Driving Innovation in Crisis Management for ***E***uropean ***R***esilience

D94.1 - Training and educational modules

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List of Acronyms

Abbreviation / acronym	Description
BWC	Biological Weapons Convention
CM	Crisis management
DoW	Description of Work
D	Deliverable
EU	European Union
FP7	Framework Programme 7
Ibid.	As above
PBL	Problem-based learning
SIA	Societal Impact Assessment
SP	Subproject
SOTA	State of the Art
TBL	Team-based learning
UAV	Unmanned Aerial Vehicles
USA	United States of America
WP	Work package

Project Description

DRIVER evaluates solutions in three key areas: civil society resilience, responder coordination as well as training and learning.

These solutions are evaluated using the DRIVER test-bed. Besides cost-effectiveness, DRIVER also considers societal impact and related regulatory frameworks and procedures. Evaluation results will be summarised in a roadmap for innovation in crisis management and societal resilience.

Finally, looking forward beyond the lifetime of the project, the benefits of DRIVER will materialize in enhanced crisis management practices, efficiency and through the DRIVER-promoted connection of existing networks.

DRIVER Step #1: Evaluation Framework

- Developing test-bed infrastructure and methodology to test and evaluate novel solutions, during the project and beyond. It provides guidelines on how to plan and perform experiments, as well as a framework for evaluation.
- Analysing regulatory frameworks and procedures relevant for the implementation of DRIVER-tested solutions including standardisation.
- Developing methodology for fostering societal values and avoiding negative side-effects to society as a whole from crisis management and societal resilience solutions.

DRIVER Step #2: Compiling and evaluating solutions

- Strengthening crisis communication and facilitating community engagement and self-organisation.
- Evaluating solutions for professional responders with a focus on improving the coordination of the response effort.
- Benefiting professionals across borders by sharing learning solutions, lessons learned and competencies.

DRIVER Step #3: Large scale experiments and demonstration

- Execution of large-scale experiments to integrate and evaluate crisis management solutions.
- Demonstrating improvements in enhanced crisis management practices and resilience through the DRIVER experiments.

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Executive Summary

The core of this deliverable are the Societal Impact Assessment (SIA) - training modules, and an overview of the accompanying training methodology that will be applied to convey the content of these modules to the DRIVER consortium. The deliverable also contains, in annex, a training booklet for the participants, and a PowerPoint presentation for the trainers, both to be used in the training sessions. Both of these can be tailored to the specific needs of the groups participating in the different training sessions. *The deliverable is meant as a guide for the trainers that will conduct and host the training sessions.* Its goal is to present the SIA training approach and the actual training modules that have been developed for DRIVER. Within DRIVER, the SIA training will be conducted by the authors of this deliverable. However, the ultimate goal of the SIA component in DRIVER is for it to be a sustainable and usable method for integrating SIA practically into CM, beyond the scope of DRIVER. The training approach and modules presented here, ensures that the SIA framework (the methodology for doing SIA, delivered in D840.11) and the first version of the actual assessments (delivered in D840.21), are conveyed to the DRIVER consortium step by step. The purpose of the SIA-training within DRIVER is to train the partners, using a concrete methodology, in how to do CM in a way that avoids negative societal side effects and utilizes opportunities to foster societal security and resilience.

The deliverable consists of five chapters. Chapter 1 describes the purpose of the deliverable, how it fits into the overall WP structure and objective, and how it relates to earlier versions of the deliverable. Chapter 2 presents the target group, the training goals, the training methodology, as well as the structure and summary of a) the training program (i.e. the modules, which are provided in annex) and b) the SIA training booklet. Chapter 3 outlines the next steps for the training modules, i.e. how to collect lessons learnt and how to revise the modules. Chapter 4 includes some concluding remarks, and the way forward for the deliverable. Chapter 5 contains the references used for this deliverable.

In annex, the deliverable includes:

1. A training booklet to be used by the trainees
2. Training Module #1
3. Training Module #2
4. Training Module #3a, b & c
5. A questionnaire for Module #2
6. A questionnaire for Module #3a
7. A questionnaire for Module #3b & c
8. An example of the training calendar (which will be put online and continuously updated)
9. A PowerPoint presentation containing all the modules, to be used at the training sessions

1 Introduction

1.1 Purpose of deliverable & target group

This deliverable is designed to be used by the trainers that will train the DRIVER consortium in the way in which crisis management (CM) solutions might create negative or positive impacts on society at large. Societal impact here concerns impacts which were not necessarily intended by design, but which nonetheless influence the success of a CM solution. The main target group of this deliverable are the trainers (namely PRIO and EOS), which are responsible for planning and carrying out the training sessions, as part of the SIA component in DRIVER (see below). The sessions will be tailored, taking into account specific needs of particular SP's, and provide the consortium with a method for conducting SIAs themselves. The main purpose of the deliverable is to present a pedagogic approach for how to convey the societal impact assessment *framework* (D840.11) and the first set of societal impact assessments (D840.21) to the DRIVER consortium. This is done via a set of training modules, which are the key part of this deliverable.

Concretely, this deliverable presents three types of training modules that lead the consortium members through societal impact assessments step-by-step:

- Why (do we need) societal impact assessments?
- How to do societal impact assessments?
- Doing societal impact assessments yourselves!

While the target group of this deliverable is mainly the trainers, the target group of the SIA training are the consortium members working with the various CM solutions in the project. The general approach to the SIA training is chosen to ensure that the consortium partners recognize how integral the societal dimension is to CM, but also to draw on the expertise of the various partners during the training sessions to improve the SIA component over time. The integration of societal impact assessments into the project is thus a two-way approach, a dialogue between DRIVER partners with different kinds of expertise in the project; it brings together solution providers, practitioner organisations/ end-users and researchers to learn from each other and capitalize on available knowledge.

All SP leaders have been informed about the training session at several occasions. Some introductory training sessions were also given at the General Assembly in Lund in November 2015. In order to facilitate participation, training sessions will be related to SP meetings or experiments that will take place already. Trainers will thus attend meetings where most SP members are gathered in order to minimize the risk of no-show. SP leaders are already informed about and supportive of this procedure. The actual implementation of the training plan and the more practical sides of the organization of the training sessions will take place in T840.4 and will be led by EOS. The training sessions will take place throughout 2017. Those DRIVER partners who have participated in an SIA training session are expected to utilize the recommendations throughout their experiments and fill

out the SIA questionnaire outlined in D840.11 (and integrated in the SP2 methodology) to give more concrete feedback.

1.2 The training modules as part of the SIA component in DRIVER

This deliverable is the third and final element of the SIA component in DRIVER. Overall, the component is designed to integrate societal impact assessments into the project, and the practical implementation of this happens mainly via the training modules, as will be described in the following. Towards the end of the project, based on the experience and lessons learnt from the training sessions, the full SIA component (including the training modules), will be updated and submitted with the aim of being usable as a separate SIA approach, also beyond the project.

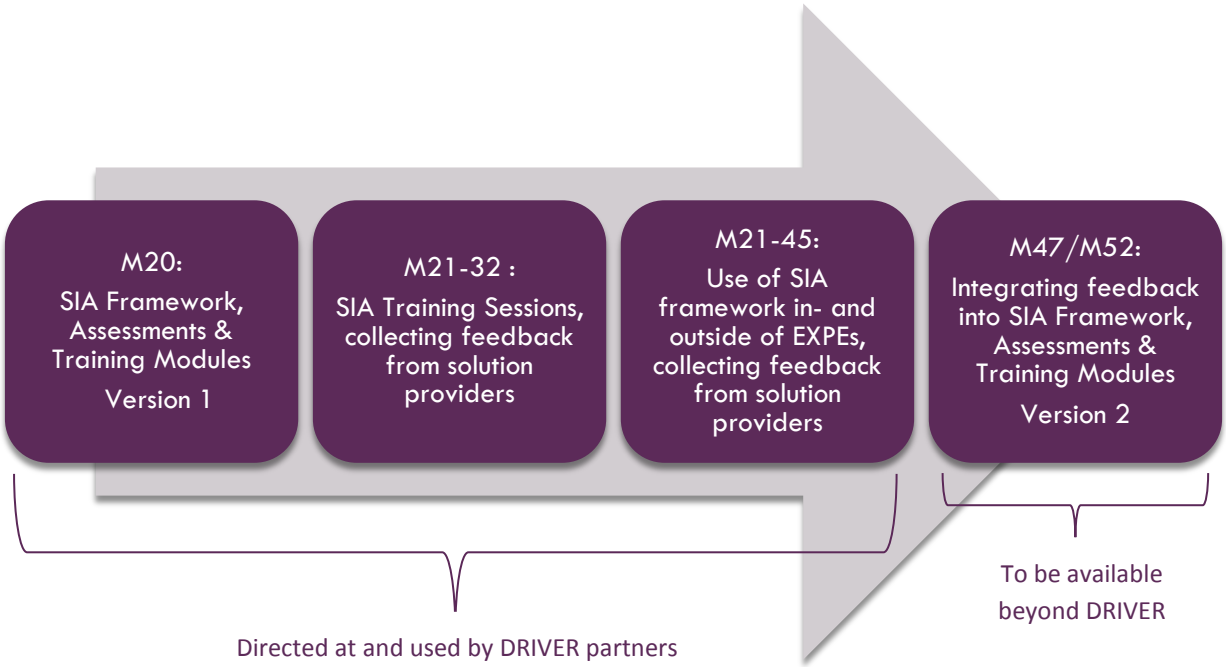

Figure 1: The SIA component in DRIVER

This deliverable is the first version of the SIA training modules. These modules are based on the SIA framework presented in D840.11 and the societal impact assessments presented in D840.21. This deliverable transforms these two into step-by-step training sessions that are conducted for the DRIVER consortium throughout 2017. During the training sessions, the participants are introduced to this concrete method of implementing SIA in their work, and they learn how to conduct SIAs themselves. Feedback mechanisms are integrated into the training material to ensure that insights gained during training sessions and experiments are systematically collected and utilized. A report based on these sessions will summarize whether the learning targets have been reached, as well as feedback on the modules and their contents. The design and implementation of the SIA component as described above, serve as a vantage point for innovation in CM: they provide for a methodology

(which is the framework), a set of assessments and training material for practically implementing SIA into CM. Since they are open access, they can be utilized to make SIA a standard procedure in future CM projects and European CM at large, and they can be used as a basic reference model for SIA that can be continuously improved and adapted for specific purposes.

1.3 Structure of the deliverable

The deliverable consists of five chapters. Chapter 1 describes the purpose of the deliverable, how it fits into the overall WP structure and objective, and how it relates to earlier versions of the deliverable. Chapter 2 presents the target group, the training goals, the training methodology, as well as the structure and summary of a) the training program (i.e. the modules, which are provided in annex) and b) the SIA training booklet. Chapter 3 outlines the next steps for the training modules, i.e. how to collect lessons learnt and how to revise the modules. Chapter 4 includes some concluding remarks, and the way forward for the deliverable. Chapter 5 contains the references used for this deliverable.

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2 SIA Training - Methodological Background

2.1 The emergence of societal impact approaches & the transferability of knowledge

The societal impact trainings derive from the rational of the SIA Framework and subsequently the assessment. These three steps deliver a clear message to partners and other audiences in the future, of sustained commitment from all stakeholders to respect and preserve societal issues. However, the concept of societal impact assessments has been emerging very slowly in certain fields and is still not mainstream. No other comprehensive SIA frameworks, tailored for the CM context, are known at this point, but there are a few examples from other fields. For example, in the US, a guide for assessing the social consequences likely to follow from specific policy actions and specific government actions particularly in the context of the U.S. National Environmental Policy Act of 1969 or "NEPA" (P.L. 91-190, 42 U.S.C. 4371 et seq.), was prepared in 1994 [35]. There are also articles on the societal impact of research more generally[1]. In other cases, efforts to assess societal impacts include only so-called "social benefits", and not potential negative impacts[2]. Furthermore, approaches to assessing impact are often about environmental impacts, such as assessments of the community impacts of natural disasters [36] or soil management [37].

The DRIVER societal impact trainings aim to bridge the gap between CM measures and tools and the concrete impact of those solutions on society. Thus, the trainers have experience on both industry and social sciences. To make the link appropriately understood by the audience is key to a successful training. In addition to the ability of the presenter to explain the topics, the iteration itself must be clear and straightforward, followed by a concrete empirical example from the field. Arguably, the most challenging and important task in any educational effort is to ensure that the training is important and beneficial to the work of the participants. When engaging with scientists, this obstacle is usually rather low when introducing an element that appears to fall into their domain, e.g. showing solution developers how to operate a new tool. This task can become more challenging when aimed at introducing a topic that appears to be 'external', and that is not traditionally a major part of their day-to-day work. Thus, the elaboration on societal impact assessments in DRIVER has to be adapted on a case-by-case basis and in a very concrete manner. For the current task of training solution providers, practitioner organisations/ end-users and researchers on how to incorporate social impact assessments into the work with a specific solution, the main challenge is that these (mostly technical) solutions will be analysed purely on their technical capacities and their technical feasibility. How they are received by society is not, and should not necessarily be, the focus of such a technical assessment. Therefore, the first task of the SIA training modules is to demonstrate that the SIA

[1] See for example: Bornmann, L. (2013). What is societal impact of research and how can it be assessed? A literature survey. Journal of the American Society for Information Science and Technology, 64(2), 217-233.

[2] See for example: Atkins, J. P., Burdon, D., Elliott, M., & Gregory, A. J. (2011). Management of the marine environment: integrating ecosystem services and societal benefits with the DPSIR framework in a systems approach. Marine pollution bulletin, 62(2), 215-226.

training, as well as doing the assessment, serves as a useful and innovative supplement, and that it can in fact have a relevant impact also on the more practical functioning of their solution.

Even if professionals deal with the societal aspects of technology in their learning environment, success in translating these skills into practice is not assured. For example, business ethics used to be taught at universities in stand-alone modules [2]. Unfortunately, even though students successfully completed the modules, their behaviour did not change at all when confronted with decisions that entailed an ethical element in other modules in their course [3] [4]. As a result of these failures to translate ethics education into practice, business schools have since started to embed ethics and societal aspects into the entire curriculum. Ethical and societal issues are thus always directly addressed whenever they appear. This issue of transferability of knowledge, points to a more generic challenge for training. According to Szulanski (2000), the first step of knowledge transfer is to recognize that a transfer is not an act, as typically modelled, but a process [34]. The three step SIA approach in DRIVER is based on this acknowledgement, since it relies on a gradual learning process; starting with the familiarization of the SIA framework in itself, and then being introduced to ready assessments derived from the using the framework, before training the participants in how to conduct assessments themselves.

The topics discussed during the trainings need to have clear or visible impact on society in order to attribute clear impact to solutions. This of course may be difficult to visualise in cases where for example privacy and data protection are involved, but from experience however, any concrete and tangible result is more welcome than a general assumption of what could be the impact. Also for this reason, the booklet handed to participants in advance of the training session and on the day, consists of a detailed description of the key terms. Understanding the meaning of the key terms involved is a first important step to understanding and creating a common ground for discussions. As described above, SIA is an integrated part of DRIVER, built bottom-up on the concrete solutions existing in the project, and delivered systematically and gradually to the partners via their participatory and active role during the trainings. Organizationally, the SIA component is placed in two parts of the project outputs: it provides support during the design of the DRIVER experiments, and it is integrated in the evaluation framework.

