# D6.2– Policy recommendations for multi-cultural emergency management in the transport domain

Aleksandra Karbownik (MOG), Paola Tomasello (DBL), Alessandra Tedeschi (DBL), U.Turhan (AU), F.Sengur (AU), A.Giuricin (NTV)

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<td>Airport Emergency Plan</td>
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<td>ICAO</td>
<td>International Civil Aviation Organization</td>
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<td>IMO</td>
<td>International Maritime Organization</td>
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<td>International Ship and Port Facility Security Code</td>
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<td>LEP</td>
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<td>SCAMP</td>
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<td>SMS</td>
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<td>SOLAS</td>
<td>International Convention for Safety of Life at Sea 1974, as amended</td>
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<td>Single European Railway Area</td>
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EXECUTIVE SUMMARY

This deliverable reports the Policy Recommendations for multi-cultural emergency management in transport domains that is developed in the framework of WP6 of the IMPACT Project. It aims to provide guidelines for international organizations as well as the policy creators in European Countries and non-EU Countries that will provide standards and recommendations to be included into international and national aviation, maritime and inland transports’ law.

The document points out the areas of activity that should be developed by competent authorities taking into account the findings and results of the IMPACT project group in scope of cross-cultural crowd management in emergencies.

The following issues on multicultural factors integration came out from the review of international standards and regulations on transport safety:

- Lack of socio-cultural aspects integration in standardised risk assessment methodologies
- Lack of standardized “intercultural competences” profiles
- Lack of standardized communication strategies for multicultural crowds management
- Lack of standardized training courses on multicultural factors

The policy recommendations proposed in this document are intended to fill these gaps.

In line with this, the document proposes the development of a Socio-Cultural Aspect Management Programme (SCAMP). The SCAMP is a process dedicated to proactive management of multicultural aspects in transport hubs. It is created based on set of measures and interventions, including the major findings of the IMPACT Project research.

The aim of the SCAMP is to be combined as a proactive alternative to prescriptive rule sets. Far from being exhaustive, it intends to support the integration of multicultural factors into working methods and daily practices of the transport service providers as well as hubs in the different domains.

SCAMP includes the IMPACT project results as proposed assumptions in the framework of a wider programme encompassing other measures and, by far the most, remains open to alternatives. Beyond doubt, a real SCAMP application should plan appropriate consolidation and customization of each IMPACT-related measures.
1. **SCOPE AND INTRODUCTION OF THE DOCUMENT**

1.1 **Scope**

The objective of the document is to propose policy recommendations that will change or extend the existing practices and working methods in maritime, aviation and railway transports. Having in mind changing international situation it is important to adjust existing criteria of mandatory regulations to the new political situation. The aim of this report is to show, based on the researches carried out in IMPACT, the benefits of implementation both into existing tools of education and into mandatory rules, cultural management aspects. Having performed the evaluation of the currently available data, the aspect of culture risk management should be continuously developed. It will play an important role to raise awareness of the cultural behaviours such as panic or individual differences of specified cultural groups while organizing events and in transport hubs, where thousands of people from all around the world are gathered together into limited space.

1.2 **Introduction**

![Figure 1. Stakeholders for emergency management](image)

Cultural differences among the human factors in operational and public environments make emergency management a complex and difficult issue. For the different transportation domains, operators have different professional culture motivated from nature and development of the operations depending on the transportation vehicles performance and related environment such as terminals, airports, stations and ports.
In normal operational conditions, operators and users meet regular needs of safe and secure transportation based on travel efficiency.

The expectations of the users in any emergency situation are as vital as human life, comfort and communication channels. In the same manner, operators reflects users needs and their priorities such as safety, security, efficiency and cost management. Their behaviours, attitudes and values play an important role in every stressful event or situation.

![Diagram showing balance between users and operators for exceptions and needs](image)

**Figure 2. Balance between users and operators for exceptions and needs**

The culture of the operators reflects on security personnel common behaviour on situations such as hazards and risks. Their perception of culture is also dependent on professional aspects. The so-called ‘professional culture’ is developed in the operational training and work environment with the high safety and security standards and rules identified by the authorities.

The variety of the operators’ culture can be seen from the figure 1 above, which is reflecting different levels of authorities, operational statuses and natures of service.

