-Lex.* [Online] 2015. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R2219&from=EN.

98. Regulation (EU) No 513/2014 establishing, as part of the Internal Security Fund, the instrument for financial support for police cooperation, preventing and combating crime, and crisis management . *Eur-Lex.* [Online] 2014. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0513&from=EN.

99. Directive 2014/41/EU regarding the European Investigation Order in criminal matters . *Eur-Lex.* [Online] 2014. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0041&from=EN.

100. Directive (EU) 2017/541 on combating terrorism . *Eur-Lex.* [Online] 2017. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017L0541&from=EN.

101. Directive 2013/40/EU on attacks against information systems . *Eur-Lex.* [Online] 2013. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0040&from=EN.

102. Directive (EU) 2017/853 amending Council Directive 91/477/EEC on control of the acquisition and possession of weapons . *Eur-Lex.* [Online] 2017. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017L0853&from=EN.

103. Directive 2013/48/EU on the right of access to a lawyer in criminal proceedings and in European arrest warrant proceedings, and on the right to have a third party informed upon deprivation of liberty and to communicate with third persons and with consul. *Eur-Lex.* [Online] 2013. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0048&from=EN.

104. Directive (EU) 2016/343 on the strengthening of certain aspects of the presumption of innocence and of the right to be present at the trial in criminal proceedings . *Eur-Lex.*

[Online] 2016. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016L0343&from=en.

105. **Ethical Principles of Law Enforcement.** [Online] https://www.egm.gov.tr/es/Dkmanlar/ETHICAL%20PRINCIPLES%20OF%20LAW%20ENFORCEMENT.pdf.

106. **Code of Conduct for Law Enforcement Officials.** *United Nations .* [Online] 1979. http://www.ohchr.org/EN/ProfessionalInterest/Pages/LawEnforcementOfficials.aspx.

107. **European Commission.** *European Textbook on Ethics in research.* s.l. : Publications Office of the European Union, 2010.

108. **American Psychological Association.** *Ethical Principles of Psychologists and Code of Conduct.* s.l. : APA, 2017.

109. **RAND.** *Ethical Principles in Social-behavioural research on Terrorism.* s.l. : RAND, 2007.

110. **European Commission. The European Agenda on Security COM (2015) 185 final.** [Online] 2015. http://www.europarl.europa.eu/cmsdata/125863/EU%20agenda%20on%20security.pdf.

111. **European Council.** *Internal security strategy for the European Union-Towards an European Security Model.* 2010.

112. **"eVACUATE. A holistic scenario –independent, situation-awareness and guidance System for sustaining the Active Evacuation Route for large Crowds,".** [Online] http://www.evacuate.eu/.

113. **Arturo Cuesta, Orlando Abreu, Adriana Balboa and Daniel Alvear. Real-time evacuation route selection methodology for complex buildings.** s.l. : Fire Safety Journal, 2017. Vols. 91, pp.-947-954.

114. **Expert System.** *Cogito: human intelligence for cognitive computing.* [Online] http://www.expertsystem.com/products/cogito-cognitive-technology/.

115. **Robertson S, Robertson J.** *Mastering the Requirements Process: Getting Requirements Right. .* s.l. : Addison-Wesley, 2012.

116. **Regulation (EU) 2016/679 of the European parliament and of the Council.** [Online] 2016. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=EN.

117. **CrowdDynamics.** [Online] http://www.crowddynamics.com/products/event-planner.php.

118. **LETS-CROWD project. .** *Deliverable D3.2 LETSCROWD Progress report on dynamic risks for mass gatherings.* 2018.

119. **Lindsey, B.** *Social Media and Disasters: Current Uses, Future Options, and Policy Considerations.* s.l. : U.S. Congressional Research Service, 2011.

120. *Impact of social media in security and crisis management: a review.* **Wybo, J.L., et al.** 2, 2015, Int. J. Emergency Management, Vol. 11.

121. **Holpuch, A. Hurricane Sandy brings storm of fake news and photos to New York.** [Online] The Guardian, 30 October 2012. https://www.theguardian.com/world/us-news-blog/2012/oct/30/hurricane-sandy-storm-new-york.