2.2 Societal Impact Training- Experienced challenges

According to Daniels, learning is a process that is influenced by the surrounding and environment that an individual is exposed to [39]. There can be thus numerous challenges influencing the audience as well as the trainee when examining a new topic. Here, we would like to focus on the learning processes and knowledge transfer between the framework of societal impact and the learning experience of industrial partners in DRIVER. We will gather from the experiences during the trainings while looking into the literature specifically on this topic. There have been quite a few studies that try to understand the transfer of knowledge [40] [41] from universities to industry; however societal impact is not necessarily transferred only by academics. They found nevertheless that industries which operate in a wider spectrum and different fields within a sector are more prone to knowledge transfer [40]. The partners of the DRIVER consortium are in fact involved in many

aspects of security, amongst them crisis management. Collective discussions on a specific topic enlarge the possibility for knowledge transfer. In addition, if personal contacts between researcher and the private sector do not exist, then some critical topics are not widely adapted. Take the example of privacy issues and of environmental responsibility; similarly, societal impact is slowly taking its course within company culture.

The relevance of the topic is also critical because societal impact is crucial for the security sector,. The situation remains, that in some cases change in attitude takes time and effort from researchers to have a reaction from other sectors. Having an exchange of opinions during trainings can facilitate as a platform that would broaden individual's networks. The two main issues we are mentioning here are challenges that have been observed by authors but can be tackled within the premises of DRIVER societal impact trainings. We do not claim that the training per se would trigger interest on societal issues, but it raises awareness of the topics. The aim is to challenge traditional industry concerns and try to motivate our partners to consider these issues before designing their solutions.

In sum, the following overarching issues are seen as important for the success of the trainings:

Any SIA training delivered within DRIVER needs to take into account the challenges of introducing novel concepts such as SIA into established professional communities. This will happen in several ways: 1) by introducing SIA gradually, 2) by keeping examples as close to the concrete solutions developed in DRIVER as possible, 3) by connecting the potential impacts of the CM solutions to real life cases and circumstances, 4) by facilitating for awareness raising discussions, and 5) by demonstrating that the SIA training, as well as doing the assessment, serves as a useful and innovative supplement, and that it can have a relevant impact also on the more practical efficiency of the solution at stake.

Any training and educational program needs to define at the outset what sort of learning effect it wants to achieve. These goals can range from mastering a very specific task (or even part –task), e.g. how to do an integration of a function or how to use a specific software tool, to acquiring 'competencies'. Govaerts (2008) defines competency as "an individual's ability to make deliberate choices from a repertoire of behaviours for handling situations and tasks in specific contexts of professional practice." [5] These "competencies are context-dependent and always imply integration of knowledge, skills, judgment and attitudes" (p. 42). Learning goals can also be about teaching a specific skill to developing competencies, which entails that participants are able to transfer and apply the skills acquired in the training to novel problems. The whole training approach is designed to illustrate that not every kind of effect of CM solutions can be calculated or expressed by a number. And yet, these effects may have considerable societal impacts, especially when CM solutions experience societal resistance[3].

[3] For example, can the use of mobile applications for collecting information from the public during a crisis have negative effects that were maybe not foreseen? It is possible to imagine, e.g. that there could be privacy issues with the use of the application or that the data could risk being misused for other purposes? And could this

Training and education is thus seen as a DRIVER for changing the way in which a professional is working. At the most modest level, the training on societal impact assessment should enable participants to understand concerns about the effects on society of a specific CM solution. Participants should understand that the DRIVER solutions impact on society in various ways, and should develop this competency among the participants. This competency entails that participants are not only able to identify the societal impact of a specific solution that has been discussed as part of the educational module, but also that they are able to transfer and apply this assessment to other solutions that are not covered in the module (i.e. doing SIAs themselves, applying the methodology of the SIA framework). At the minimum, participants should appreciate the specific examples discussed within the modules, and be made aware how technologies have a social impact, which in turn affects the utility and costs of the technology. The trainings will equip participants with the tools to identify and incorporate societal impact considerations into their work with a concrete CM solution. The approach to SIA in DRIVER not only raises awareness, but also seeks to develop the skills for the participants to address problems of societal impact on their own. At the beginning of each module, specific training goals are defined.

The overall learning goals for the trainee of the SIA training are as follows:

1. **The trainee is made aware of the relevance and use of SIA**
2. **The trainee knows which methods can be used to conduct a SIA**
3. **The trainee is able to conduct a SIA themselve**
4. **The trainee is able to critically review SIAs conducted by others**

2.4 From methodology to method: how to develop SIA competencies?

Facilitating a shared understanding of crisis management across Europe, is one of the overall objectives of DRIVER, and thus is working towards a future in which conducting and implementing SIAs are a natural part of the norms and culture of technology providers. In this sense, the SIA component in DRIVER seeks to push also for a cultural change in the field of CM. One example of such kind of a cultural change is the development of norms within the natural sciences: honesty, following laboratory safety guidelines, or not plagiarising have developed as common values among scientific practitioners [7]. These values are so ingrained in the practice of science that the need to adhere to these is not debated any more. As a societal impact is increasingly important, e.g. in research projects funded through the H2020 framework, the general implementation of SIA into domains where it has traditionally not been as apparent, has a clear value.

In the past decades, 'active learning' has become one of the main DRIVERs of educational change [8]. Active learning tries to move away from the traditional teacher-student lecturing model towards a horizontal model where students learn with each other through reading, writing, discussing and

lead to the population being hesitant towards contributing with data through such solutions, reducing the acceptability of such measures in CM? More examples of societal impacts like this can be found in D840.21.

problem solving. Especially the selection and use of explanatory cases has been identified as an important factor in increasing the students' understanding of the material. While there are many strategies surrounding the use of cases, the success of a case is determined by five attributes.

A teaching case needs to be:

1. "relevant (level of learner, goals and objectives, setting of case narrative);
2. realistic (authenticity, distractors, gradual disclosure of content);
3. engaging (rich content, multiple perspectives, branching of content);
4. challenging (difficulty, unusual cases, case structure, multiple cases), and
5. instructional (build upon prior knowledge, assessment, feedback, and teaching aids)."[9: 1]

In DRIVER, these five attributes are e.g. addressed in the following way:

1. Relevant: the examples and the assessments are derived directly from the CM solutions that the trainees are working with.
2. Realistic: the examples and the assessments are derived directly from the CM solutions that the trainees are working with.
3. Engaging: the combination of team-based learning (TBL) and problem-based learning (PBL) as described below fosters engagement, and in addition the case based parts of the training sessions has been experienced as particularly vital for engaged discussions.
4. Challenging: the potential abstraction of the very concept of SIA can be challenging for trainees without any experience in societal impact.
5. Instructional: the training modules are based on prior knowledge, integrated assessments, collects feedback (used to improve the modules for the final version), and contains training materials.

2.4.1 Problem- based learning (PBL) & team- based learning (TBL).

The use of case studies in education is a central element in two well- known learning approaches: problem-based learning (PBL) and team-based learning (TBL). These have been shown to be effective in e.g. teaching ethics to medical students [10] [33], dual-use biosecurity to scientists [30] [31] [32] and in education at professional schools in general [11]. For the SIA trainings in DRIVER, as will be described in the following, a combination of the two has proven useful.

PBL is one of the most significant innovations in higher education and education for the professions[4]. In PBL, "[u]sually, a class is divided into groups of approximately five students each. The groups' membership generally remains constant throughout the term. At the purest level, the groups define the "learning issues" they believe each new problem presents and decide how to divide their labours to resolve them. Thus, aggressive PBL implementation requires ample library resources. Likewise, large class situations require an adequate number of tutors to act as support and facilitators to the groups."[12]. Problem based learning (PBL) has been the subject of considerable interest and debate

[4] For example according to: Boud, D., & Feletti, G. (1997). The challenge of problem-based learning. Psychology Press.

in particularly in medical undergraduate and, increasingly, postgraduate education in the last decade. The supporters of PBL highlight how it is a way of learning that provides a highly motivational environment for acquisition of knowledge, which is usually well received by those who take part in it. On the other side, the critics argue that PBL is a time consuming exercise, often undertaken by people with a limited appreciation of its complexities, and the lack of evidence that PBL translates into better operational competence, brings into question the relevance of such intensive learning methods in everyday practice[5]. One problem in adopting PBL for the DRIVER SIA training is the combination of time constraints and tutor availability. While PBL works well with students over a whole term at university, the SIA training in DRIVER will only be able to train participants for a short period of time and with a limited number of trainers.

These shortcomings of PBL are addressed within team-based learning TBL, which has been successfully used at one-time events, e.g. to teach science students about dual-use biosecurity or to impact medical students academic performance[6], which requires the same type of thinking of students and scientists as from the participants in the DRIVER SIA training. The idea of TBL originated with Larry Michaelsen in the late 1970s. Michaelsen was employed at the University of Oklahoma, and was suddenly forced to triple the size of this primary course from 40 to 120 students. Having used group assignments in smaller classes previously, Michaelsen knew that students were usually happier with applying concrete concepts rather than to be told about them. On this background, he was convinced that this concept would work on larger groups as well, and decided to spend most of the class time for group work. It soon became clear that this strategy was working, and this success materialized in three unexpected accomplishments: 1) the students perceived the large class setting as more beneficial than harmful, 2) the approach created conditions that would enhance learning in any setting, and 3) Michaelsen enjoyed the experience, since the students were already learning the basics on their own, and he could use his efforts in designing assignments and activities that would underline the value of the topic being taught [38]. A TBL exercise usually consists of three distinct parts: Preparation, readiness assurance, and an application exercise [10]. 'Preparation' starts several days in advance of the session and consists of handing out material that explain the learning objectives as well as specific reading. Participants are expected to read and study these materials. In DRIVER, this means that the participants of the training are asked to familiarize themselves with the distributed materials in advance of the training[7]. 'Readiness assurance' usually consists of two quizzes. The first is done by participants individually and then repeated by groups of participants. This group work is already part of the learning exercise as participants discuss and compare their individual answers and engage in a discussion. Once all groups have finished their quiz, their answers are compared. If there is a disagreement between groups, each group has to defend their answer and more discussion ensues. In DRIVER, 'readiness assurance' happens via the training modules designed to explain the methodology of the framework, and how the SIAs actually come to exist.

[5] As summarized in the abstract of: Kilroy, D. A. (2004). Problem based learning. Emergency medicine journal, 21(4), 411-413.

[6] See for example: Koles, P. G., Stolfi, A., Borges, N. J., Nelson, S., & Parmelee, D. X. (2010). The impact of team-based learning on medical students' academic performance. Academic Medicine, 85(11), 1739-1745.

[7] This preparation does not involve heavy readings, but it is advised that the participants familiarize themselves with the training booklet, the descriptions of the key terms, and the key components of the framework.

Then, discussions of concrete assessments relevant for the solutions the participants are working with, prepared in advance by the trainers, are discussed. The 'application exercise' then asks groups to apply their knowledge to complex real-world questions. These problems are designed to be more challenging than the 'readiness assurance' component, to foster even further discussions. In DRIVER, the 'application exercise' happens via the training modules designed to adapt the CM solutions the participants are working with, to concrete case studies. This had proved to be a welcomed mechanism by the participants, and provokes fruitful discussions.

2.5 Lessons learnt from the trainings carried out

The first SIA trainings were carried out by EOS in summer 2016. This chapter describes some of the main experiences from this activity. The framework itself has been proven to be a bit complex and lengthy, but its' practical explanation during the trainings has been perceived as a good alternative. Participants have been encouraged to read through the societal impact framework in order to better explain to other Partners and their colleagues the benefits of a societal impact assessment prior to implementing an idea or solution. The self-assessment gives them the trigger to learn more about the potential harm but also benefits of solutions. In addition to this, participants appreciate the recommendations drafted for their benefit. It is crucial that the SIA topics discussed in the trainings need to have visible effects to society in order to attribute clear impact to solutions. This of course may be difficult to visualise in cases where for example privacy and data protection are involved. From experience however, any concrete and tangible result is more welcome than a general assumption on what could be the impact. Also for this reason, the booklet handed to participants in advance of the workshop and on the day, consists of a detailed description of these terms. Understanding the meaning is a first important step. A very welcomed mechanism has been the use of the solutions they are experimenting with adapted to a different case study, and to show the effects and impacts of that specific solution on a real life case and under which circumstances it was perceived to have failed to take societal impact under consideration. These examples provoke discussions among participants. This facilitates a fruitful exchange between trainer and audience which is of added value to both sides. While TBL provides useful information on how to run an educational workshop, there is one aspect that prevents the direct application to the SIA training in DRIVER. Unlike in an academic setting, there is obviously no grading of their participation in the workshops. The only similar feedback might appear in the future if a specific solution is not accepted (or heavily criticised or controversial) by the public and additional costs to their solution is incurred. Underlining the relevance of the SIA training is key to its successful implementation, especially as the partners expectedly have limited time and resources to do so. As a result, the SIA modules need to highlight the importance of incorporating SIA into solution development right from the start. In practical terms, the SIA modules provide preparatory material to participants before the session, but then also spend time within the module to further explain the utility of SIA. Once this awareness raising exercise is done, and participants have been made aware of exactly why it could be useful to their work, the training session will move on into explaining in practical terms how to do a SIA. This activity could then follow the PBL approach by utilising group work and active participation.

3 Introduction to the Training Modules

The training modules present the SIA framework as a methodology for conducting societal impact assessments. They translate the SIA framework (D840.11) and the societal impacts assessments (D840.21) into training modules that underscore the importance of societal acceptance of CM solutions, and provides solution providers, practitioner organisations/ end-users and researchers, with a concrete method for fostering societal resilience by respecting key societal values and principles. The modules are complemented with explanatory training material, e.g. a training booklet and a PowerPoint presentation with illustrative examples. The modules are developed in an easy-to-read shape and language, both for the trainer and for the participants. The participants will be introduced to the content of the SIA trainings mainly through the PowerPoint presentation that is accompanying every module, and through the SIA booklet that will be handled out before/ at the training sessions. The trainers will use this deliverable as a guide to prepare and carry out the sessions.

3.1 Three consecutive modules

The module setup follows the storyline:

1. Why do we need societal impact assessments (SIA)?
2. How to do SIA?
3. Doing SIA!

Module 1: The first module serves as an introduction, and is obligatory for all who take part in training sessions, in order for the following modules to make sense. It explicates the importance of societal acceptance and illustrates the unintended effects that security and CM solutions may have on society. In line with the methodology outlined above, it does so by drawing on concrete examples and cases which are relevant to the key themes in DRIVER: civil resilience, strengthened responders and training and learning. These cases and examples are important to bring the urgency of the societal dimension as close to the participants as possible. **Module 2:** Once that is achieved, the second module gives a detailed introduction into the SIA framework's components. This means that after identifying the importance of societal impact assessments for CM, the participants learn about a step by step-method to conduct such assessments. In order to do the training based on this theoretical knowledge right away, the participants actively discuss individualized example assessments, which are the most relevant to their field. **Modules 3a, b, c:** Finally, the participants conduct assessments for the solutions that they are working with. Every module is supported by training material to illustrate and summarize the most important points and give room to conduct one's own assessments.

3.2 Preparing the trainers for the training sessions

Both the actual training modules and the PowerPoint presentation designed for the trainings are written in a way that walks the trainer through the material in an easy step-by-step way. For each slide in the PowerPoint presentation that accompanies the training modules, the trainer will find text that goes with it. Italicized text in the modules below refers to instructions for the trainers. Any other text can be read out or edited according to the trainer's competences and wishes. Each part of the training session starts with an overview of the time needed for the part, the method used and the teaching material that will be used in the respective session. The length of the sessions can be adjusted to the needs of the participants and to the time slots available, but here we calculate with 3 hour sessions. This can be tailored by the trainers to each group of participants. It should also be clarified that modules 3a, 3b and 3c are not taught to everyone, but only to the related SPs.