Safety and security culture play a vital role in the proactive risk management activities and emergency management. These cultures are influenced by global, national, organizational and professional cultures. For instance, aviation and maritime operations have global dimension as the transport activities connecting continents and nations by employment of international personnel from all around the world as well as by application of global regulations and rules. On the other hand, railway domain has more impact on national culture. These factors can easily affect on communication and coordination channels in unexpected situations as potential risk and/or hazard (ICAO Doc 9859, 2013).
The IMPACT Project is an EU Horizon 2020 project examining cross-cultural crowd management, in emergencies, concentrating in transport terminals. The activities conducted for last few years bring us to the interesting conclusions and findings. The point are the places, such as terminals, festival halls and community centres, where large number of people are particularly vulnerable to cultural clash. How to behave in such an environment? How to treat people with different cultural backgrounds? Are there any solutions for cultural risk management? Are there any tools for effective evacuation? How to respond and behave in culturally different but enclosed space?

Those questions bring us to the conclusion, that culture is crucial in comparison with ensuring people safe trip or organizing safe event. Basing on terminals as the schemes were created multicultural communicational and management guidelines that can be used as role-models for different transport environments. Furthermore, the trainings in scope of awareness-raising were developed and computational models as well as theoretical frameworks of evacuation were designed. Today, in the era of globalisation and migration problem those issues are recommended to be taken into the agenda by recognized Organizations.
2 REVIEW OF INTERNATIONAL STANDARDS AND REGULATIONS ON SAFETY MANAGEMENT

This chapter presents a review of the different standards, regulations and work-practices in the 3 transport modes analysed by the IMPACT project, namely the aviation, railway and maritime domains. The review works as a starting point for the identification of main constraints and gaps to be taken into account to make the IMPACT-based policy recommendations more effective and well accepted.

The review is composed of two parts: the first one addresses the international regulations on transport safety and security per domain, at a general level; the second one assesses whether multicultural factors are covered by the regulations.

2.1 International regulations on transport safety

Aviation is a pretty regulated domain. Both safety and security aspects are taken into account at an International and European level. To prevent the crisis and establish an internationally accepted risk management system in aviation, ICAO has created a new standard for Safety and Security Management Systems in various aviation organizations including, among others airlines, maintenance organizations, Air Traffic Control services, and aerodromes. Relevant related documents are:

- the ICAO Annex 17 [12], identifying the security objectives for member states with respect to the whole Civil Aviation domain;
- the EC Regulation No 300/2008 [5], stating the Common rules in the field of Civil Aviation Security.

Airports are a vital part of the Safety and Security Management Systems. As more and more airport operators begin planning and implementing their Safety Management Systems to meet ICAO requirements and National regulations, they must develop a comprehensive understanding of the hazards, threats and risks inherent to their operating environment, as well as the ways they can control and mitigate these risks. In addition, they must also address capturing and managing this information in their Safety and Security Management Systems. In addition, Airports must develop an Airport Emergency Plan (AEP), air traffic service providers must develop contingency plans, and airlines must develop an emergency response plan. Relevant related documents are:

- the ICAO Doc Volume III [14], about Airport Security Organization, Programme and Design Requirements
- the ECAC DOC 27 and ECAC DOC 30 – Part II [6], where Security Management in Airport is considered.

Since airports, Air Traffic Control and airline operations overlap, it stands to reason that these plans should be compatible. The coordination of these plans should be described in the SMS manual (According to the EC Doc 9859, 2009). Guidance material to assist the appropriate authority in establishing AEP is given in the ICAO Airport Services Manual (Doc 9137, Part 7).

In the Railways domain EU directives aim to stimulate international traffic within the EU and beyond. In line with this, security is becoming for the majority of operators an issue which transcends national borders. Currently, security aspects are included in 2 regulations:

- the Regulation (EC) No 1371/2007 [27] on rail passengers’ rights and obligations. Its article 26 sets in place a “right to security” for passengers on board trains and in stations, whether for international or domestic services;
- the Regulation concerning the International Carriage of Dangerous Goods by Rail (RID) - chapter 1.10 [24], which is applicable beyond European Union and defines measures or
precautions to be taken to minimise theft or misuse of dangerous goods that may endanger persons, property or the environment.

On Port’s security side, the main regulation is the International Ship and Port Facility Security Code (ISPS Code) [25], a comprehensive set of measures to enhance the security of ships and port facilities. This code was developed in response to the threats to ship and port facilities after the attacks to World Trade Centre in America 9/11 and it is meant to identify the roles and responsibilities of governments, employers and workers with respect to security management in the ports.