122. *$1.00 per RT #BostonMarathon #PrayForBoston: Analyzing Fake Content on Twitter.* **Gupta, A., Lamba, H. and Kumaraguru, P.** 2013, IEEE eCrime Researchers Summit (eCRS).

123. **Yannakogeorgos, P.A. Rethinking the Threat of Cyberterrorism.** *Cyberterrorism Understanding, Assessment, and Response.* s.l. : Springer, 2014.

124. **National Council of La Raza (NCLR).** *Emergency Managers Tool Kit: Meeting the Needs*

of Latino Communities. 2011.

125. *Fake News Mitigation via Point Process Based Intervention.* Farajtabar, M., et al. 2017, arXiv.org, Vol. 1703.07823.

126. BBC. news, London Bridge attack. *BBC.* [Online] 05 June 2017. http://www.bbc.com/news/uk-40148737.

127. Jacobs, S. Fake Followers for Hire, and How to Spot Them. [Online] MIT Technology Review, 30 June 2014. https://www.technologyreview.com/s/528506/fake-followers-for-hire-and-how-to-spot-them/.

128. *Serf and Turf: Crowdturfing for Fun and Profit.* Wang, G., et al. Paris : s.n., 2012. Proceedings of the International World Wide Web Conference (WWW 2012).

129. *Automated Crowdturfing A acks and Defenses in Online Review Systems.* Yao, Y., et al. Dallas : s.n., 2017. ACM Conference on Computer and Communications Security (CCS).

130. MEDI@4SEC Project. *Deliverable 2.4: Workshop 2 Report: Riots & Mass Gatherings.* 2017.

131. *Man vs. Machine: Practical Adversarial Detection of Malicious Crowdsourcing Workers.* Wang, G., et al. San diego, CA : s.n., 2014. Proceedings of the 23rd USENIX Security Symposium.

132. International Organization for Standardization. ISO 31000 Risk management — Principles and guidelines. 2009.

133. Counter Extremism Project (CEP). Vehicles as Weapons of Terror. [Online] 2018. https://www.counterextremism.com/vehicles-as-weapons-of-terror#dd-conclusion.

134. M. S. Neiberg. *"No More Elsewhere": France Faces the New Wave of Terrorism.".* s.l. : The Washington Quarterly 40.1, 2017.

135. Department of Defense (DOD) – US Army Corps of Engineers. Anti-Ram Vehicle Barrier List. [Online] 2018. http://dodantiramlist.com/2018.

136. Center for the Protection of National Infrastructures (CPNI). Hostile Vehicle Mitigation. [Online] 2017. http://www.cpni.gov.uk/hostile-vehicle-mitigation .

137. National Counter Terrorism Security Office (NaCTSO). Crowded Places Guidance. [Online] 2017. https://www.gov.uk/government/collections/crowded-places.

138. International Organisation for Standardization, IWA 14-2:2013 Vehicle security barriers . *Part 2: Application .* 2013.

139. International Organisation for Standardization, IWA 14-1:2013 Vehicle security barriers. *Part 1: Performance requirement, vehicle impact test method and performance rating.* 2013.

140. British Standards Institution, PAS 68:2013. *Impact test specifications for vehicle security barrier systems.* 2013.

141. British Standards Institution, PAS 69:2013 . *Guidance for the selection, installation and use of vehicle security barrier systems .* 2013.

142. R. Tait. Israeli woman and soldier killed in twin stabbing attacks. s.l. : The Daily Telegraph, 2014.

143. S. Garfield. Terrorists are foiled at Glasgow airport. s.l. : The Guardian, 2007.

144. Department for Transport. Impact of hostile vehicle mitigation measures (bollards) on pedestrian crowd movement. [Online] 2013. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/565788/impact-bollards-crowd-movement-research-report-1.pdf.

145. —. Impact of hostile vehicle mitigation measures (bollards) on pedestrian crowd

movement: phase 2. [Online] 2014. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/565789/impact-bollards-crowd-movement-research-report-2.pdf.

146. —. Influence of bollards on pedestrian evacuation flow. [Online] 2016. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/650628/tal-1-16-influence-of-bollards.pdf.