In preparation of the training sessions, the trainers should:

- Send D840.11 and D840.21 to the participants and encourage them to familiarize with them
    - For D840.11 the most important chapters are: 2 & 3.
    - For D840.21 the most important chapters are: 2 (very short) & chapter 3, 4, or 5 depending on whether the participants in the training are part of SP3, 4, or 5 (these are tailored per SP)
- Have copies of D840.11 and D840.21 available
- Have one copy of the SIA training booklet per participant ready
- Familiarize themselves with the participants, and in modules 3a, b and c choose and prepare those modules that are most relevant to the audience
- Organize and bring the rest of the teaching material specific to the audience
- Clarify with the meeting leader how much time they have available for the SIA training session

4 Conclusions and Outputs

This deliverable provides different kinds of outputs. On the one hand, it delivers concrete concepts and material to be used for training sessions, on the other hand the deliverable provides outputs to the project in the form of relevant learning results that the outlined modules seek to instil. On the level of concepts and material, the deliverable developed a strategic narrative for learning about societal impact assessments, which is outlined in chapter 2 and 3. The overview of training modules (in Annex 2-4) combines the theoretical background for training as well as the goals of the training sessions and translates these into a strategy for training and learning about SIA. The main output of the deliverable is the training modules that not only combine contents with pedagogical method, but also include concrete examples, illustrations, presentations and work sheets: material that is used to organize training sessions. The material is designed in a way that allows for an adaptation to the audience, depending on whether training sessions are held in the complete consortium or specific SPs that work on distinct CM solutions. As part of this training material is the training booklet that can be reproduced and handed out to every participant in order to provide them with a take-away of the key contents. Not least, the deliverable provides output in the form of a training calendar (in annex 8) that can be used as a starting point to schedule training sessions for the various consortium members. The training sessions are planned to last around 3 hours, and will take place throughout 2017. Beyond the conceptual and material kinds of outputs, this deliverable also provides for different kinds of learning outputs. The training modules are designed to accomplish specific learning targets. A summary of these learning outputs reads as follows:

Learning results and outputs

- ✓ An understanding of the importance of SIA in CM
- ✓ Concrete examples of societal impacts in DRIVER-relevant domains
- ✓ Raised attention to the challenges of determining societal impacts
- ✓ An understanding of what SIA can and cannot deliver
- ✓ An understanding of the SIA framework's method
- ✓ An overview of functions and the rationale of their setup
- ✓ An overview of assessment criteria and the rationale of their selection
- ✓ Familiarity with the elements of a societal impact assessment
- ✓ An understanding of how to consult the key deliverables, D840.11 and D840.21
- ✓ An understanding of what cross-SP collaboration for SIA entails
- ✓ Knowledge on how to identify more functions than before this training
- ✓ A better understanding of the impact of their work on society in terms of what they are designing and developing, and not only within DRIVER
- ✓ An understanding of the SIA, of example assessments provided in D840.21
- ✓ Capacity to conduct assessments while designing and developing solutions on crisis management.

Next steps:

Both the conceptual and material outputs of this deliverable will be implemented and used throughout the teaching sessions in 2017. A report based on these teaching sessions will summarize whether the learning targets have been reached, as well as feedback on the modules and their contents. The report will then serve as a basis to revise D840.11, the SIA framework, D840.21, the assessments, as well as D840.31 the training modules. This is visualized below.

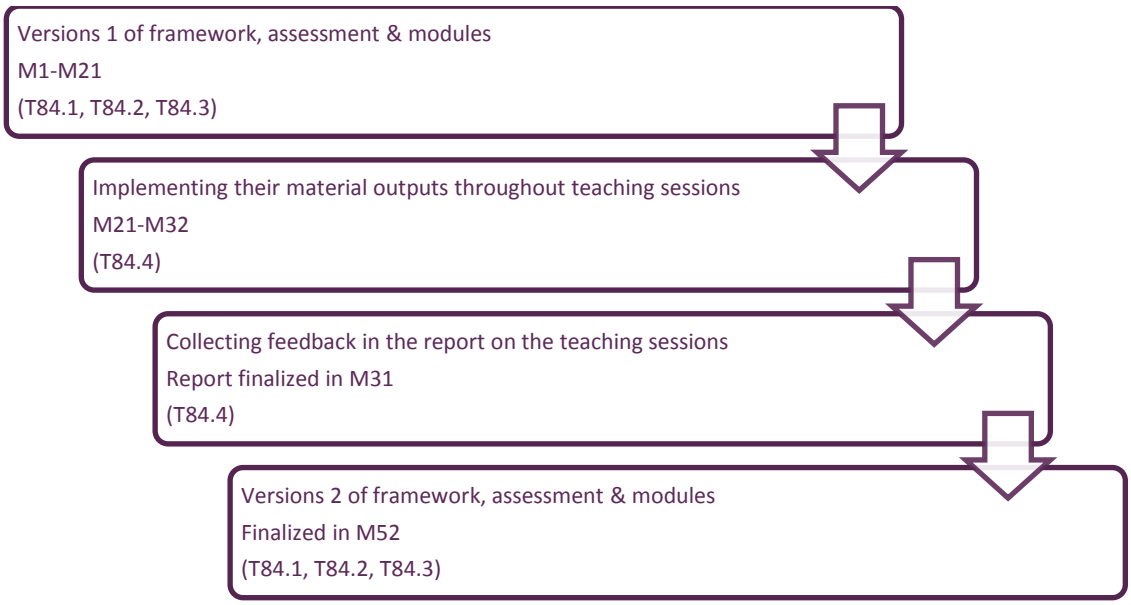

Figure 2: Use of Training Module Outputs in **DRIVER**

The next step for the SIA training is to conduct training sessions throughout 2017. EOS (with support from PRIO and ARTTIC) will be the main responsible partner for conducting the training sessions. Practicalities and organization of the sessions is part of T840.4. After the training sessions have ended, the results (the insights on both the training method and the content) will be collected in a report in T840.4. This report will be used to revise the original version of the SIA framework, of the SIA assessments and the SIA training modules. Finally, all of the three components will be revised and resubmitted in new deliverables towards the end of the project, versions which will be revised so that they can be used also outside the DRIVER consortium and for CM in general.

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Annex 1: SIA Take away: Booklet for participants

In this annex, a booklet for the trainees can be found. It is to be considered as a form of accompanying documentation for the SIA training. The booklet can be used for taking notes and it also includes definitions of key concepts crucial for the training. For more thematic details, participants are invited to consult D840.11 and D840.21. Furthermore, it includes a suggested agenda for each training session. The tables that are included in the booklet are tools for participants who want to carry out a SIA themselves. The booklet follows a generic format that can be easily adapted to each specific training session. For now, the handout is not intended as a stand-alone manual for those unable to attend the workshop, but if this will be the case in the next version of this deliverable, more detail will have to be added.

The participants' feedback on both the training sessions and the booklet will be collected by the trainers at the end of each training session. When the trainers are preparing to use the booklet for a specific training session, the booklet should be updated with the respective agenda. The current format of the booklet will be used for the trainings internally in the project, but on the basis of feedback during these sessions, the booklet will be revised in a final version towards the end of the project. This version will be made to fit training sessions outside the project, and will be submitted as part of the final version of the training modules (as it is here).

The booklet can be found in the following pages, and can be formatted and printed prior to each training session.

Societal Impact Assessment (SIA) – *Booklet for Participants*

This booklet serves the purpose of taking notes and having access to main definitions. For more thematic detail you are invited to read D840.11 and D840.21.

AGENDA [Trainers, please update according to session]

- Introduction
- Session 1- Societal Impact Assessments
- Session 2 – Interactive session on Societal Impact Assessments

INTRODUCTORY SESSION

DRIVER

- **DRIVER** evaluates emerging solutions in three key areas:
  - civil society resilience,
  - responder coordination,
  - training and learning.
- **Aim**: enhanced crisis management practices, efficiency and connection of existing networks.
- DRIVER also considers the **societal impact** of CM
- **Overall aim:** to foster increased societal security and resilience

What is a Societal Impact Assessment (SIA)?

- **Societal Impact Assessment (SIA)** – a means to assess secondary, unintended negative and positive impacts of crisis management functions on society at large.

NOTES

Module 1

Why attend this SIA session?

- to increase your **awareness** of **positive & negative unintended/secondary effects of CM**
- to help you **identify** them
- to encourage you to take them into **account**
- to teach you how to **conduct** your own SIA
- to help you formulate **solutions** to minimize negative unintended/secondary effects of CM

NOTES

Module 2

SIA Framework

- Two major **components**:
  - Crisis management (CM) functions &
  - Assessment criteria (i.e. societal values and principles)

- **Use** the framework to:
  - Assess positive and negative **impacts** of CM
  - Define **solutions/mitigation strategies** for negative impacts

NOTES

What are we assessing?

Crisis Management Functions in three overarching categories:

1. **Civil Society Resilience –** aimed at building resilience in communities
   - **Functions concerning Community Engagement:** Training Communities for Psychosocial Support, Building & Measuring Community Resilience, Volunteer Management incl. Crowd Tasking.
   - **Functions concerning Crisis Communication:** From Crisis Managers to Citizens (public), Media & Policy communication, From the Citizens to Crisis Managers.
2. **Strengthened Responders** – aimed at increasing professional preparedness, response & interoperability

- **Functions concerning Identification & Awareness**: Gap analysis of community resilience, Situational Analysis & Impact Assessment, Early warning, Risk Analysis, Forecasting, Identification of Critical Infrastructures.
- **Functions concerning CM Coordination, Command & Control:** Tasking and resource management.
- **Functions concerning CM Logistics:** Strategic transportation & Supply Chains.
- **Functions concerning Information Management:** Collection & Storage of data, Facilitating Data Processing (Incl. Operational data lift), Analysis & Evaluation, Communication between first responders.

3. **Training and Learning** – aimed at harmonizing Competence-Building for Decision-Makers and Organizations
    - Functions **concerning Training and Learning:** Education & Training, Evaluation & Lessons learnt, Organisational adaptiveness.

NOTES

What are the societal impact assessment (SIA) criteria?

Below you can find an overview of the Societal Impact Criteria that can be used to assess the negative and the positive societal effects of crisis management functions. These are organized according to high level categories in the left column. Detailed definitions of all the criteria in the table below can be found on pages 35-46 in D84.11 *Societal Impact Assessment Framework.*

Secondary in/securities	Unease - Calmness Suspicion - Trust Misuse - Protection New Vulnerabilities - Progress Technology Dependency - Flexible Solutions Function Creep - Specialized and Controlled Use
Sustainability	Sustainability
Political & administrative principles	Accountability Transparency Integrity Negative - Positive Standardization International Cooperation
Legitimacy	State-Citizen-Relationship Political Reputation
Core societal & ethical principles	Social Cohesion & Solidarity Participation Diversity Open - Control Society Cultural & Gender Sensitivity
Legal values	Suitability, Necessity & Proportionality In/justice & In/equality
Fundamental Rights	Dignity /Autonomy Non-Discrimination Privacy & Data Protection Freedoms & Protest

SIA Criteria Part 1
Criteria for assessing "Secondary (in)securities"

- Unease vs Calmness (being free from agitation or strong emotion)
- Suspicion vs Trust (what is perceived to be associated to reliability, goodness, honesty, integrity)
- Misuse vs Protection (from harm, misuse, manipulation)
- New Vulnerabilities vs Progress (focus on benefits to be derived from new technologies, like efficiency)
- Technology Dependency vs Flexible Solutions (easy to adapt, versatile, agile)
- Function Creep vs Specialized and Controlled Use (made possible by using privacy – preserving principles like purpose specification, data minimization, consent)

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SIA Criteria Part 2
Criteria for assessing "Sustainability"

- Ability of an organization or community to maintain certain values over time, develop resilience to shocks.

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SIA Criteria Part 3
Criteria for assessing "Political & administrative principles"

- Accountability - the obligation to be answerable for own activities, accept responsibility for them, accept oversight, and disclose information the results in a transparent manner.
- Transparency – openness, disclosure, clarity and accuracy in communication about actions undertaken
- Integrity – adhering to shared ethical principles and values, acting in accordance with them truthfully, accurately, consistently
- Negative - Positive Standardization – adopting uniform and consistent procedures, ways of handling non-technical issues and processes (such as dignity, privacy, data protection)
- International Cooperation – building cross-border action capabilities when beneficial for CM

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SIA Criteria Part 4
Criteria for assessing "Legitimacy"

- State-Citizen-Relationship – based on general acceptance of agreed rules regulating the exercise of power.
- Political Reputation – as expressed by general social opinion and evaluation of a political entity, influenced by public discourses, derived from level of trust in official actors

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SIA Criteria Part 5
Criteria for assessing "Core societal & ethical principles"

- Social Cohesion – ability of a society to ensure the well-being of all its members, minimising disparities and avoiding marginalisation
- Solidarity - feeling or action that produces a community of interests, objectives and standards
- Participation - being (actively) connected to a community, region, nation
- Diversity - wide range of racial, cultural, ethnic, linguistic, and religious variation that exists within and across societies.
- Open-Control Society - a flexible structure allowing for individual freedom, free dissemination of information, respect for core societal values, based on transparency and creating feelings of trust and security in society.
- Cultural & Gender-Sensitivity – respect for socio-cultural and gender-based particularities of individuals

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SIA Criteria Part 6
Criteria for assessing "Legal values"

- Suitability – how appropriate are the means being used to pursue the given objective.
- Necessity – choosing the less restrictive version of a measure that needs to be applied.
- Proportionality – making sure that the effects of a measure are not disproportionate or excessive in relation to the interests affected.
- Justice & Equality – making sure that actions are:
  - carried out according to certain principles (e.g. human rights)
  - equitable, fair, non-partial and proper
  - rightful and lawful, and facilitates the treatment of all individuals in the same way.

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SIA Criteria 7
Criteria for assessing "Fundamental Rights & Freedoms"

- Dignity – fundamental value and inviolable right recognising the innate value of any human being and his right to be treated with respect.
- Autonomy – individual's independence of will or actions and the right to self-government.
- Non-Discrimination – the right to be treated equally irrespective of individual characteristics (like discrimination gender, race, colour, language, religion or belief, political or any other opinion. Non- discrimination further aims to relieve the suffering of individuals, being guided solely by their needs, and to give priority to the most urgent cases of distress.
- Privacy & Data Protection - the right to a private and family life protected from interference, information self-determination
- Freedoms– including freedom of thought, conscience and religion; of expression and information ; of assembly and of association

NOTES

Detailed definitions of all the criteria above can be found on pages 35-46 in D840.11 *Societal Impact Assessment Framework.*

SIA Framework

Table 1 illustrates a snapshot of how the SIA framework is designed. The main aim with the framework is to link the CM functions (Y axis) to the Societal Impact Criteria (X axis). Wherever the two axes meet, a Societal Impact Assessment is made. The first versions of example assessments for all the DRIVER functions have already been done, and can be found in D84.21.

	SECONDARY IN/ SECURITIES							POLITICAL & ADMINISTRATIVE PRINCIPLES						LEGITIMACY		CORE SOCIETAL & ETHICAL PRINCIPLES					LEGAL VALUES		FUNDAMENTAL RIGHTS				
Subcategory	Unease - Calmness	Suspicion - Trust	Misuse - Protection	New Vulnerabilities - Progress	Technology Dependency - Flexible Solutions	Function Creep - Specialized and Controlled Use	Sustainability	Accountability	Transparency	Integrity	Negative - Positive Standardization	International Relations	International Cooperation	State- Citizenship- Relationship	Political Reputation	Social Cohesion & Solidarity	Participation	Diversity	Open- Control Society	Cultural & Gender Sensitivity	Suitability, Necessity & Proportionality	In/Justice & In/equality	Dignity & Autonomy	Non-Discrimination	Privacy & Data Protection	Freedoms & Protest	Measures as of WP/Tasks
Functions concerning Civil Society Resilience																											
Category: Community Engagement																											
Training Communities for Psychosocial Support																											
Building & Measuring Community Resilience																											
Volunteer Management (Incl. Crowd Tasking)																											
Category: Crisis Communication																											
From Crisis Managers to Citizens (public)																											
Low-level: Media & Policy communicatio n																											
From the Citizens to Crisis Managers																											

Table 1: Snapshot of SIA framework design

CM functions

Table 2 summarizes the different functions that CM solutions in DRIVER fulfil. It also lists the related tasks and experiments.