Moreover, the European Council adopted a Maritime Security Strategy for the global maritime domain. The objective of this strategy is to provide a common framework for relevant authorities at national and European levels to ensure coherent development of their specific policies and a European response to maritime threats and risks. The second aim of such a strategy is to protect EU’s strategic maritime interests.

### 2.2 Coverage of multicultural factors

Table 1 provides a high level overview of international standards and regulations, in aviation, maritime and railway domains, concerning: i) risk assessment and management; ii) emergency communication; iii) safety and security training. Standards and regulations are assessed against their coverage of multicultural factors, according to the following scores: i) none: multicultural factors are neither mentioned nor addressed; ii) +: multicultural factors are just briefly mentioned; iii) ++: multicultural factors are addressed.

The overview is based on the extensive literature review and data collection activities carried out in the framework of the IMPACT project and reported in the deliverables D3.1 Cultural Risk Assessment Methodology Report [18], D4.1 Requirements for the Multi-Cultural Emergency Communication Framework [20] and D5.1 Training Requirements and Key Scenarios of Application [22].

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<th>Railway</th>
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<td>Aviation Against Acts of Unlawful Interference</td>
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<td>• The International Civil Aviation Organisation (ICAO) Annex 17</td>
<td>+ (just basic knowledge of human factors and communication skills)</td>
<td>++ (general understanding of the strategies to recognise and respond to cultural issues)</td>
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<td></td>
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<td></td>
<td>o Familiarization</td>
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The above findings show the need to take into account in a more extensive and integrated manner the multi-cultural factors in current risk assessment methodologies and communication standards, regulations and best practices across transport modes.

As concerns the training, although the training packages reviewed are comprehensive and almost cover the relevant topics of safety and security management, threats assessment, management of crisis and emergency situations, cross-cultural and multicultural behaviour management as well as intercultural skills (e.g. operators’ ability to communicate with passengers from different countries during emergency, operators’ ability to recognise cultural peculiarities and interact with people from different nationalities, religions and cultural background in order to avoid communication bias in emergency situations) are rarely covered by the current mandatory trainings.

In fact, only two of the reviewed training courses already address the management of cultural aspects during operational and emergency situations. These courses are the trainings on “Bridge Resource Management (BRM)” and “Human Element Leadership and Management (HELM)” of the maritime domain. These training courses provide trainees with a general understanding of the strategies to recognise and respond to cultural issues (e.g. recognise and avoid cultural bias).

The following issues on multicultural factors integration come out from the aforementioned review of international standards and regulations:

- Lack of socio-cultural aspects integration in standardised risk assessment methodologies
- Lack of standardized “intercultural competences” profiles
- Lack of standardized communication strategies for multicultural crowds management
- Lack of standardized training courses on multicultural factors

The policy recommendations proposed in this document are intended to bridge these gaps.
3 POLICY & RECOMMENDATIONS FOR 3 TRANSPORT DOMAINS AND HUBS

This section presents a proposal of policies and recommendations for transport domains and hubs, intended to bridge the gaps on multicultural factors coverage identified in the previous chapter. The proposal is based on the IMPACT project results, and consists in the generation of a socio-cultural aspects management programme.

3.1 Overview of IMPACT results

As it is possible to see in the figure 4, the IMPACT workflow ran from the generation of a theoretical framework on multicultural factors, which steered all subsequent project activities through agent-based modelling of crowd behaviours until final results, namely the IMPACT supporting measures. The IMPACT final results are described as follows:

- The cultural risk assessment
- The multicultural communication guidelines
- The cultural-based training package

The cultural risk assessment is a methodology of risk assessment, with specific focus on culture-based behaviours. This is intended to enable the transport hubs managers to assess their own risks and to train their own risk assessors. The approach for risk assessment/management starts from applicable standards and then deals with general risk assessment methodology, followed by a proposal to include cultural-based behaviours specific risk assessment. In line with
this, the cultural risk assessment focuses on the aspects arising from the specificities of cultural behaviours including:

- How to integrate the specific aspect of cultural behaviour into an overall risk assessment methodology.
- The inclusion into the approach of the various intangible aspects of cultural behaviour impacts (e.g. loss of reputation, risk perception, awareness as mitigation, etc.). This relies on an analysis of culture-specific hazardous behaviours on the basis of past events identifying the main behaviours that could either amplifying/diminishing consequences of generic safety hazards or security threats or triggering new hazards.