147. Center for the Protection of National Infrastructures (CPNI). Resilient Design Tool for Counter Terrorism. [Online] 2012. http://www.securedbydesign.com/wp-content/uploads/2014/02/resilient-design-tool-for-counter-terrorism.pdf.

148. —. Protecting Crowded Places: Design and Technical Issues. [Online] 2012. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/97992/design-tech-issues.pdf.

149. Federal Bureau of Investigation. Terrorist Use of Vehicle Ramming Tactics. [Online] 2012. https://publicintelligence.net/ufouo-dhs-fbi-warning-terrorist-use-of-vehicle-ramming-tactics/.

150. Transportation Security Administration. Vehicle Ramming Attacks: Threat, Landscape, Indicators and Countermeasures. [Online] https://info.publicintelligence.net/TSA-VehicleRamming.pdf.

151. G4S Canada. Vehicular Terrorism: The Threat Behind the Wheel. [Online] http://www.g4s.ca/-/media/g4s/canada/files/whitepapers/usa/vehicular_terrorism_the_threat_behind_the_wheel.ashx.

152. A. Pasquini, S. Pozzi, L. Save, A. M. Sujan. *Requisites for successful incident reporting in resilient organisations, Resilience engineering in practice: a guidebook.* s.l. : Farnham, Surrey, England, 2011.

153. Department of Defense Dictionary of Military and Associated Terms, JointPublication1-02. 2001.

154. Australia- New Zeland counter terrorism committee. Australia- New Zeland counter terrorism committee. [Online] 2017. https://www.nationalsecurity.gov.au/Media-and-publications/Publications/Documents/IED-Guidelines/IED-guidelines-crowded-places.pdf.

155. Wehri, Matthew T. Preventing an Improvised Explosive Device (IED) terror campaign in the United States. [Online] 2007. https://calhoun.nps.edu/bitstream/handle/10945/3029/07Dec_Wehri.pdf?sequence=1.

156. Federal Emergency Management Agency. Design considerations. [Online] https://www.fema.gov/media-library-data/20130726-1624-20490-7003/430_ch2.pdf.

157. Cambridge Dictionary. [Online] 2018. https://dictionary.cambridge.org/dictionary/english/suicide-bomber#.

158. The Atlantic. "The Logic of Suicide Terrorism". [Online] 2003. https://www.theatlantic.com/magazine/archive/2003/06/the-logic-of-suicide-terrorism/302739/.

159. M. M. Hafez. Suicide Bombers in Iraq: The Strategy and Ideology of Martyrdom. 2007.

160. R. A. PAPE. The strategic Logic of Suicide Terrorism. 2005.

161. L. de la Corte Ibáñez. The Social Psychology of Suicide Terrorism. [Online] 2014. https://www.naija.ng/882358-shocking-250-people-die-worst-suicide-bombing-ever-photos.html#882358.

162. BBC News. Manchester attack: Extradition bid for Salman Abedi's brother. [Online]

2017. http://www.bbc.co.uk/news/uk-england-manchester-41839277.

163. Reuters Staff. Timeline of Paris attacks according to public prosecutor. [Online] 2016. https://www.reuters.com/article/us-france-shooting-timeline/timeline-of-paris-attacks-according-to-public-prosecutor-idUSKCN0T31BS20151114.

164. O Hakeem. Worst suicide bombing ever, as number of deaths rises to 250. [Online] 2017. https://www.naija.ng/882358-shocking-250-people-die-worst-suicide-bombing-ever-photos.html#882358.

165. Office for Bombing Prevention. Counter-IED resources guide. [Online] 2017. https://www.dhs.gov/sites/default/files/publications/obp-counter-ied-resources-guide.pdf.

166. Technical resource for incident prevention . Vehicle Borne IED identification guide. [Online] https://www.fbiic.gov/public/2008/oct/DHSVehicleBorneIEDIdentificationGuideParkedVehicles.pdf.

167. NaCTSO. Counter Terrorism Protective Security Advice for Major Events. [Online] 2016. http://www.ukcma.com/wp-content/uploads/2016/06/Major_Events_Reviewed.pdf.