CM Function	DRIVER tasks/WPs[8]	DRIVER experiments	A[9]
Functions concerning Civil Society Resilience			
Community Engagement			
Training Communities for Psychosocial Support	WP32, WP33, WP55	E32.1-3, E33.3, T55.1, T55.2	X
Building & Measuring Community Resilience	WP33, WP34, WP36	E33.1-3, E34.1-2, E36.1-3	X
Volunteer Management incl. Crowd Tasking	WP36, T43.4, T44.3	E36.1-3, E42	X
Crisis Communication			
From Crisis Managers to Citizens (public)	WP35, T36.2, T43.4, T44.3	E35.1-4, E36.1-3, E42	X
Low-level: Media & Policy communication	*WP35*	E35.2	X
From the Citizens to Crisis Managers	(WP35), T36.3, T43.4		X
Functions concerning Strengthened Responders			
Identification & Awareness			
Gap analysis of community resilience	WP34, WP44	E34.1-2	X
Situational Analysis & Impact Assessment	T43.1, T43.2, T43.4, T43.5, T44.4, WP34	E40, E45	X
Early warning, Risk Analysis, Forecasting	T43.1, T43.3, T43.4, T44.1, WP34, (WP54)	E40, E45, E43	X
Identification of Critical Infrastructures	WP34	E34.1-2	X
CM Coordination, Command & Control			
Tasking and resource management	T44.1, T44.2, T44.4, T44.5	E43	X
CM Logistics			
Strategic transportation & Supply Chains	T44.4, T44.5	E43, E44	(X)
Information Management			
Collection & Storage of data	WP34, T35.2, T36.2, T36.3, T43.1, T43.2, T43.4, T43.5, WP53, WP54	E34.1-2, E35.1, E36.2, E41, E42, E45	X
Low-level: Crowd sourcing	*T36.2, T43.3, T44.3*	*E42*	
Facilitating Data Processing (Incl.	T36.2, T43.5, WP53	E36.2, E41, E42, E44,	X

[8] This table was devised during the restructuring of DRIVER, and it reflects the status after all SP's have submitted their suggested restructuring, as per 18 December 2015.

[9] "A" means: "Example assessments are given in D84.21, because these functions are expected to have an impact on society at large"

CM Function	DRIVER tasks/WPs[8]	DRIVER experiments	A[9]
Operational data lift)		E45	
Analysis & Evaluation	T33.1, WP34, WP35, T36.2, T43.1, T43.2, T43.3, T43.4, T43.5, T44.4, WP53	E33.1, E34.1-2, E35.1, E35.3, E35.4, E36.1-2, E40, E42, E44, E45, T53.3+4	X
Communication between first responders	WP35, T43.3, T44.2, T44.3	E41, E43, E44, E45	X
Functions concerning Training and Learning			X
Education & Training	WP35, WP52, WP54	E35.2, T54.2-4	
Evaluation & Lessons learnt	WP53	T53.3+4	
Organisational adaptiveness	WP44	E43	

Table 2: Map of CM functions, DRIVER tasks and experiments

Example - Relating functions to criteria

Figure 3 depicts an example of how the DRIVER CM solutions perform different functions, and how these functions can relate to and impact upon several Societal Impact Criteria.

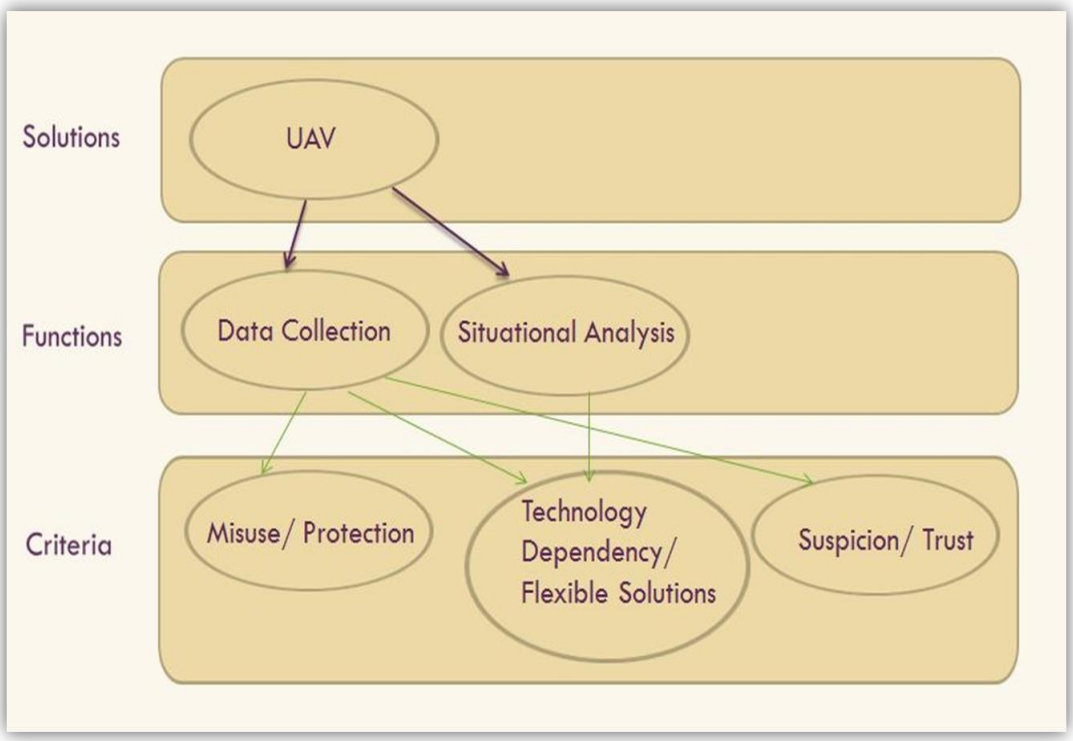


Figure 3: Example of relation between CM functions and Societal Impact Criteria

WHAT DOES A SIA CONSIST OF?

The following paragraphs (which are also part of D84.1) will explain and define the different components of a societal impact assessment:

1. The **high-level function** describes the major category under which the assessment can be filed, for example "Community Engagement". It is an umbrella term for different functions that are grouped together.
2. The **mid-level function** names the actual function that is being assessed, for example "Volunteer Management".
3. The point **"related WP and Tasks"** lists all the different DRIVER tasks that deal with solutions which include exactly this function.
4. These three are followed by a **short description of or introduction to the function**, what it refers to mainly to its relevance and use within DRIVER, but also to CM in general.
5. The **example** is practically an entryway into the assessment. It could be a situation or a development that describes how the implementation of a CM function has already impacted or could impact society. It should be simple and illustrative, showing that the assessment has relevance and the function has concrete effects. It should incite critical thinking about the respective function.
6. The actual **assessment** is the core of the procedure, which is basically a systematic thinking exercise structured by the different criteria. It assesses the function vis-à-vis each given criterion, following the questions described above:
    - What is the impact of *function y* on *criterion x*? (e.g. what is the impact of the function "data collection" on the criterion "suspicion-trust"?)
    - How is that impact positive/negative?
    - Do we know any examples from personal experience or academic and policy literature to back such an assessment up?
    - What are concrete recommendations for solution providers and implementers to avoid negative and foster positive societal impacts?
7. The assessment is finalized with a **recommendation** in order to reach solution providers and operators and investors with concrete advice. It includes concrete tips and guidance on how to plan CM functions in a way that negative impacts are avoided and opportunities seized. The recommendation is on the one hand a conclusion drawn from the assessment, and will naturally be formulated closely to the identified opportunity to foster societal resilience, but it can also include creative solutions for how to steer societal impacts.

Appendix to booklet: Scenario to be used in Module 3b

Scenario

In this section, we will have a more practical approach. We will be working with a specific scenario and go in-depth on the two scenarios we have been engaged with today. You will have to divide yourselves into two groups and chose someone to coordinate the discussion. In detail,

On March 10th, 4AM local time, information from the Bosnia and Herzegovina's Ministry of Defence was transmitted to four neighbouring countries, Austria, Croatia, Italy and Slovenia. The Ministry warned the respective border or local authorities, that an influx of approximately 700 displaced persons had crossed their border with Montenegro early morning hours. It was unclear which route they followed to enter Bosnia and Herzegovina as well as where they were headed thereafter. Inquiries have been posed to the Albanian border prefectures, but no information has been received.

Due to winter time and many roads throughout Bosnia and Herzegovina been closed because of snow, the route followed by the displaced persons is unpredictable and the country's civil protection authorities do not have the capacity to track their path, as they have been experiencing power outage in most of the country's western part, including the Bihac region and Banja Luka.

In case the displaced population tries to cross from Croatia to Italy, they will also be blocked, since rain has caused major flooding in some of the villages around Trieste. The SS202 national road has been closed and traffic has been diverted through SS14. No crossing is possible.

Civil Protection authorities in Bosnia and Herzegovina have asked through their Facebook and Twitter, for citizens that have viewed passing masses of population to immediately report to their local authorities or call the 112 European Emergency phone number. At the same time, authorities also in all four countries have been asking their citizens to report on the same matter while deploying emergency responders to receive people if and when they cross borders.

The goal of this exercise is to inform the displaced persons about the severe weather conditions and safely transport them in an ad hoc camp which is being created by the Croatian Civil Protection mechanism in Split.

Separate yourselves into two groups, as CM professionals on one side and Displaced persons on the other. You are required to answer the following, by always having in mind the positive and negative impact of the criteria outlined in this slide.

Questions

- Why are the solutions useful to achieve the goal and which are the most relevant positive and negative criteria as well as
- Will the solutions help you (displaced persons) find out the ongoing situation? If yes/no describe the positive and negative impact towards you, if these solutions are used to achieve the goal.

For more detailed information on the SIA, please refer to:

DRIVER D94.1 *Training Modules for Societal Impact Assessment*

DRIVER D840.11 *Societal Impact Assessment Framework*

DRIVER D840.21 *A Guide to Unintended Societal Impacts – Version 1*

Annex 2: Training Module #1

Introductory slides

Time: 5 Minutes

Method: Presentation

Teaching Material: SIA PowerPoint presentation slides #2 & #3

These are slides and inputs designed for the start of the training session. They can be adapted to individualized sessions. Start with an introduction round, make sure people know each other and introduce also the trainer.

Slides #1 & #2

Figure 4: Training modules – Introductory #1

Today's session is divided in three parts:

1. Why Societal Impact Assessment? This part will take 45 minutes. Here we will cover the following aspects:
   - The relevance of societal aspects for CM
   - Societal impacts in context for SP3,4,5
   - Understanding challenges in assessing societal impacts
2. How to do Societal Impact Assessment? This part will last 50 minutes. Here we will talk about the SIA framework, including CM functions and criteria and how to relate them to each other

Then we will have a break of 15 Minutes. After the break we will get to the more active part of the session.

3. Doing Societal Impact Assessment! This is a more interactive part where you will get to work with the inputs and the material we provided. It will last 1 hour and 20 Minutes.

Please also check the training booklet which we will use throughout the sessions. It is yours to take notes, you can take it with you.

Slide #3

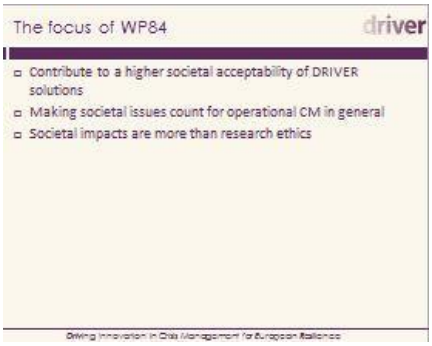


Figure 5: Training modules – Introductory #2

The solutions that DRIVER provides works with do not exist just by themselves; they exist within a society with different norms and values. Thus, we expect that crisis management measures do something to society, positively or negatively. This impact can happen in all phases of the crisis management cycle, both on individual, group and societal level- and beyond.

In WP840, we want to make you better equipped for understanding what kind of societal effects, positive or negative, that the solutions you are working with, might produce. Taking this into account will have two major effects:

First, by making informed decisions you will be better equipped to avoid the negative and foster the positive societal effects. Second, including societal impact in crisis management will not only contribute to a higher level of societal acceptability of the DRIVER solutions, but also raise awareness about societal impacts vis-à-vis CM in general.

This is what we want to achieve:

- Contribute to a higher societal acceptability of DRIVER solutions
    - This means that the potential for the solutions to have a positive effect (perhaps particularly in the long term because such effects can take time), is increased because they not only work and serve a clear purpose, but they are also in line with the norms and values of the general society. For example, taking the public opinion in to account when seeking to establish the use of drones in the CM context, is likely to make the implementation more successful.
- Making societal issues count for operational CM in general
    - The approach to SIA in DRIVER is one that aims to support a form of crisis management that regards the creation of positive societal *effects* side-by-side with the calculated *efficiency*.
- Societal impacts are more than research ethics.

- Here, it is also important to underline that societal impact is something different from ethical issues. However, adhering to good ethical standards will (hopefully) produce positive societal effects.

Module 1: Why Societal Impact Assessment (SIA)?

This is an obligatory module. Any training session will start out with module 1.

What does this module want to achieve?

- ✓ Understanding the relevance of the societal dimension for designing CM solutions
- ✓ Illustrating different aspects of societal impacts
- ✓ Recognizing the challenges of determining societal impacts

Step 1: The relevance of societal aspects for CM

Time: 15 Minutes

Method: Presentation in plenary, Q&A

Teaching Material: SIA PowerPoint presentation slides #4-#11; White Board

Slide #4

Figure 6: Training modules – Why SIA? #1

Let's start with the first module. It is a module that every DRIVER partner should have participated in at least once. It's about the relevance of societal impact assessment. The main question that this module will seek to answer is why societal impact should be part of CM? The next few slides will shed some light on this question.

Slide #5

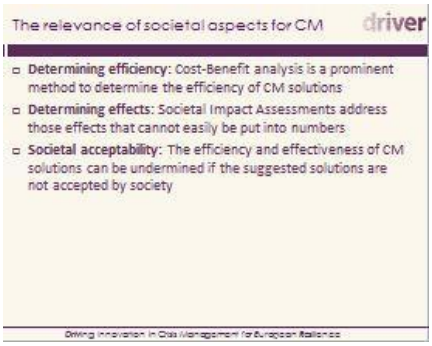


Figure 7: Training modules – Why SIA? #2

Why is societal impact assessment relevant for CM? There are three reasons why SIA is important: in order to determine the efficiency of a measure as well as the societal effects and to heighten societal acceptability.

Determining efficiency: Particularly in CM the need to take efficient decisions is very prominent, since there are many pressures that are specific to crisis management: time pressures, economic pressures and the responsibility to save as many human lives as possible. The prevalent way of assessing CM solutions is cost-benefit-analysis. Such methods can include societal impact, but generally seeks to assess the more calculable sides in terms of efficiency and impact, e.g. the monetary investments needed for specific solutions and whether they are profitable in relation to the effects they produce. The DRIVER of cost-benefit-analyses is that decisions on CM solutions can be taken in a rational manner and that the most efficient decision is implemented. That means, however, that for the sake of conducting cost-benefit-analyses, any kind of influence factor or variable needs to be quantified and rendered into numerical values.