The **multicultural communication guidelines** provide insights on how to train and prepare transport hubs operators properly communicate with multi-cultural crowds to optimise passengers' reaction time, taking into account the diversity of cultures, background knowledge, experiences and attitudes. Aim of the guidelines is to provide information to end users on how to exploit positive crowd behaviours and characteristics whilst lowering panic phenomena and socio-cultural hazardous behaviours that may arise before, during and after emergencies. The guidelines contain general and high-level recommendations to develop an effective and integrated communication for emergency prevention, management and mitigation that can be applicable to different transport modes. Far from being exhaustive, the guidelines stand as a starting point for further actions: they do not provide just a list of specific messages or actions, but trace a process for building collaborative partnerships and resilient organizational environment in terms of multi-cultural communication competences. A list of 39 communication guidelines targeting each phase of an emergency ("before emergency", “during emergency” and “after emergency”) has been generated, and is extensively presented in the IMPACT deliverable D4.3 Cultural based emergency communication guidelines.

The description of the design and development of the **IMPACT cultural – based training package** has been extensively described in D5.1, 5.2 and 5.3. The e-learning training package is a general introductory course aiming to raise awareness about the importance of cultural competence in daily working situations. The training package is targeted at high-and medium-level transport hub operators such as safety and security managers (train managers, security officers, security screening supervisors, port facility security officers, station managers) and first responders (civil protection, fire fighters, medical emergency teams). Due to its general purpose, the training package can be easily generalised and customised to other domains such as sporting events, festivals and concerts, political and religious demonstrations etc. To be effective, the customisation of the training should consider the following aspects: target audience; socio cultural aspects of relevance; terminology and training contents.

Table 2 summarizes the IMPACT final results (namely the supporting measures), providing a brief description and related project documents.

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<th>Description of the measure</th>
<th>Related IMPACT official documentation</th>
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<td>D3.1 Cultural Risk Assessment Methodology Report [18] D3.2 Cultural Risk Assessment Materials [19]</td>
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<td><strong>Multicultural communication guidelines</strong></td>
<td>High level recommendations for transport hubs operators on how to communicate with multicultural crowds before, during and after an emergency</td>
<td>D4.3 Cultural based emergency communication guidelines [21]</td>
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<td><strong>Cultural-based training</strong></td>
<td>Training course on</td>
<td>D5.1 Training Requirements</td>
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</table>
3.2 Proposed policies and recommendations: the “SCAMP”

The proposed policies and recommendations include the IMPACT supporting measures in a wider cultural aspects management programme for transport domains and hubs. This programme could be possibly named as “Socio-Cultural Aspects Management Programme” (SCAMP) and include 13 targeted interventions and measures aimed at ensuring that multicultural aspects are taken into consideration, to be integrated in the organizational processes already in place. The proposed SCAMP interventions and measures are summarized in Figure below.

![SCAMP Structure](image)

The figure combines some general organizational processes, that every organization has in place, with related SCAMP measures intended to support them. General organizational processes are divided into:

- Internal activities supporting the organization. These are a key enabler of the service provision to customers and consist in all the processes targeting the organization itself and aiming at ensuring its proper functioning. In line with this, they are transparent to the customers, but their effects directly affect the quality of the service provided to customers. The proposed SCAMP feeds the following internal activities supporting the organization:
o The development of the business & management plan
o The human resources management
o The design and integration of automated supporting tools

- Transport service provision to customers. As suggested by its name, these are the service offered to customers by the organization, namely transport service, in this case. The proposed SCAMP feeds both normal and emergency operations of the transport service provision activities.

As it is possible to see in the Figure 5, most of the SCAMP measures are the tangible results of the IMPACT project. Each measure is briefly described below.

The SCAMP proposes 8 measures feeding the internal activities supporting the organization, as follows:

1. Cultural risk assessment. This is one of the IMPACT results. The assessment consists in a proactive analysis of culture-based hazardous behaviours, including the estimate of their probability and severity and also highlighting mitigation measures. It can be integrated in the business and management plan of the transport organization to anticipate possible risks specifically related to cultural factors and associated cost-benefit analysis.

2. In the light of a safety culture, transport operators have the duty of reporting any event that may impair safety and security. SCAMP proposes to integrate culture-related incidents reports into the overall reporting processes. This could be of help for feeding forward the business plan by identifying new risks and mitigations based on real experiences. The IMPACT cultural-based training package contains a set of digital templates to collect such events, which could be customized and implemented into new/existing softwares to be included in the organizational reporting processes.