168. Home Office. Crowded Places: The Planning System and Counter-Terrorism. [Online] 2012. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/375208/Crowded_Places-Planning_System-Jan_2012.pdf.

169. Counter Terrorism Chemical Detector for Transit Vehicles. s.l. : IDEA Project 40, 2005.

170. Guide for the Selection of Chemical Detection Equipment for Emergency First Responders. s.l. : DHS, 2007.

171. International Mariime Organization . *Guide to Development and Implementing Suspicious Activity Identification Programs in Ports.* 2015.

172. Recommendation 2010/C 184 E/25. *Profiling, notably on the basis of ethnicity and race, in counter-terrorism, law enforcement, immigration, customs and border control.* 2009.

173. LETS-CROWD project. *Deliverable 3.1 Progress report on models of patterns of human behaviours.* 2017.

174. C. Kendziora, R. A. McGill, R. Furstenberg, M. Papantonakis, V. Nguyen and J. Byers. Detecting traces of explosives. [Online] http://spie.org/newsroom/5835-detecting-traces-of-explosives?SSO=1.

175. Action On Armed Violence, AOAV. Improvised Explosive Device (IED) Monitor. [Online] 2017. https://reliefweb.int/sites/reliefweb.int/files/resources/IED-Monitor-Report-for-web-final.pdf.

176. Abba Auwalu Issa, Fatima ZaraAli-Garga, Muhammad Yunusa. The Meaning and Theories of Intercultural Communication. Working paper. [Online] 2015. https://www.researchgate.net/publication/309155695_The_Meaning_and_Theories_of_Intercultural_Communication.

9.2 ACRONYMS

Acronyms List	
CB	Cell Broadcast
CC	Crisis Communication
CERC	Crisis and Emergency Risk Communication Model
DRC	Disaster Risk Communication
ICP	Innovative Communication Procedures
LEAs	Law Enforcement Agencies
PA	Public Announcement
RC	Risk Communication

10 ANNEX A Tools for communication

ANNEX A – Tool for communication – includes:

- Specific template for identifying the specific target audience attending an event (TOOL #01 - ANNEX A - 10.1);
- Specific template for supporting the mapping of the channels with the message to be delivered (TOOL #02 - ANNEX A - 10.2);
- Specific template for constructing warning messages (TOOL #03 - ANNEX A - 10.3).

10.1 LEVEL 1 TOOL #01: TEMPLATE FOR IDENTIFYING SPECIFIC TARGET AUDIENCE

[TOOL #01]

TEMPLATE FOR IDENTIFYING SPECIFIC TARGET AUDIENCE

This worksheet can be used to list all the sub-groups of the audience attending a mass gathering event and to write key points and characteristics to be considered for delivering effective messages.

SPECIFIC TARGET AUDIENCE	KEY POINTS AND CHARACTERISTICS TO BE CONSIDERED ABOUT THIS AUDIENCE
Instructions: 1. List below the main "well known" sub-groups of target audience that can be identified in the preparation phase.	**Instructions:** 2. Use the rows below to write down the relevant aspects and key characteristics of the specific target groups identified.
PEOPLE DIRECTLY INVOLVED, INSIDE THE VENUE[12] hosting the mass-gathering event (i.e. people attending the event both as spectators and participants, people working at the event)	
e.g. Team supporters	*The crowd is composed of two large groups' supporters of competing teams speaking at least two different languages.*
Small group of friends	

---

[12] For the purpose of the LETSCROWD project the target audience attending a mass gathering has been divided into 4 main categories: people directly involved (inside and outside the venue), citizens and generic public. The template can be customised according to the users' needs.

Families	
Individuals with special needs and their families	
…	
PUBLIC DIRECTLY INVOLVED, OUTSIDE THE VENUE (i.e. people selling drinks and food; people attending the event without tickets; people waiting to enter the venue, waiting for others, camping nearby)	
e.g. drink and food sellers	
Small groups of people attending the event without tickets	
…	
CITIZENS (i.e. neighbourhood, resident, people living in the city hosting the event)	
GENERIC PUBLIC (i.e. at national and international level that receive information especially from social media and traditional media - e.g. national/ international press; TV; Radio).	