Determining effects: But not every kind of effect of CM can be calculated or expressed by a number. It is these incalculable societal costs and opportunities that the SIA addresses. While such societal impact assessments, and the decisions based on them, may also be *prioritized or ranked* using numerical values and implemented in an efficient manner, *the societal value itself is not a calculable one*. And yet, these societal values are highly important to crisis management, because society's wellbeing and the functioning of CM are dependent on them.

Societal acceptability: Most importantly, crisis management is not just about confronting society with a set of solutions, they have to work and be accepted by society in order to be effective and sustainable. In other words, solutions have to be created based on the society, not outside it. If CM solutions create societal controversy, their efficiency and effectiveness may actually be undermined. Even though this seems to be obvious, there are to date only very few assessment methodologies that address the societal dimension of CM solution development. This is where DRIVER sees innovation potential. Drawing attention to societal impacts and societal acceptability is not only a value added for solution providers that can strengthen the opportunities of foster societal resilience when addressing gaps and developing CM solutions. The societal perspective is also relevant for end-users who implement CM solutions. While solution providers and end-users often focus on the short-term practical potential of new CM solutions, societal reactions are often long-term and more abstract and complex, which makes it hard to plan for them.

Slide #6

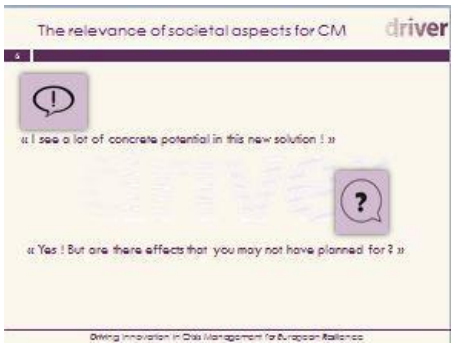


Figure 8: Training modules – Why SIA? #3

The aim of the approach to societal impact in DRIVER is to raise awareness of potential negative side-effects of CM solutions, and to indicate the potential for producing positive societal effects through CM. This is based on the fact that one solution can have both positive and negative effects at the same time. This slide summarizes and illustrates this conflict. Proponents generally see a lot of concrete potential in new solutions. While different societal groups raise questions about effects that may not have been planned for. The point of this slide is to introduce the examples that will follow in the next slides, showing that although a new or innovative CM solution clearly have the potential to e.g. make CM more efficient, the same solution can also produce unintended side-effects that maybe was not part of the original idea. In the nex slides we will look at some concrete examples.

Slide #7

Figure 9: Training modules – Why SIA? #4

The long-term effects that we will be discussing today are already known from the implementation of security measures. One example that is widely known and that will illustrate societal impacts in a different context is the “body scanner” as a measure to enhance airport security. We can already learn from this example what kind of impacts and effects we are talking about. Although it is not strictly an example from the CM context, the example illustrates clearly what the societal responses and reactions to a security measure can be. For example, the example concretely tells us that a media strategy is valuable when introducing a new security measure. The outcome of the implementation of the body scanner as part of airport security, although it originally was designed to provide an efficient answer to the scanning of passengers for dangerous substances, eventually created considerable societal resistance and unease. In other words, it had unintended negative societal side-effects.

Slide #8

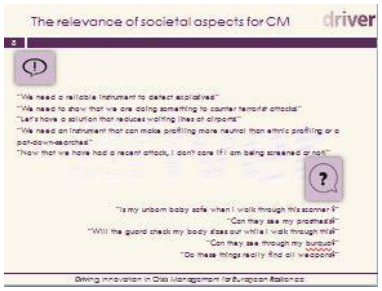


Figure 10: Training modules – Why SIA? #5

Here are a few arguments that have been raised from both sides of the discussion regarding the body scanner. Proponents have raised the following arguments [22], [23], [24]

[Trainer: you can also mention the different stakeholders who would typically raise these concerns- for example politicians and security companies on the one side, and individuals with concerns regarding their religious belief or with concerns for medical purposes on the other side.]:

"We need a reliable instrument to detect explosives!"

"We need to show that we are doing something to counter terrorist attacks!"

"Let's have a solution that reduces waiting lines at airports!"

"We need an instrument that can make profiling more neutral than ethnic profiling or a pat-down-searches!"

"Now that we have had a recent attack, I don't care if I am being screened or not!"

Long term, however, different societal groups have expressed the following concerns [25], [26], [27], [28], [29]:

"Is my unborn baby safe when I walk through this scanner?"

"Can they see my prosthesis?"

"Will the guard check my body sizes out while I walk through this?"

"Can they see through my burqua?"

"Do these things really find all weapons?"

A solution originally designed for enhancing security and tested for its efficiency may still be hampered in its success, since it creates unintended negative societal effects. It can cause unease and a feeling of insecurity or it may infringe upon other societal values, such as privacy. The dilemma is, however, that - at the same time- such solutions may be experienced as less intrusive than others (e.g. pat-down searches or profiling based on ethnicity). A solution thus never produces exclusively positive or negative effects. It shows that developing new CM solutions is always a balancing act.

Slide #9

Figure 11: Training modules – Why SIA? #6

To show how relevant this topic is to CM, we will now look at an example from the CM context that has in recent years gained a lot of attention and that also relates to one of the gaps assessed in DRIVER. The trend is to crowdsource data for CM. Web 2.0 has been identified by analysts and managers as a new channel for gathering information and for including citizens into crisis management. It is a flexible solution, that allows for decentralized online collaboration, for example in order to gain situational overviews. It allows for the crisis managers and the crowd to share information while the crisis is ongoing, and serves as an additional and important channel to feed information to the crowd [13]. The example also includes some challenges. The mechanisms for verifying information "has to date been done ad hoc in each initiative, with different protocols in each case, subject to debate and discussion in forums and conferences. The second aspect to bear in mind is the quality of the information processed"[13]. It is thus important to find ways of verifying the information shared through such solutions. This is not only because of the risk that key decisions and actions can be taken based on the wrong data, but also because wrongful information and rumours can cause unease and CM chaos (i.e. negative societal effects). For example, the rumour that "the Environmental Protection Agency was spying on Midwestern farmers with the same aerial 'drones' used to kill terrorists overseas" [14] caused considerable, yet unnecessary worries in society, and CM chaos in the US. So did the spreading of false statements via social media during the Ebola crisis:

> "Though the patients all tested negative, some people are still tweeting as if the disease is running rampant in these cities. In Iowa the Department of Public Health was forced to issue a statement dispelling social media rumors that Ebola had arrived in the state. Meanwhile there have been a constant stream of posts saying that Ebola can be spread through the air, water, or food, which are all inaccurate claims. […] Infected Internet users, who may have picked up bogus info from an inaccurate media report, another person on social media or word-of-mouth, proceed to "infect" others with each false tweet or Facebook post." [15]

Studies show that information that is surprising or comes from a trusted source is more likely to be spread even though its content is not verified [15]. Crises in which a lot of information is available in general exacerbate this problem. Emilio Ferrara, a postdoctoral fellow at Indiana University's Center for Complex Networks and Systems Research says: "If I read something that leverages my fears, my judgement would be obfuscated, and I could be more prone to spread facts that are obviously wrong under the pressure of these feelings."[15] The circulation of wrongful information, however, not only

spread fear and confusion, but it can also impact the actual situational picture drastically to the extent that some groups are in fact treated unfairly. After the earthquake in Nepal, for example, some victims were far away from relief due to the wrong details sent by representatives of the local political mechanism to the District Natural Disaster Rescue Committee. [16]

Slide #10

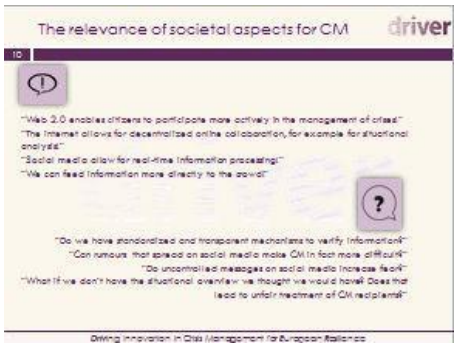


Figure 12: Training modules – Why SIA? #7

As mentioned earlier in this module, the aim of the approach to societal impact in DRIVER is to raise awareness of potential negative side-effects of CM solutions, and to indicate the potential for producing positive societal effects through CM. This is based on the fact that one solution can have both positive and negative effects at the same time. Concerning the use of social media and apps for CM, here are a few arguments that have been raised from both sides, showing what the use of social media in CM can do for CM, but also what the actual problems of this usage could be.

Proponents would say:

"Web 2.0 enables citizens to participate more actively in the management of crises!"

"The internet allows for decentralized online collaboration, for example for situational analysis!"

"Social media allow for real-time information processing!"

The population may raise the following concerns:

"Do we have standardized mechanisms to verify information?"

"Can rumours that spread on social media make CM in fact more difficult?"

"Can uncontrolled messages on social media spread fear?"

"Are we actually having the situational overview we thought we would have?"

Slide #11

Figure 13: Training modules – Why SIA? #8

To summarize the arguments in the previous slides: What do we learn from the examples in the previous slides? Why is this relevant for DRIVER? It is important because it gives us examples of how CM measures can impact society in a way that was not foreseen. Even though the idea of crowdsourcing information in CM is great and enhances efficiency, we need to be aware of the unintended societal effects that CM solutions can create. Through SIA, value is added to DRIVER for a number of reasons.

First, taking society into account makes it easier for citizens to engage. Crisis management should be organized in a fashion that it works as an incentive for citizens to assist in CM. The aim is largely to incite the active participation of citizens without overburdening them with responsibilities. That can only happen if it doesn't produce negative effects for society at large, but rather positive societal impacts. Citizens won't engage if there is no opportunity and if crisis management is already perceived as negative in its impacts and a clear societal gain from the measure is seen.

Second, taking society into account adheres to more recent political discussions. Because there is already a raised awareness about potential impacts on society in crisis management "politics", there is a higher demand (in funders, end-users, politics) for societally friendly solutions, in crisis management, and elsewhere.

Third, by making informed decisions you will be better equipped to avoid the negative and foster the positive effects. Sometimes crisis management can produce the opposite (and unintended) effect in society, namely that it created insecurity, uncertainty, suspicion etc. It can also create political controversy, for example by collecting excessive data by the use of drones for crisis management.

➔ **Over to you:** Can you think of more reasons why it is positive to take societal perspectives in CM into account? *[Trainer: Keep slide 11 on the screen, and add this question to a white board or repeat the question if needed.]*

Step 2: Societal impacts in context

Civil resilience, Strengthened Responders, Training and Learning

Time: 20 Minutes

Method: Presentation in plenary, possible: Group discussion

Teaching Material: SIA PowerPoint presentation slides #12-#16

Slide #12

Figure 14: Training modules – Societal impact context #1

How and why is this important to you and the work you do?

The main goal for SP8 is to make you, the solution providers, better equipped for thinking about the societal impacts of your work. At the same time, we, who have designed the societal impact assessments, would like to learn from you. You are the experts on the solutions that DRIVER will collect and work with. Through learning about the impact and technologies from you, WP84 will be better equipped to redesign the framework, the assessments and the teaching modules to better address the needs of the solution operators and investors beyond the project.

By creating a dialogue and by improving approaches on how to take societal impact into account, we aim to create a higher societal acceptability of the crisis management solution. This will, in turn, have positive effects on sustainability. For example, the societal impact of a given CM solution is more likely to be positive if the solution is accepted by the general society i.e. that is doesn't entail controversies.

Let's move from the overarching level to the more concrete cases. Let's put SIA into context of the different SP's focus topics. The following examples can also be found in D84.11, the Societal Impact Assessment Framework.

Slide #13

Figure 15: Training modules – Societal impact context #2

Let us first look at something that is relevant to SP3's work: solutions and measures that seek to enhance civil resilience. DRIVER will provide for different solutions that address civil resilience, and that include citizens' or volunteer's participation. Civil resilience is a relatively new term in the CM

context and it has been imported into European CM from the US and the UK. However, in light of societal impacts, we have to ask ourselves if society considers resilience really a useful CM concept or rather a nuisance? In other words, what societal effects do can solutions dealing with civil resilience produce?

For example, after hurricane Katrina, resilience became a buzzword in New Orleans. In the political landscape it was promoted as a CM concept to foster reactions to crises and soon it became a symbol for a successful recovery. While some parts of the population in New Orleans accepted this positive understanding of resilience and used it to deal with the aftermath of Katrina (Picture 1) [17], others became fed up with the concept, since they felt overburdened by the responsibility to deal with the crisis themselves (Picture 2) [18] and because the political use of the concept masks how unequal the conditions are for the different groups of society. The more exposed a societal group is to disaster, the more resilient is it expected to be. We see here that the acceptability of the resilience approach is highly dependent on how we implement it in society. This is something that should be taken into account when devising measures that deal with or rely on civil resilience.

Slide #14

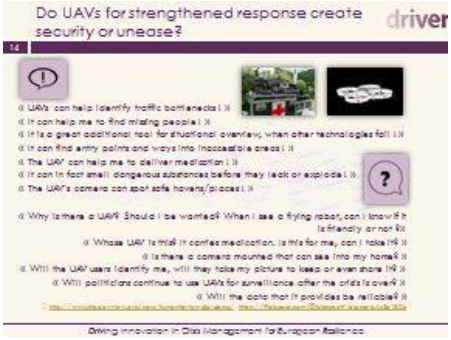


Figure 16: Training modules – Societal impact context #3

Let us now move on to a solution that is more relevant to SP4. The use of UAVs has experienced an upsurge in CM. There are many good reasons for using available technologies for CM efforts and there are strong defenders of the use of UAVs, both in the private companies, in politics, but also in the humanitarian domain [19].

A collection of good arguments for deploying UAVs for crisis management could be the following:

"UAVs can help identify traffic bottlenecks!"

"It can help me to find missing people!"

"It is a great additional tool for situational overview, when other technologies fail!"

"It can find entry points and ways into inaccessible areas!"

"The UAV can help me to deliver medication!"

"It can in fact smell dangerous substances before they leak or explode!"

"The UAV's camera can spot safe havens/places!"

While these are excellent arguments to foster efficiency and effectiveness of CM, the key is here again to understand how the use of UAVs impact society beyond the concrete benefits it has for CM. Do UAVs for strengthened response help to create security or unease?

The following long-term effects and arguments may be brought up by the population:

"Why is there a UAV? Should I be worried? When I see a flying robot, how can I know if it is friendly or not?"

"Whose UAV is this? It carries medication. Is this medication for me, can I take it?"

"Is there a camera mounted that can see into my home?"

"Will the UAV users identify me, will they take my picture to keep or even share it?"

"Will politicians continue to use UAVs for surveillance after the crisis is over?"

"Will the data that it provides be reliable?"

"I am in my neighbour's house, helping them to rescue their belongings. Can the UAV collect information that could look as if I did something wrong and use it evidence against me?"

Even though most UAVs do not yet collect data or have sophisticated technological appliances that enable visual and audio data collection, the general population may not yet know about that and the implementation of UAVs for crisis management may cause unforeseen reactions of unease. Again, as we shall see, it is not necessarily a matter of whether to utilize and implement UAV technologies for CM, but rather how it is implemented in order to reach the least negative impact and the highest acceptability of such technologies in society.

Slide #15

Figure 17: Training modules – Societal impact context #4

Let's finally turn to a topic that is most relevant to SP5. Since SP5 works with lessons learnt and very high-level decision-making frameworks, it is not easy to determine their societal impacts. The more high-level or abstract a solution is the more difficult is a societal impact assessment. However, a rather concrete question one faces when developing decision-making frameworks is what if the suggested frameworks are not accepted by everyone in the same way? Sometimes there are societal differences in interpreting decision-making frameworks that the designers of such frameworks did not think about – and they have vast consequences for CM, for example when questions about responsibility and accountability are not clarified vis-à-vis all involved parties. One rather extreme case that has gotten a lot of media attention was the role of the seismic scientists in the L'Aquila

earthquake for risk assessment and crisis management decision-making. This is quite a controversial and rather extreme example, but it is used in this context to show a few of the problems that arise when decision-making and juridical practice is not aligned.