3. Ethics and privacy data management. As socio-cultural factors largely reflect personal aspects of people, a privacy-by-design approach and a continuous ethical issues monitoring will be provided with the support of experts before and after the deployment of the SCAMP measures. This approach will ensure that any collected data remain anonymous (completely disjoined from passengers/staff identification and profiles) or aggregated/processed so that it is not possible to identify its source. In addition, open non-personalised data from public databases may be collected, (e.g. statistics, census data, economic data, travel preferences) to establish a sound basis SCAMP monitoring. Just aggregated data analyses would be shared and presented to managers and decision makers to support emergency prevention and management. In software tools design and development, it will be always ensured the ethical and legal compliance with current regulations, in particular:
   - the EU Charter of Fundamental Rights (art. 7 and 8) [7];
   - the European Convention for the Protection of Human Rights and Fundamental Freedoms (art. 8);
   - the CoE Convention No. 108 for the Protection of Individuals with regard to Automatic Processing of Personal Data (1981) [1];

4. New competence profiles. The need to have a staff able to manage multicultural passengers is one of the key findings of the IMPACT research. SCAMP proposes to include a set of “multicultural competences” into the competence profiles required for a given position/role in any transport organization. The competence profiles may foster recruitment of multicultural staff and design of training courses aimed at enhance intercultural competences (see D5.3 Training Report). Competence profiles should be designed according to the specific context of use, even exploiting a data-driven process: for instance,
statistics on the cultural composition of the habitual passengers of a given transport hub may correspond to competences related to number and types of spoken languages.

5. Cultural-based training package. This is one of the major IMPACT results. As already anticipated, the IMPACT training could raise awareness and improve communication competences to deal with multicultural crowds. The proposed SCAMP includes such training in the wider career development processes. This training can be developed by the policy makers in order to focus on cultural aspects while creating international/national framework of trainings for every level of responsibility. The basic assumption is to use that input in order to create completed package of intercultural knowledge for the benefit of training staff, for the purposes of better understanding of differences and by far the most, for the safety cultural awareness. Last but not least, any training usually extends its benefits beyond its delivery: in this light, the IMPACT training could work as key enabler to communicate attitudes, competences and values within the organization, thus creating a positive “professional culture” towards socio-cultural factors.

6. A software for agent-based modelling of crowd behaviours was extensively used in the IMPACT project to support the research about possible crowd hazardous behaviours and possibly envision mitigations. SCAMP proposes its customization and integration in transport organization, to support safety and security managers in strategic decision-making and planning.

7. A software for cultural characterisation of passengers’ flows may be designed and integrated to support the collection of statistics on the cultural composition of the passengers flows of a giving transport hubs, by highlighting, for instance, the spoken language and the familiarity level with the air/railway/maritime transport experience. SCAMP proposes this measure to feed the staff composition and the information materials design for a given hub. In software tools design and development, it will be always ensured the ethical and legal compliance with current regulations, in particular the EU Charter of Fundamental Rights (art. 7 and 8) and the General Data Protection Regulation - GDPR (Regulation (EU) 2016/679), that will come in force in 2018.

8. Software for culture-related incidents reporting and analysis. SCAMP proposes to customize the IMPACT set of digital templates to collect culture-related incidents (available in the IMPACT cultural-based training package) and integrate it into existing incident reporting softwares. This may be of great help to collect and cluster reports of culture-related incidents and events.

Five SCAMP measures are proposed to feed the transport service provision activities, as follows:

1. Culture-based procedures and practices
2. Before emergency communication guidelines
3. Culture-based emergency plan
4. During emergency communication guidelines
5. After emergency communication guidelines

Before, during and after emergency communication guidelines are a major result of IMPACT. For an extensive presentation refer to IMPACT deliverable D4.3 [21].

3.3 Advantages for stakeholders
Possible advantages for implementing a SCAMP for all stakeholders include:

- Risk Reduction: an organisation using SCAMP will be identifying hazards and reducing risk to all stakeholders.
- Education to all stakeholders to the culture-based hazardous and positive behaviours: those at risk can be educated and take steps to mitigate the effects of culture-based hazardous behaviours whilst on duty; those who engage with multicultural crowds will be educated in recognising cultural differences and have the opportunity to change their normal approach
to accommodate culture-driven behaviours in order to be more effective in their direction, communication and management.

- Increase of labour productivity, employee satisfaction and customer service levels: SCAMP may hopefully increase labour availability and promote more employee engagement leading to a happier workforce and higher output per employee, thus bringing a message in which “risk reduction” is in line with the health and satisfaction of the operators that are in charge of generating safety.