10.2 LEVEL 2 TOOL #02: COMMUNICATION CHANNEL TEMPLATE

[TOOL #02]

COMMUNICATION CHANNEL TEMPLATE

After identifying the specific target audiences [TOOL #01], the next step is to complete the communication channels template. It aims to mapping out the communication channels suitable to communicate with the audience expected to attend the event or to distinct groups of people that can be directly or indirectly involved in the event, taking into account both the channel characteristics and the audience's needs and specificities. The map will ensure to be aware of the available communication channels in order to address the audiences' informational needs.

COMMUNICATION CHANNELS	TARGET AUDIENCE				General recommendations for the use of the channels	SUGGESTED INFO TO PROVIDE	PHASE OF THE EVENT
	People directly involved in the venue (inside the venue)	People directly involved in the venue (outside the venue)	Citizens	Generic public			
Instructions: 1. list below all the communication channels available for the organisation of the event.	Instructions: 2. For each channel list all the specific groups of target audience identified by using the tool for identifying specific target audience.				Instructions. 4. Write down notes concerning general recommendations	Instructions: 5. Specify below the main info to be provided to the target audience through the specific channel	
Websites	Team supporters from …				• Website should be developed at least in two languages	• Info about the measures that the target groups should observe • Info about the layout of the venue • Info about the logistic of the venue	Preparation phase
	Families						

Face-to-face communication (verbal and non-verbal codes; e.g. stewards)							
Public announcements (public address system)							

10.3 LEVEL 3 TOOL #03: WARNING MESSAGE MAP TEMPLATE

[TOOL #03]

WARNING MESSAGE MAP TEMPLATE

When planning a communication to the public, one of the most powerful tools that can be used to organize and create key warning messages is a message map. A warning message aims at providing information to the audience on the state of the emergency and how to behave during the emergency. A message map is an effective tool that can help to keep in mind all the relevant information for each key message. It should be prepared for any emergency.

General recommendations to disseminate a warning message

- Bear in mind that the message structure may vary according to the type of channel used to issue warnings (e.g. Twitter feeds: 140 character limit for each tweet);
- Use a multiple channel approach to disseminate the warning message – including visual and audible means and, when possible, face-to-face communication should accompany the audible messages;
- A warning message should be repeated at least once;
- Warning messages should be repeated at intervals, rather than consecutively;
- Make sure to clearly address distinct audience within the message, e.g.: "Instructions for families" [followed by message for families]; "Instructions for people outside the event venue" [followed by the message]; "instructions for team "X" supporters [followed by a message].

A template for creating a message map is provided below.

Message map template			
Instructions: 1. Write down the specific target audience (identified with TOOL #01) that should be addressed by the warning message.			
Specific target audience addressed: ……………………. Specific questions or concern: …………………….			
Instructions: 2. Before framing a warning message for a specific target audience it is important to try to fill in the cells with the required information (What and Why), and when possible the optional information (Who, When, Where and How).			
Key warning message 1		**Key warning message 2**	
REQUIRED INFO		REQUIRED INFO	
What actions people should take (guidance on what to do)	**Why** these actions are necessary (description of the hazard/ threat and its consequences)	**What actions** people should take (guidance on what to do)	**Why** these actions are necessary (description of the hazard/ threat and its consequences)

OPTIONAL INFO		**OPTIONAL INFO**	
Who is providing the message (source)	**When** people need to act (time)	**Who** is providing the message (source)	**When** people need to act (time)
Where is the emergency taking place (location)	**How** the message can be delivered (channel)	**Where** is the emergency taking place (location)	**How** the message can be delivered (channel)
Are there any socio-cultural aspects that should be considered?		**Are there any socio-cultural aspects that should be considered?**	

11 ANNEX B

11.1 TEMPLATE OF THE INTERVIEWS (PPT)

T5.2 - ICP OBJECTIVES

Design **Innovative Procedures and Communication Guidelines** to:

- improve situational awareness, intercultural competences and commitment in the pre-event and execution phases of mass-gathering events
- optimize reaction time in case of emergency
- increase cooperation among stakeholders, including the public

Addressed to:

- Citizens
- LEAs personnel
- Security operators
- First responders

GENERAL INFORMATION ABOUT THE EVENT

- Main actors involved
  - Event organiser
  - Other stakeholders (e.g. security staff, first responders, local authorities ….)
- Availability of a communication plan
- Crowd composition (e.g. age, nationality, gender, families, small groups, …)
- Crowd motivation (political, entertainment, …)
- Environmental conditions/ physical design of the venue
- Ingress, circulation and egress conditions

PRE-EVENT PHASE_ COMMUNICATION APPROACH

- Communication scopes
- General communication flow
  - Main actors involved
  - Directions of the communication (e.g. sponsor to public, sponsor to LEAs)
- Communication strategies used to prepare the public to the event
  - Knowledge of the crowd composition (availability of preliminary information about crowd)/ target groups identification?
    - Possibly, tools used to identify the target groups
  - Main channels used to communicate

EXECUTION PHASE_ COMMUNICATION STRATEGIES IN CASE OF EMERGENCY_1

- Emergency communication scopes
- General communication flow
  - Main actors involved
  - Directions of the communication
- Relevant and critical crowd behaviors that may occur
  - Specific communication strategies to mitigate critical crowd behaviors
- Customized messages to the target groups identified (which is the main content of messages to be delivered; e.g. messages enhancing public's self-efficacy, …)
- Main channels used

EXECUTION PHASE_ COMMUNICATION STRATEGIES IN CASE OF EMERGENCY_2

- **Successful communication** strategies applied in your past experiences to exploit positive crowd behavior during an emergency

- "Unsatisfied" needs related to the management of multicultural crowds in case of emergency

EXECUTION EVENT_ COMMUNICATION STRATEGIES IN CASE OF EMERGENCY_SOCIO-CULTURAL ASPECTS

- Socio-cultural aspects in crowd behaviour and management that are relevant for emergency communication, such as:
  - Social identity (e.g. religion, group belongingness)
  - Language
  - Gender
  - Age
  - Non verbal codes (body language: eye gaze; voice volume, vocal nuance, proximity, hand gestures, facial expression, pause (silence), voice intonation, posture)
  - Signs/ symbols comprehension
  - Spatial navigation/ walking speed/ familiarity with the environment

INNOVATIVE COMMUNICATION STRATEGIES

- Innovative communication strategies and solutions to overcome socio-cultural issues and critical crowd behaviors in the pre-event phase and execution phases in case of emergency
- dynamic LED displays for guiding pedestrian flow
- way marking – e.g. special lightning/ lendmarks - to help public to find the way (road maps and information panels in several languages, audible to visually impaired visitors and visible to auditory limited visitors)
- cell broadcast (multi-locations; multi-languages)
- formal/ informal leaders mediation (trusted sources)
- involvement of volunteers associations (e.g. communities of skilled radio amateurs)
  - All these solutions could be used to overcome language barriers, increase the evacuation time, to enhance a shared social identity …

GENERAL QUESTIONS

- What do you think about the involvement of the public/ crowd as partner in the construction of an effective crisis communication strategy? How the public could be involved both in the pre-event and execution phase? Have you got any example of past experiences to share?
- Training communication skills
- Training for multicultural competences

11.2 INFORMED CONSENT FORM

Written informed consent to participate in the interviews concerning T5.2: *Innovative procedures and communication strategies based on human-factors and psycho-social-techniques*

Project: LETSCROWD

Research and Innovation Action, Horizon 2020 Secure societies

Date/period of participation: _____

I have understood the details of the research as partner of the LETSCROWD project.

I know that:
- Information about the participants and the data collected will be treated in full confidentiality and will be registered and stored in a secure manner
- Only authorized personnel involved in the project will have access to the collected data
- No personally identifiable information will be published in any way
- The results of this study may be used for publication purposes and for future acquisition

- I have the right to see the data collected from me under this specific consent
- I can withdraw from the study at any time without any obligation to explain my reasons for doing so

I agree that any audio recording or pictures taken of me during the study (only if I explicitly agree) may be used in research publications. Please confirm that you agree by ticking the box:

- I agree to audio recording ☐

I confirm that I consent to participate in the study and that my participation is entirely voluntary.

_____   _____

Participant name & signature   Place, date