While methods for the measurement of seismic activity and risk communication procedures existed, the actual decision-making framework and accountability questions were not clarified. The scientists who conducted the analyses about seismic activity were in fact held accountable for issuing a statement that reassured people to stay within the city, which again caused major negative impacts once the earthquake struck harder than expected [20]. This initial judgment and the conviction of the scientists created uproars in the scientific community and beyond, not least because the responsibility that was expected of the scientific community vis-à-vis society. Their role in taking political decisions of this dimension needed to be discussed. That said, if clear communication procedures had been in place, and responsibilities had been clarified before the disaster struck, such negative impacts could potentially have been avoided. While the scientists were at first held accountable for manslaughter by law, they did get acquitted after 2 years [21]. This goes to show that risk assessment and communication methods need to be aligned with questions of decision-making responsibility – otherwise they can create larger societal problems than expected.

Slide #16

Figure 18: Training modules – Societal impact context #5

What do these examples illustrate?

There is a need to take societal dimensions of CM into account already when planning solutions.

The effectiveness and societal acceptability of a solution can not necessarily be calculated. This is not to say that assessing economic benefits and testing efficiency should be replaced by a focus on societal impacts and opportunities, but rather that they exist in parallel. However, the attention that could be paid to fostering societal resilience by taking account of such unintended societal impacts is often side-lined by those values that can be calculated and assessed more easily. The aim of WP84 is to support a form of crisis management that regards the creation of positive societal *effects* as equal to calculated *efficiency*.

➔ **Over to you:** Can you think of other examples where CM solutions have generated unexpected societal reactions or impacts?

Step 3: Understanding challenges in assessing societal impacts

Time: 10 Minutes

Method: Presentation, Q&A

Teaching Material: SIA PowerPoint presentation slides #17-#19

Slide #17

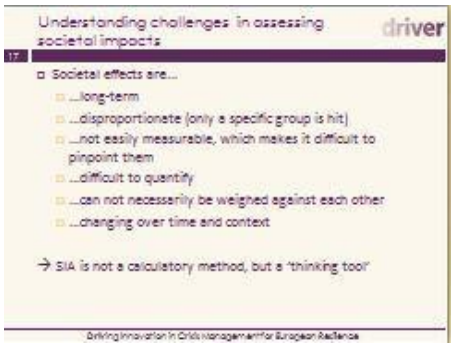


Figure 19: Training modules – Challenges in assessing societal impact #1

Making societal aspects count for CM is not necessarily easy. There are a range of challenges you will face when you assess societal impacts:

Societal effects are often long-term. This makes it difficult to pinpoint them.

The effects are also disproportionate, meaning that for example a specific group is hit harder by implementing specific measures than others. For example, when homeless people are already hit hardest by an ice storm, they would, at the same time, be excluded from access to help if this was organized via smart phone apps, because not all of homeless people have the needed technology at hand.

Societal impacts are not easily measurable. It is difficult to quantify or measure, for example, the level of distrust in the population, yet it has a real impact on policy and implementation, and the effectiveness and the applicability of the solution. However, because of that a higher demand for societally friendly crisis management solutions is already being expressed (cf. need for SIA in FP7/H2020 projects).

The different societal effects of a CM solution cannot easily be weighed against each other. For example, to say that not to discriminate against certain societal groups are more important than creating a trustful relationship between the state and the citizens is impossible. Different societal impacts will always co-exist.

Many societal impacts change over time and context, so societal impact assessments can never be "exhaustive" as such.

Given all these difficulties, it is most important that the SIA framework is used as a "thinking tool" and as guidance for solution providers and decision-makers to be aware of societal effects when they plan their individual CM portfolios.

Slide #18

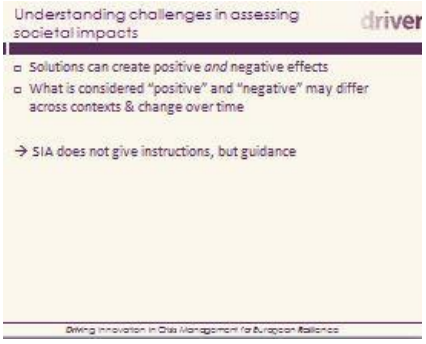


Figure 20: Training modules – Challenges in assessing societal impact #2

A lot of crisis management solutions can influence society both positively and negatively at the same time, making the weighing of positive and negative aspects difficult. At the core of the SIA approach is the acknowledgment that one solution can produce both negative and positive effects. Sometimes the problems that arise are unsolvable, and will simply have to remain so. One cannot say that two solutions «even each other out» or that they are «solutions» for each other. For example, a UAV can have the opportune effect to gather data that can help to gain an overview, yet it still collects potentially private or sensitive data. A crisis management measure, e.g. a training program for first responders, can influence society positively by fostering social cohesion in the first responder community. At the same time the same measure can produce negative impact if the content of the training does not respect human dignity while performing crisis management, or if the participants in the training are not diverse and reflecting various social groups. Further, what is considered as positive and negative can vary across different contexts, and it may change over time due to large events, a change in norms and values etc. This means that avoiding negative and fostering positive impacts is a balancing act and a matter of how to plan and implement foreseen CM solutions.

Because of this balancing act and because the potential positive or negative impacts can vary over time and context, *the SIA approach does not give instructions, but guidance*.

Slide #19

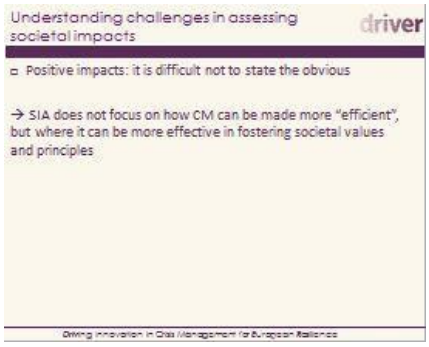


Figure 21: Training modules – Challenges in assessing societal impact #3

Stating the obvious:

When it comes to formulating such positive impacts, the biggest challenge is not to state the obvious. *Most* CM solutions with their diverse functions exist because they are believed to create a positive impact and foster societal resilience. This is why it is important to reflect about *the kind of positive impacts* that the use of the SIA framework addresses. There are different kinds of opportunities and positive impacts that CM solutions are thought to create. This includes, for example economic opportunities, positive environmental impacts or opportunities to save 'bare lives'. The SIA framework is not designed to address these kinds of opportunities;

Fostering values rather than efficiency:

This framework assesses opportunities to create societal resilience by strengthening and respecting societal values and creating a positive sense of feeling secure. The framework does not assess whether, for example, community training would make response activities more time-efficient, but how community training can be used to foster a culture of trust in society so that communities feel safe when they are in a crisis situation. Similarly, the function 'information exchange' is not assessed in terms of its capacity to foster efficient information exchange, but rather, whether it is done in a transparent manner and whether it contributes to communities feeling well-informed rather than feeling uninformed and uneasy in a crisis situation. Decision-makers should thus be inspired to plan communication in a way that creates opportunities to foster, e.g. values of trust and transparency in society.

Learning results and Outputs for Module 1

- ✓ Reasons for the importance of SIA in CM (slides 3-7)
- ✓ Concrete examples of societal impacts in DRIVER-relevant domains (slides 8- 10, 13-15)
- ✓ Raised attention to the challenges of determining societal impacts (slides 17)
- ✓ An understanding of what SIA can deliver in addition to other assessment measures (slides 16-19)

Annex 3: Module 2# How to do SIA?

This is an obligatory module for anyone participating in the training sessions. Any training session will include module 2.

What does this module want to achieve?

- ✓ Introduce the SIA framework
- ✓ Create an understanding of what is being assessed: CM functions
- ✓ Introduce the assessment criteria
- ✓ Create an understanding of how to put the framework to use
- ✓ Reference to D840.11 and D840.21

Step 1: Introduction to the SIA framework

Time: 5 Minutes

Method: Presentation

Teaching Material: SIA PowerPoint presentation slide #20-#21, SIA framework in booklet (Annex 4)

Slide #20

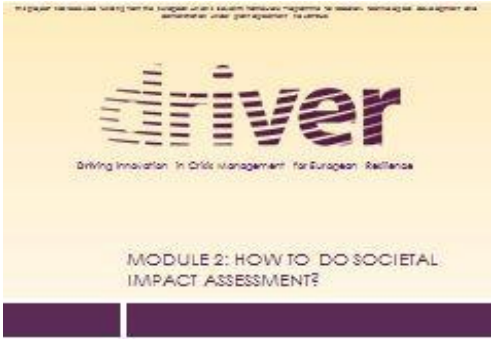


Figure 22: Training modules – How to do SIA? #1

Let's start with the second module. It is a module that every DRIVER partner should have participated in at least once. It's an introduction to the SIA framework. How can SIA be conducted in a structured manner?

Slide #21

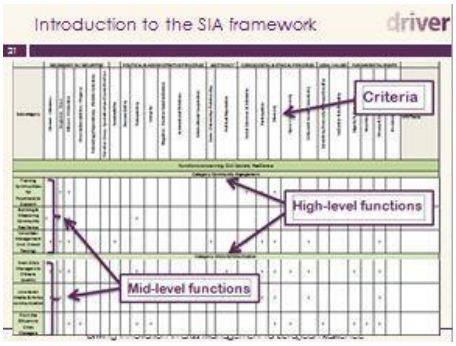


Figure 23: Training modules – How to do SIA? #2

Instead of giving everyone in DRIVER a crash course in sociology, we have developed a structured approach for how to conduct societal impact assessments in the CM context. It is an approach to assess the impact of the core *functions* of CM via a set of societal impact *criteria* that allow us to think about the most critical societal aspects, challenges and debates step-by-step.

The development of this framework was a highly cross-cutting exercise, based on input from all SP leaders. It grew out of an approach to utilize input from the solution providers to answer SIA needs of all SPs. The SIA framework has been discussed and revised several times before its first version is now made available to the consortium for the next few years when CM solutions are worked with and tested in the experiments.

What we show you here in t slide is an abstract of the framework. As you see here and in your booklet (where it is easier to read), the framework is based on CM *functions* instead of solutions or tools, because one CM solution can fulfil several functions. The very basic of the SIA framework is the DRIVER functions (the categories you see in the column on the left) that are assessed by linking them to a set of societal impact criteria (listed in the top bar). Using functions as a vantage point thus allows for a fine-grained and varied analysis, since different assessments based on functions can be combined for assessing the impact of one solution.

To assess how these functions can influence society, positively or negatively, a set of criteria was developed. The assessment criteria are chosen and formulated in a way that allows for assessing and balancing both, positive and negative societal impacts.

In a simplified manner, the framework could be represented in a chart format in which the y-axis presents the different CM functions (here subdivided in high-level and mid-level functions) and the x-axis presents the assessment criteria.

Let us first look at the functions in detail.

Step 2: What is being assessed? CM Functions

Time: 15 Minutes

Method: Presentation, optional: discussion and structured feedback in plenary

Teaching Material: SIA PowerPoint presentation slides #22-#26, Table of functions in booklet pp. 87-88, optional: an extra set of slides #23-#26 in which suggestions from a discussion about functions can be visualized and documented

Slide #22

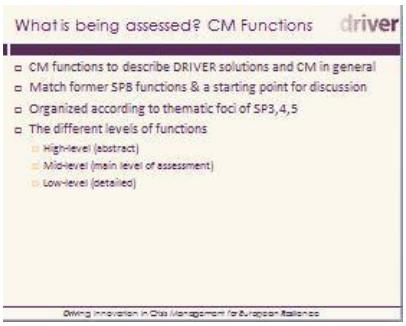


Figure 24: Training modules – What is being assessed? #1

As mentioned, we assume that one DRIVER solution can fulfil several functions. For example, a mobile application can both be used for communicating with the citizens, for collecting information and for managing volunteers. If CM solutions, with their various functions, are designed without keeping their societal effect in mind, they can undermine CM objectives. Or, when designed carefully, they can create additional opportunities to foster societal resilience. This is why functions are the *object of assessment* in this framework.

In the onset of the development of the SIA framework a first set of CM functions was defined with the aim to collect those functions that are most likely to have an impact on society. All the DRIVER solutions can be organized based to the functions that they fulfil. These functions were based on the DRIVER solutions that exist within the project, but they were also made so that they can be applied to CM in general. In other words, the specific functions were chosen because they are likely to remain relevant in the future, even when CM develops beyond the state of the art. In order to create a systematic overview that can be used throughout the whole project and streamline the process, all functions have been adapted to match the CM functions designed by former SP8.

The functions are organized according to the thematic foci of SP3 (Civil Society Resilience), SP4 (Strengthened Responders) and SP5 (Training and Learning), but the advantage of working on the level of functions (and not solutions) is that many functions can relate to several solutions of different SPs.

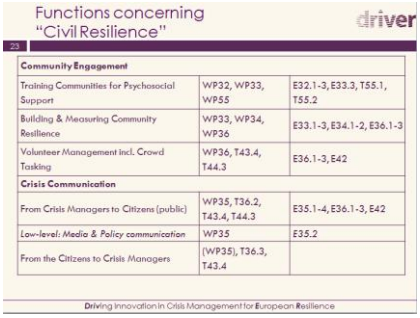
The list of functions we will see in a moment on the next slide is again subdivided into high-level functions that mainly serve as an overarching category to collect various mid-level functions. These are concrete CM functions that DRIVER works with to address existing gaps in CM. Most assessments from WP84 are provided on this level. The table also opens up for functions that are even more specific than mid-level functions, which are here called low-level functions.

Remember that the functions here should of course be re-usable throughout DRIVER, but societal impact assessments are not relevant to *all* DRIVER functions. There may be additional functions that will be part of a central DRIVER function list, for example technical functions, but they will not

necessarily be assessed in terms of their societal impact. So the functions are not fixed yet, but they are a solid starting point for example assessments.

Almost all functions have example assessments available in D84.21 to illustrate the assessment process, inspire thinking and give concrete advice for solution development at an early stage.

Slide #23



Functions concerning "Civil Resilience"

driver

23

Community Engagement		
Training Communities for Psychosocial Support	WP32, WP33, WP55	E32.1-3, E33.3, T55.1, T55.2
Building & Measuring Community Resilience	WP33, WP34, WP36	E33.1-3, E34.1-2, E36.1-3
Volunteer Management incl. Crowd Tasking	WP36, T43.4, T44.3	E36.1-3, E42
Crisis Communication		
From Crisis Managers to Citizens (public)	WP35, T36.2, T43.4, T44.3	E35.1-4, E36.1-3, E42
Low-level: Media & Policy communication	*WP35*	*E35.2*
From the Citizens to Crisis Managers	(WP35), T36.3, T43.4	

Driving Innovation in Crisis Management for European Resilience

Figure 25: Training modules – What is being assessed? #2

We will now look at the functions that serve as a basis for doing SIA in DRIVER. It is a systematization of functions that are developed on the basis of concrete DRIVER solutions, but the categorization of functions is also relevant for CM in general.

[Trainer: Potentially you can focus more on the functions that are most relevant for the group in the training session]

On this slide we see the functions that concern **civil resilience.** All of these functions have the overarching aim to build resilience in communities.