- Decrease of mistake and associated costs: mistakes cost money to correct and are disruptive. Fewer mistakes lead to a more productive workforce that have a higher sense of achievement and pride in their work by getting things right first time; reducing discord with management.

- Decrease of costs: SCAMP data collection and analysis can bring issues to the surface for resolution before annual pay award negotiations thereby making the employee group - management interaction more cordial and interventions less costly.

- Increase of flexibility to accommodate the difference between what is happening and what was planned: the availability of statistics and information could assist with managing the events on the day thereby increasing flexibility of an operation.

3.4 Hypotheses of SCAMP application

Figure 6 highlights the proposed SCAMP contribution to bridge the gaps on multicultural factors coverage identified in the previous chapter on international standards and regulations.

Far from being exhaustive, the proposed SCAMP works as a set of measures intended to support the integration of multicultural factors into working methods and daily practices of the transport service providers and hubs in the different domains.
SCAMP includes the IMPACT project results as proposed measures in the framework of a wider programme encompassing also other measures and open to other additional proposals. Of course a real SCAMP application should plan appropriate consolidation and customization of each IMPACT-related measure.

Below the SCAMP suitability to the different transport domains is investigated.

### 3.4.1 Aviation

Aviation environment is multicultural within the global nature of the operations and performed by international employees. The regulations and procedures can include this variety. For the safe and secure operations within better emergency management readiness and response can be performed by employees that are well trained and best informed about multicultural aspects.

In aviation organizations, cultural factors are taken into consideration as sub-category of the human performance factors. No specific measures to address them at a more specific level are foreseen.

On the other hand, structured programmes like SCAMP are widely used in aviation. Some of them are mandatory, as for instance the Safety Management System and Security Management System. ICAO Annex 19 (Doc 9859) is for safety management system and Doc 8937 is for aviation security management system. Some others are strongly recommended, as for example the Fatigue Management Programme.

SCAMP is a proposal to include the socio-cultural aspects into the consolidated aviation management methodologies.

In the figure 7, the key pillars of safety management system as given by the ICAO framework [13] are presented. All pillars are important and focus on the best applications for the risk management.

![Figure 7. Elements of Safety Management System. Source ICAO, Doc. 9859, 2013](image)

First pillar, Safety policy points all activities will be ensured in the system and organisation. Training activities is also emphasised in policy structure to improve safety and positive culture. In line with the SCAMP proposal:

- Culture-related hazards can be included in risk management pillar.
- In safety assurance activities intercultural training needs can be defined and monitored.
- Culture-related incidents reporting can be included in safety promotion activities. These are in fact related to the all efforts to create positive safety culture which is basic for effective safety management activities. The multicultural training can be included as well.

The cultural variety of the operators who are taking responsibility in any emergency make the safety and security training more vital considering multicultural aspects.

### 3.4.2 Rail Transport

In railway sector, for Italian case, there are different players like Infrastructure Manager and two railway companies and for this reason it is difficult to align all the actors. Nevertheless, multicultural risks could be significant in stations: for example, in a big hub, every day pass thousands of people belonging to different cultures.

In general, there is not yet a coordination at European level about the cultural risk and the training on these program in the railway domain.

This lack of training sessions is partially covered by the actions taken by the single railway undertakings. For example, NTV developed internal procedures for the emergency situations and the crew on board and staff are trained at a basic level, provided with adequate knowledge to face emergencies.

In a big station there are a lot of tourists, old people, infant, etc. It is not simple to assume an adequate procedure. Communication is fundamental during critical situations, the crew should be aligned about procedures and internal and external communication, especially with foreign passengers. The staff speaks different languages but this is not always sufficient to communicate with foreign travelers, especially during an emergency (same action could have different interpretations linked to different cultures).

It is not simple to manage not frequent travelers in critical situations, an old woman or a child doesn’t know where they can escape, which exit utilize and so on. For this reason, Infrastructure Manager, that coordinate all the process in the stations, try to give clear indications using signboards, installing fire extinguishers and defibrillators.

Periodically the Infrastructure Manager, collaborating with railway companies, organizes some tests like evacuation with train in tunnel during a fire, etc. Thanks to these simulations, with the collaboration also of the firemen department and the railway police, we can join some dots.

During a critical situation on board the train Manager is the first responsible, he should coordinate the process of evacuation according to Infrastructure Manager and Control Room.

In station, the situation is different and in some case also more problematic because the station is more dispersive, if a person is not confident with this station could be represent a problem. In station chaos and confusion are predominant during an emergency and without a correct communication the panic becomes predominant.

During the training on the job the employees could learn technical concepts, first aid concepts but nothing about cultural risk. Fortunately, some members of the crew belong from other countries and this can help in particular situations. Furthermore, the crew often is composed by male and female members, also this is a factor that can help with some categories of travelers.

There are no check in, barriers or others in station and so no control. It is too hard to control every traveler in a railway station (travelers arrive 5 minutes before the train departure).
The companies, thanks to Control Room, can monitor 24/7 the situation and can intervene immediately in case of emergency.

This is a simple infographic that NTV developed for the coordination in the disruption and emergency situation.

There are many levels of the organization that take part in this process, but also external players and stakeholders.

It’s not just the coordination with the crew on board and at the station but also with security, the infrastructure manager, RFI, the public relations, field customer operations coordinator and operations manager of the call centre. The control is given by the operation control room with the operations coordinator of the company with the security working closely together the customer operations and information coordinator.

![Figure 8. System of coordination](image)

This complex system of coordination is important in case of emergency, especially when on board of the train there are many customers of different nationalities and cultures.

For these reasons, in line with the SCAMP proposal, multicultural training sessions could be very interesting. In fact, during NTV’s training session it emerged that is too difficult for railway operators to know all cultural behaviors and cultural differences because there are different behaviors in different situations but illustrative modules could be important for training workers (even if probably this knowledge could be forgotten in a short time if not reminded).
NTV experimented a strong increase of the proportion of international travelers, reaching during the summer period also 30 per cent of the total number of passengers in a panorama with higher load factor and a big increase of the total customers from 6.2 million in 2013 to more than 12 million during 2017.

Multicultural training is a key element not only for the future development of NTV emergency scenario but also for all the sector of railway, especially because there is a constant increase of the number of the international passengers.

In line with the SCAMP proposal, multicultural courses for every level of responsibility (both management, operational and support) could become standardized and coordinated at the European Level. The increase of the responsibility that it is taken by the European Union Railway Agency is a great opportunity for the rail sector, not only to create Single European Railway Area (SERA) but also to create a single vision for the procedures in emergency situation for all the railways undertaking and infrastructure managers. In line with this, the SCAMP proposal could represent a starting point to define standardized measures and interventions, besides the training, to put in place.

3.4.3 Maritime Transport

In maritime sector, cultural factors are taken into consideration during the educational process of the seafarers, even though it is not obligatory separate training required by International Maritime Organization. For the time being, the contents about cultural differences are only included in courses for officers and captains (management level of responsibility), but still is not obligatory. Considering the fact of multinational ship’s crew it is important to provide a good knowledge of the cultural factors even for operational and support levels, what may prevent from misunderstandings and incidents onboard the ship. Particular attention should be given to the crew and staff (ratings) of passenger ships and ferries. Moreover, into account should be taken concrete basins and operating areas such as Mediterranean Sea and the Southern Atlantic Ocean (Canary Islands), where migration is a significant issue.

Neither should we forget about the problem of the piracy off the coast of Somalia. Those examples shows the importance of cultural awareness of the ratings and the crew.

It is important to underline that maritime sector has a very comprehensive and structured system of training which is based on IMO Model Courses. Every seafarer and even staff serving on passenger ships such as stewards, bartenders or SPA services are obliged to possess, basic level trainings on personal survival techniques, fire prevention and fire fighting, elementary first aid, personal safety and social responsibilities. Moreover, particular types of ships are required to possess additional trainings. For passengers ships it will be:

- Crowd Management Safety
- Safety Training for Personnel Providing Direct Service to passengers
- Crisis Management and Human Behaviour Training
- Passenger Safety, cargo safety and hull integrity training
- Familiarization Training for ro-ro passenger ships.

Nevertheless the importance to include cultural aspect into the trainings is dictated by the following issues:

- The process of national diversity of the crews is highly visible and dynamic. Even within the smaller crews, no more than twenty people, the number of different nationalities can be three to five, sometimes more. It causes the cultural problems on the formal and informal levels due to cultural distances and poor knowledge of a formal language on the ship. It caused that the
crew can be nothing more but a group of people whose members very often feel isolated and misunderstood. Multicultural courses can give hints concerning the sailor's education system. Nowadays, the qualification not include enough knowledge about work in multicultural environment.