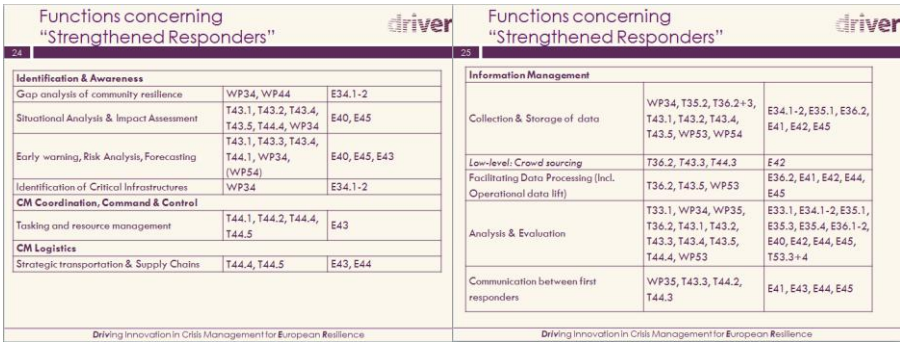
The *high-level functions* can be defined as follows:

Community Engagement includes functions that are dedicated to training with a focus on psychosocial support; to measuring of community resilience and to managing volunteers through registration databases, ad hoc in the field and/or through crowd-tasking.

Crisis Communication refers to functions aimed at improving communication procedures and mechanisms mainly with a focus on the content of messages. Such communication can refer to communication from the CM professionals to the public where, for example, the impact of messages is measured. It can also refer to communication processes from the public to crisis managers (e.g. through social media). More specific lower-level functions include here media and policy communication.

As you see, all mid-level functions are also related to DRIVER tasks and experiments. Introductions and definitions for mid-level functions can be found in D84.21.

Slides #24 & #25



Functions concerning "Strengthened Responders"

24

Identification & Awareness		
Gap analysis of community resilience	WP34, WP44	E34.1-2
Situational Analysis & Impact Assessment	T43.1, T43.2, T43.4, T43.5, T44.4, WP34	E40, E45
Early warning, Risk Analysis, Forecasting	T43.1, T43.3, T43.4, T44.1, WP34, (WP54)	E40, E45, E43
Identification of Critical Infrastructures	WP34	E34.1-2
CM Coordination, Command & Control		
Tasking and resource management	T44.1, T44.2, T44.4, T44.5	E43
CM Logistics		
Strategic transportation & Supply Chains	T44.4, T44.5	E43, E44

Driving Innovation in Crisis Management for European Resilience

Functions concerning "Strengthened Responders"

25

Information Management		
Collection & Storage of data	WP34, T35.2, T36.2+3, T43.1, T43.2, T43.4, T43.5, WP53, WP54	E34.1-2, E35.1, E36.2, E41, E42, E45
Low-level: Crowd sourcing	*T36.2, T43.3, T44.3*	E42
Facilitating Data Processing (Incl. Operational data lift)	T36.2, T43.5, WP53	E36.2, E41, E42, E44, E45
Analysis & Evaluation	T33.1, WP34, WP35, T36.2, T43.1, T43.2, T43.3, T43.4, T43.5, T44.4, WP53	E33.1, E34.1-2, E35.1, E35.3, E35.4, E36.1-2, E40, E42, E44, E45, T53.3+4
Communication between first responders	WP35, T43.3, T44.2, T44.3	E41, E43, E44, E45

Driving Innovation in Crisis Management for European Resilience

Figure 26: Training modules – What is being assessed? #3

In these two slides we see the functions that concern **Strengthened Responders**. All of these functions have the overarching aim to enhance professional preparedness, response & interoperability. The *high-level functions* can be defined as follows.

Identification & Awareness covers any technology, system or measure that has as its key functions to conduct situational analysis or impact assessment, to conduct early warning, risk analysis or forecasting. It can refer to solutions of raising alerts, risk mapping, situation assessment via airborne sensors as well as modelling bottlenecks in, for example, traffic.

CM Coordination, Command & Control relates to the improvement of planning, tasking and resource management and interoperability with special focus on cross-border cooperation.

CM Logistics refers to strategic transportation and improvement of traffic management. This covers contingency and logistics plans that target resources, supply chains including their safeguarding, and have as their key function to make them more resilient and efficient. Optimisation of the cooperation with civil society logistics stakeholders is another important function here.

Information Management describes functions that mainly focus on improving technical functions such as to collect, store, process, exchange, or analyse information or data, for example for the sake of situational assessments. It includes, for example, operational data-lift, for a common operational picture and interoperability.

As you see, all mid-level functions are also related to DRIVER tasks and experiments. Introductions and definitions for mid-level functions can be found in D840.21.

Slide #26

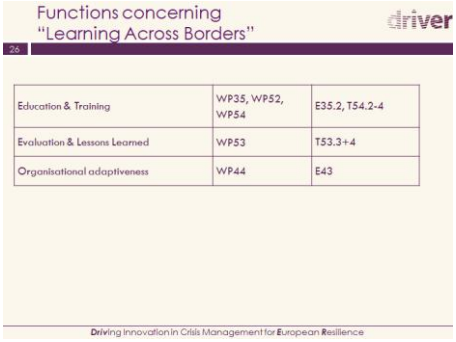


Figure 27: Training modules – What is being assessed? #4

Here we see the functions that concern **Training and Learning**. All functions here mainly refer to the design of decision-making and competence frameworks. In addition, the category also includes functions of training and education, lessons learnt activities and organizational adaptiveness, always taking into account cross-border aspects.

For "Training and Learning" only general assessments are conducted concerning the design of decision-making and competence frameworks, since SP5 leaders specifically asked for that instead of assessments on mid-level functions.

➔ **Over to you:** *This step is optional. It can be added if there is a lot of time for the SIA session. If the functions are being discussed, session leaders should take detailed notes for the training report (D840.4). This step should benefit DRIVER partners to reflect about the functions they work with and provide inputs for the revisions of D840.11 and D840.21.*

In your booklet you will find the list of functions. Can you look at them to answer the following questions? Please keep in mind that the aim is to cover SIA for each function and to get your help to conduct these assessments.

1. Can you find the functions of your own CM solutions in the list?
2. Should some of them be renamed?
3. In terms of categorization, can some functions be merged or taken out?
4. Are any functions missing, not yet covered?
5. What do you think are the most important functions in DRIVER?
6. Even though we do make our assessments based on functions, are there any specific solutions or measures that deserve to be a category in their own right, because they cannot be fully represented by a set of functions?

Step 3: What is used for assessments? Criteria

Time: 15 Minutes, optional: additional 20 Minutes for group work

Method: Presentation, optional: group work and structured feedback

Teaching Material: SIA PowerPoint presentation slides #27-#28, Trainers should have 1 printout per 4 participants of D840.11 available, optional: Copies of "Module 2: Questionnaire on Criteria" for group work & pens

Slide #27

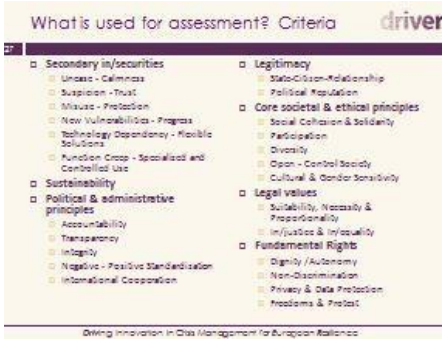


Figure 28: Training modules – What is being assessed? #5

A framework for assessing societal impacts has to facilitate two things: an assessment of how unintended negative impacts of CM can be avoided and how opportunities to foster societal values can be created. To assess how the functions described in the previous module can influence society, positively or negatively, we have developed a set of criteria.

In order to facilitate a structured thinking about such impacts, the different criteria are organized according to impacts of secondary in/securities (such as unease and calmness, misuse and protection), core societal and ethical principles (i.e. participation, diversity), sustainability, political and administrative principles (i.e. accountability, transparency, legitimacy), legal values (i.e. in/justice) and particularly relevant fundamental rights (i.e. non-discrimination, privacy). You can also find a short definition of the criteria in your training booklet or a detailed definition in D84.11. We can now go through every criterion and see what kind of question a societal impact assessment would focus on. The following questions illustrate the kind of impacts that we should explore when designing and working with CM functions. *[Trainer, potentially prepare for giving examples where necessary].*

Questions about secondary in/securities

- Can a CM function create societal **Unease** or **Calmness**?
- Does a CM function foster a culture of **Suspicion** or **Trust**?
- Is a CM function open for **Misuse –** or does it rather foster **Protected use**?
- Does a CM function create **New Vulnerabilities** or does it in fact foster **Progress**?
- Is a function **dependent on Technology** or is it a **flexible solution** that can be used without technologies?
- Does a CM function open up for **Function Creep**, that is the use of the same function for purposes other than CM or does it support **Specialized and Controlled Use**?

Questions about impacts on sustainability

- Is the function societally **sustainable**?

Questions about impacts on political & administrative principles

- Does the function have any impacts on a CM actor's **Accountability**, are accountabilities clarified?
- Does the CM function foster or discourage/ignore principles of **Transparency**?
- Could the function have any impacts on a CM actor's **Integrity**?
- Could the function contribute to a process of **Negative - Positive Standardization**, by creating new standards?
- Could the CM function have any unintended impacts on **International Relations**?

Questions about impacts on legitimacy

- Does the CM function change the **State-Citizen-Relationship**?
- Could the CM function have an impact on an actor's **Political Reputation**?

Questions about impacts on core societal & ethical principles

- Does the CM function foster or discourage **Social Cohesion & Solidarity**?
- Does the CM function open up or discourage **Participation**?
- Does the CM function follow or ignore the principle of **Diversity**?
- Does the CM function foster an Open or a Control Society?
- Is the function sensitive or insensitive to **Cultural, Gender &Age**-related needs?

Questions about impacts on legal values

- Is the CM function **suitable, necessary and proportional** to achieve its specific CM goal?
- Does the CM function foster a culture of **In/justice** & **In/equality**?

Questions about impacts on Fundamental Rights

- Does the CM function follow or ignore the right to **Dignity /Autonomy**?
- Does the CM function follow or ignore the right to **Non-Discrimination**?
- Does the CM function follow or ignore the right to **Privacy & Data Protection**?
- Does the CM function follow or ignore the right to **Freedoms & Protest**?

Slide #28

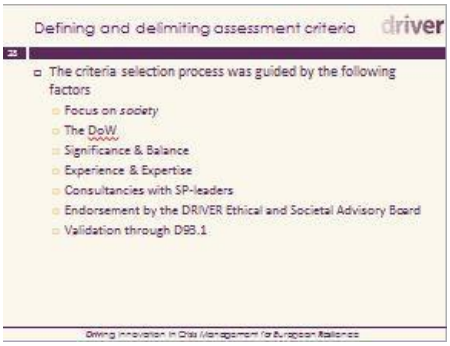


Figure 29: Training modules – What is being assessed? #6

Making a list of assessment criteria is difficult. The number of assessment criteria could be practically endless. Some criteria concerning the efficiency, economic aspects, applicability and legality of CM solutions have already been taken out to avoid overlaps with other assessments in the project and because this set of criteria focus on societal values and principles.

One could of course ask even more questions to add dimensions to the assessments: How are the criteria relevant to different European Societies? How do the criteria function in different societal, historical and cultural contexts? However, if these aspects are added to the analysis, a societal impact assessment would become boundless. This is also the reason why the primary aim of the solution is not to deliver an exhaustive assessment, but to make people think about societal impacts and to give advice on how to foster positive and avoid negative impacts.

Even though the list of criteria is not yet entirely final, the criteria that are currently on the list were selected with care for several reasons:

The DoW: The original DoW asked for assessment criteria to evaluate the unease, fear, insecurity or secondary risks that CM activities can produce (originally T92.1), as well as to assess side-effects to societal values.

Significance & Balance: It is crucial to strike the right balance between having enough criteria to cover a wide range of impacts, and at the same time not too many criteria. This means that an assessment needs a concise amount of criteria to make SIA graspable and constructive. Some of the criteria overlap and influence each other in the actual assessments. This is not only unavoidable when focusing on societal values, but can even be seen as a mutual enforcement of the importance and relevance of the particular criteria.

Experience & Expertise: PRIO has experience in similar projects that included a component to conduct societal impact assessments. Experiences made in other FP7 projects were drawn upon when it comes to determination of the *number* of assessment criteria.

Consultancies with SP-leaders: At many steps throughout the process leaders from other SP's were consulted and criteria were refined accordingly.

Endorsement by the DRIVER Ethical and Societal Advisory Board: The criteria were presented to and endorsed by the DRIVER Ethical and Societal Advisory Board.

Validation through D93.1: The policy-relevance of the criteria was confirmed through D93.1 (accepted, submitted also in M8), were the criteria were validated through a systematic screening of different UN, EU, and RCRC CM policy documents.

➔ **Over to you:** *Trainer: This step is optional. It can be added if there is a lot of time for the SIA session. If the criteria are being discussed, session leaders should take detailed notes for the training report (D84.4). Bring back slide #27 that lists the criteria. Divide the participants in groups of four. Provide each group with a questionnaire and a copy of D84.11. Define a spokesperson of each group for feedback in the plenary. Having the participants reflect upon the list of criteria, and potentially suggesting changes to the list, will raise awareness of what societal impacts can be, and might open up for discussions about what the different criteria mean and how they can be relevant in different contexts depending on the group that discusses them.*

You will now also have the chance to comment on the assessment criteria. Have a look at the list of criteria in D84.11 or the short definitions in the booklet and consider the questions (from slide # 27) in your group. Be prepared to report back in the plenary in 20 Minutes. You don't need to read all definitions in detail. It is more important that you look at the list of criteria in its entirety.

Step 4: What does an example assessment look like?

Time: 10 Minutes

Method: Presentation, Q&A

Teaching Material: SIA PowerPoint presentation slide #29-#31; Descriptions of the different elements of a SIA in booklet

Slide #29

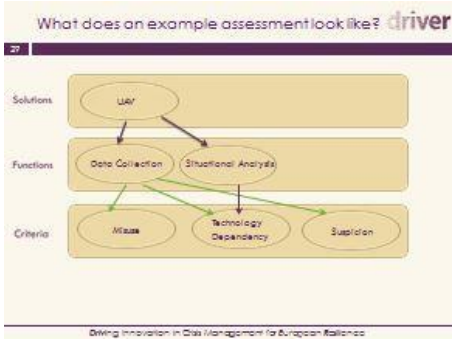


Figure 30: Training modules – What does an example assessment looks like? #1

What you see here is a visualization of the relations between solutions, functions and criteria in the SIA framework.

- The 1st level refers to the solutions (in SP's 2, 3, 4, 5) that make up DRIVER.
- The 2nd level refers to the functions that these solutions include. This is the level on which the Societal Impact Assessments takes place.
- The 3rd level refers to the societal impact criteria that can be used to assess the functions' impacts on society at large.

Solutions in DRIVER address specific gaps in DRIVER and they do so by performing several functions. As we see on this slide, a UAV, which is a crisis management solution, is addressing a gap in response by performing the functions "situational analysis" and "data collection". The assessment of societal impacts does take place on the level of these functions. Remember that "situational analysis" is not a function that is unique to UAVs. It is, for example, also a function performed by the CrowdTasker tool. In both cases the function "situational analysis" seeks to fill a concrete gap in CM concerning response. So, conducting assessments on the level of functions is more versatile than conducting the same assessment twice, once for UAVs, once for the Crowd Tasker.

The function level is where the actual assessment work takes place. Here, the concrete functions are thought in relation to the given assessment criteria. If we now assess the unintended impacts of the CM function "situational analysis" on society at large, we see that it can affect several criteria positively and negatively.

Slide #30

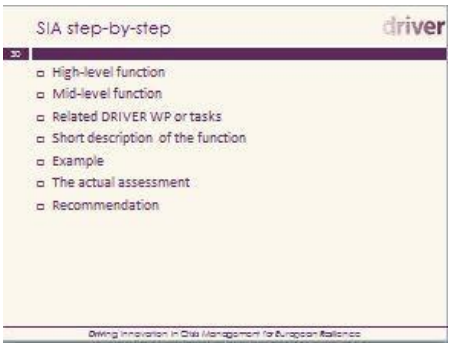


Figure 31: Training modules – What does an example assessment looks like? #2

You can read examples of societal impact assessments for any mid-level function in D840.21.