- The dynamics of changes appear regularly in maritime environment. The changes come in different categories, namely: the improvement of physical working conditions, bigger pressure put on the safety issues, minimum social standards or more automatic solutions. The last one cause the general tendency to reduce the number of crew members. It effects on sailors' behaviors such as the feeling of being overworked and having far less free time to socializing. Seafarers do not socialize as they used to before. The ship is enclosed space, but nowadays its even double-closed space because of the fact that seafarers spend time only within their own nationality, limited by language, religion, cultural roles and patterns, what results in spending time only with their cultural circle instead of socializing with other crew members.

- The multicultural crews are far more interesting environment for seafarers. It is something that adds variety to everyday routine. Common work efforts results in better knowledge about other cultures and the increase of common tolerance.

- All the seafarers shared the belief that effective communication with others is essential. This is the most important integral factor for them.

Multicultural courses for every level of responsibility (both management, operational and support) shall be mandatory, what in consequence will give the seafarers hints for better co-existing and co-working on multicultural crew environment. Unfortunately, the cultural knowledge of the crew is not sufficient and do not include enough knowledge about work in multicultural environment.

![Figure 9. Multicultural ship's crew](http://www.seahealth.dk/en/page/multicultural-crews)

The proposal of inclusion SCAMP into the training methodology for the seafarers will definitely constitute added value for the rapidly changing world. First of all it will raise the safety awareness and allow the staff/ratings to feel more comfortable in multi-cultural crowd. It will also give some important tips for ensuring safety voyage for the passengers with different cultural background. It could be done by adding new contents into existing trainings or the new IMO Model Course development.
3. CONCLUSIONS

The following conclusions can be drawn:

- IMPACT Project provides a substantive knowledge in scope of socio-cultural issues based on the analysis of factors relevant to management of the crowd. Particular attention was paid to the role of: panic, familiar and unfamiliar environment, national and cultural affiliations, behaviour of the people depending on their place of origin, their walking speed and individuality [for more information see the Deliverable 1.1 of IMPACT Project]. Those, and even more factors, shows the importance the tool development aiming at facilitation of crowd management in enclosed spaces such as transport hubs.

- Recruiting a multicultural staff and delivering training for the operators is the next key factor. The package of socio-cultural training is a XXI century requirement. With regard to open borders, availability and universality of travelling even in one day from one part of the continent to another, it is important for the hubs’ operators and educational entities to ensure good knowledge of different cultures.

- There are only courses in maritime domain, that include management of cultural aspects during operational and emergency situations factors within its sphere of application. Those trainings provides a general understanding of the strategies to recognize and respond cultural issues. In our opinion those knowledge is important in every domain to be included and/or extended into the separate and independent course.

- Risk assessment as well as agent-based modelling are also relevant for the operators in order to ensure good quality service and, by far the most, safety and security on terminals, as well as onboard the train, ship or airplane. [for more information see also D 3.1 and D.2.1-4]

- It would also be profitable to considerate the inclusion of IMPACT Project findings into the system for all the transport domains. Socio-Cultural Aspects Management Programme (SCAMP) is a proposal for the companies, ship-owners as well as the port authorities and other entities.

- It is also important to provide such consolidated materials for high schools in order to include it into training of future operators, pilots, stewardess and staff accompanying passengers during their trip. It is vital not only in transport hubs but also in shopping centres or other facilities situated in enclosed area where different nations’ meets.

- The outcome of the IMPACT Project can also be used in preventing terrorist or pirates attacks by raising cultural awareness of the staff operating in such an areas.

- IMPACT Project’s knowledge might also be applicable for the security staff (such as private security companies, the organizers and volunteers on mass events such as concerts, football matches, meetings with famous people etc.). In that case the usage of the SCAMP System might also be recommended.
4. REFERENCES

[1] CoE Convention No. 108 for the Protection of Individuals with regard to Automatic Processing of Personal Data


[6] ECAC DOC 27 and ECAC DOC 30 – Part II

[7] EU Charter of Fundamental Rights (art. 7 and 8)


[12] ICAO Annex 17


[16] IMPACT consortium D 5.2 Training Exercises, Modules and Packages

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[22] IMPACT consortium, D 5.1 Training requirements and key scenarios of Application, 2016

[24] International Carriage of Dangerous Goods by Rail (RID) - chapter 1.10


[29] Safety and Security Culture and Elements (J. Reason)

[30] the EC Regulation No 300/2008