You may wonder what an example of a complete societal impact assessment look like. Although there really is no such thing as a "complete" assessment, because an assessment cannot contain every possible impact in all possible contexts, we have come up with a structured approach to making a SIA. This structured approach has also been introduced in D840.11 and D840.21 and it has been presented to the SP- leaders of SP's 3, 4, and 5 during workshops in the summer of 2015.

We will now present the different parts of a SIA. Here you will see how the functions and the criteria are "put to use". When conducting an assessment, one could generally include the following components:

The **high-level function** describes the major category under which the assessment can be filed, for example "Community Engagement".

The **mid-level function** names the actual function that is being assessed, for example "Volunteer Management".

The point **"related WP and Tasks"** lists all the different DRIVER WP's and tasks that deal with solutions that include exactly this function.

These three are followed by a **short description of or introduction to the function**, its role in DRIVER, but also CM in general.

The **example** is an entryway into the assessment. It could be a situation or a development that describes how the implementation of a CM function has already impacted or could impact society.

The actual **assessment** is a systematic thinking exercise structured by the different criteria. Making an assessment can include scenario-thinking, research on concrete examples of impacts that happened in the past or background literature on the given functions. It can also draw on personal experience from the field. Each function is assessed vis-à-vis each given criterion, following the questions:

- What is the impact of *function y* on *criterion x*? (E.g. what is the impact of the function "data collection" on the criterion "suspicion-trust" for society at large?)
- How and under which conditions are such impacts positive/negative?
- Do we know any examples from personal experience or academic and policy literature to back such an assessment up?
- What are concrete recommendations for solution providers and implementers to avoid negative and foster positive societal impacts?

The assessment is finalized with a **list of recommendations** in order to reach solution providers, operators and investors with concrete advice.

More detailed descriptions of the SIA components can be found in D840.11, p.21 ff.

Slide #31

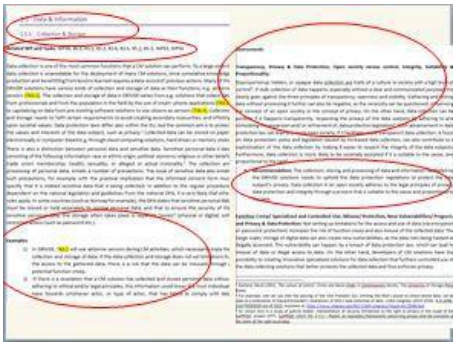


Figure 32: Training modules – What does an example assessment looks like? #3

This slide shows you how an assessment would look in written format in D840.21. This is not meant for you to read, it simply visualizes or illustrates where you can find the different components (as presented in the previous slide) in the text of D840.21. The more you engage with D840.21 at this stage, the better will your understanding of societal impacts be. It will offer concrete advice that you should take into account when working with your solutions. In addition, the example assessments provide a basis for your inputs: throughout this session and as part of the experiment methodologies we will solicit your feedback. Since you know the solutions and functions best, we will integrate your feedback into a second version of the written assessments.

Step 5: SIA throughout DRIVER

Time: 5 Minutes

Method: Presentation

Teaching Material: SIA PowerPoint presentation slide #32;

Slide #32

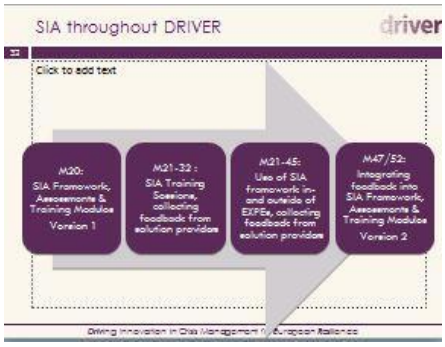


Figure 33: Training modules – SIA through DRIVER

To close this part of the session, and to round off the presentation of the DRIVER approach to doing societal impact assessments we would like to show you how the work on societal impact is used and implemented throughout the project. This will make it easier for the DRIVER partners to see how the SIA's fit into the rest of the project, and what will be the next steps.

As you can see in the figure, the societal impact component in WP840 is designed to train you in doing SIA assessments and then to integrate your informed feedback into a second version of the SIA framework, the example assessments and even the training modules. So before we go into the more applied part of todays' training session we would like to outline briefly how this integration will take place.

In D840.11 and D840.21 you find versions 1 of the SIA framework, the assessments and the training modules. In the next part of todays' session we will in fact begin to make societal impact assessments together with you and solicit your feedback on the existing functions, criteria and assessments. Such cross-SP collaboration with SP2, 3, 4, 5, and 6 will continue throughout 2016 in SIA training sessions, as the one you are participating in today. The result of the training sessions will be summarized in an SIA training report, which will be used by us to finally revise everything towards the end of the project. To foster this cross-SP collaboration, we have integrated a feedback questionnaire into the experiment assessment methodology through SP2. Here, we would like to hear your thoughts about societal impacts directly after having worked with the SIA recommendations during the experiments.

Once we have collected and analysed all this feedback and ideas for improvement, we will integrate them into a revised version of

- the SIA framework (concerning feedback on functions and criteria),
- the assessments (concerning your own experiences with societal impacts) and
- the training modules

This integration and revision will make them speak directly to solution providers and operators beyond the scope of the project. In the very end, we also foresee an integration of at least the recommendations, if not complete assessments, into the Portfolio of Emerging Solutions.

Learning results and Outputs for Module 2

- ✓ An understanding of the SIA framework's method (slide 21)
- ✓ An overview of functions and the rationale of their setup (slides 22- 26)
- ✓ An overview of assessment criteria and the rationale of their selection (slides 27-28)
- ✓ Familiarity with the elements of a societal impact assessment (slides 29- 31)
- ✓ An understanding of how to consult the key deliverables, D840.11 and D840.21 (referred to throughout, e.g. slide 21)
- ✓ An understanding of what cross-SP collaboration for SIA implies (slide 32)

Annex 4: Modules #3 a, b, c: Doing SIA!

These modules serve as an introduction to the actual assessments. They are more focused on engaging the audience to conduct their own assessments. From here on, the content of the modules will be individualized per audience, focusing on the most relevant functions.

Module 3a: "Societal risks and opportunities in volunteer management"

This module is intended for SP3 partners.

What does this module want to achieve?

- ✓ Raise awareness and promote understanding of societal issues;
- ✓ Create a streamlined approach, in regards to societal impact, which each SP will be using throughout the lifespan of the project;
- ✓ Deliver a training focused more on the collaboration with volunteers, namely SP3;
- ✓ Enable participants to make their own SIA

Step 1: Introduction

Time: 5 Minutes

Method: Presentation

Teaching Material: SIA PowerPoint presentation slides #33-34

Slides #33 & #34

Figure 34: Training modules – SIA on volunteer management #1

This session is divided in three parts:

1. Societal Impacts of Volunteer Management and Relevance to SP3. Here we will cover the following aspects:
   - Societal impacts in the context of SP3
   - The relevance of societal aspects in the context of volunteer management
2. Which societal impact is relevant in the case of Volunteer Management? Here we will discuss each criterion on an individual basis and ask for suggestions and examples from the participants.
3. Doing Societal Impact Assessment! This is a more interactive part where you will get to work with the inputs and the material we provided. It will last ca. 1 hour and 20 Minutes. We will have time at the end of each session for the plenary to discuss the outputs of the discussions. Before closing todays' session we will compare these answers with the recommendations that were made in the self-assessments in D840.21.

There will be a break between parts 2 and 3.

Step 2a: Societal Impacts and their relevance to SP3

Time: 10 Minutes

Method: Presentation

Teaching Material: SIA PowerPoint presentation slide #35

Slide #35

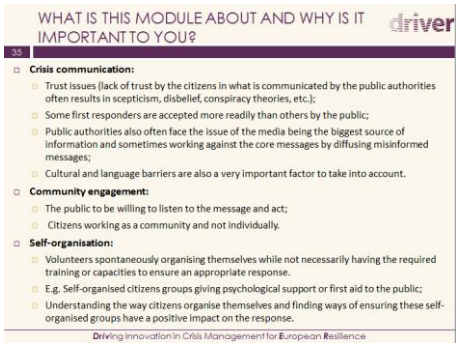


Figure 35: Training modules – SIA on volunteer management #2

Why is this relevant to SP3?

For the 3 fundamental reasons that define this SP: crisis communication, community engagement and self-organisation.

Crisis communication: a lot of societal issues come into play when we talk about communication between the authorities and the public. For instance, trust issues are key since a lack of trust by the citizens in what is communicated by the public authorities often results in scepticism, disbelief, conspiracy theories, etc. In the same vein, some first responders are accepted more readily than others by the public. For instance the Police often have a hard time communicating with the public as

they are seen as “part of the establishment” and therefore not to be trusted. Public authorities also often face the issue of media being the biggest source of information and sometimes working against the core messages by diffusing misinformation. Cultural and language barriers are also a very important factor to take into account. The message might not be understood in the same way by different religious groups or by people who don’t speak the local language fluently. For example immigrants are often not catered for in the response plans and they may be worried about communicating to first responders as they may face deportation as a result.

Community engagement: It is also important for the public to be willing to listen to the message and act. In some cases, citizens refused to evacuate their home for fear of vandalism or simply because some of their loved ones are unable to leave. For instance in the case of Hurricane Katrina in New Orleans, a big issue face by the authorities was the amount of citizens who refused to evacuate because members of their families were in care homes that didn’t have evacuation plans.

Self-organisation: Understanding the intricacies of working with self-organised volunteers during crisis is key to developing the appropriate solutions. There are many risks associated with volunteers spontaneously organising themselves while not necessarily having the required training or capacities to ensure an appropriate response. This is particularly relevant in the case of self-organised citizens groups giving psychological support or first aid to the public. Understanding the way citizens organise themselves and finding ways of ensuring these self-organised groups have a positive impact on the response is essential to the work that SP3 does.

Step 2b: Societal Impacts of Volunteer Management

Time: 10 Minutes

Method: Presentation

Teaching Material: SIA PowerPoint presentation slide #36

Slide # 36

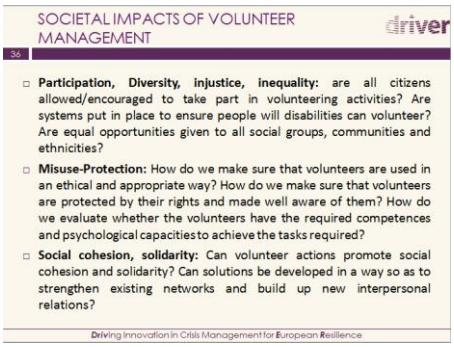


Figure 36: Training modules – SIA on volunteer management #3

In the past decades, individuals and groups which were not previously affiliated with the CM system, and spontaneously offer their help, have become a more and more common phenomenon in the aftermath of major disasters. The willingness to help is especially high when people are emotionalised by extensive mass media coverage of the disaster situation, thus forming a sort of

"imagined community". In the last years the spontaneous offers to help are not solely triggered by traditional mass media but are nowadays self-organised through social media, often bypassing the response and setting up parallel structures to those foreseen by CM procedures. Especially through social media, the crisis managers now have new opportunities to organize and give tasks to volunteers through such channels. Such Crowd Tasking could for example mean that a crisis managing organization can give volunteers within a certain area a particular task.

When considering solutions to facilitate volunteer management, a number of societal issues come to mind. For example:

- **Participation, Diversity, injustice, inequality:** are all citizens allowed or encouraged to take part in volunteering activities? Are systems put in place to ensure people will disabilities can volunteer? Are equal opportunities given to all social groups, communities and ethnicities?
- **Misuse-Protection:** How do we make sure that volunteers are used in an ethical and appropriate way? How do we make sure that volunteers are protected by their rights and made well aware of them? How do we evaluate whether the volunteers have the required competences and psychological capacities to achieve the tasks required?
- **Social cohesion, solidarity:** Can volunteer actions promote social cohesion and solidarity? Can solutions be developed in a way so as to strengthen existing networks and build up new interpersonal relations?

These issues only represent a few examples of the type of questions you should be asking yourself when developing volunteer management solutions. In this session, we will take some of these societal impacts and go into depth in order for you to identify yourself and your work in these issues. The aim is therefore for you to make your own assessments of the potential impacts that your solutions might have on society. You will of course be invited to provide us with feedback or consult us for any questions related specifically to your experiment or solution. Let's move on to some concrete examples of criteria and impacts to discuss.

Step 3a: Privacy & Data Protection

Time: 15 Minutes

Method: Presentation and discussion

Teaching Material: SIA PowerPoint presentation slide #37 to be used for the module, sources, audio-visuals

Slide #37

Figure 37: Training modules – SIA on volunteer management #4

In order to set the scene, we will watch a short video about data protection and privacy in Europe: https://www.youtube.com/watch?v=6eHBzppf4YQ.

Privacy and data protection being the most discussed societal issues; it is inevitable for us to discuss them in the context of volunteer management also. When managing volunteers crisis management professionals generally need to collect their personal data, whether in the preparation phase (pre-registration) or in the response phase (ad-hoc integration).

In both cases, there is a process where data, such as personal data, skills, preferred contributions/usage is collected from the (potential) spontaneous volunteers. On the one side, this data is needed for making the best possible use of volunteers, taking into account individual properties and competences, such as spoken languages, profession or conditions that hinder certain types of contributions. On the other side these data collection processes must make sure to strictly adhere to European and national data protection legislation.

For instance, in DRIVER WP36, we experiment with organisational and IT tools that help crisis managers to organise and mobilise unaffiliated spontaneous volunteers. Since these additional helpers are being registered and their private data is collected in order to appropriately make use of their willingness to help, privacy & data protection are central issues when setting up such management procedures.

➔ **Over to you:** In your opinion, what can be done to avoid having legal issues related to data protection and privacy?

Now that you have reflected on the question yourselves and provided interesting input, I will tell you what we put as a recommendation in our own impact assessment of the issue:

- Operators should ensure and actively communicate that security measures were taken and that the users data is safe and only used in case of crisis to organise help. It will help building up a trust relationship with the population. When designing registration procedures ensure that privacy relevant information is represented in a transparent, understandable and user friendly way.

➔ **Over to you:** Can any of you tell me if these types of actions were taken into account in the design of the experiments and the solutions to be used?

Step 3b: Misuse-Protection

Time: 15 Minutes

Method: Presentation and discussions

Teaching Material: SIA PowerPoint presentation slides #38-39 to be used for the module, sources, and audio-visuals

Slide #38-39

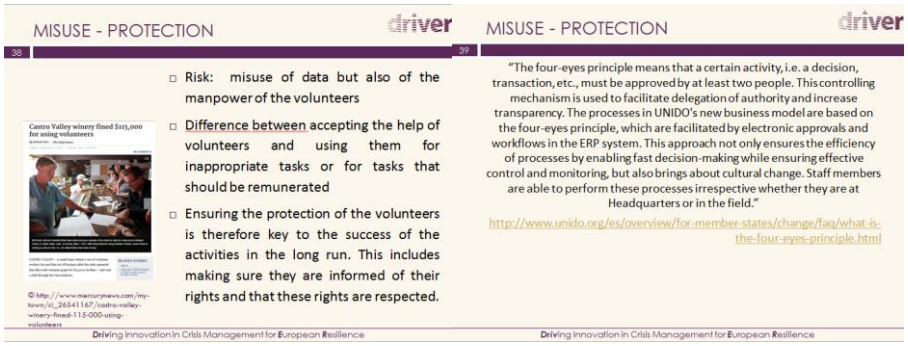


Figure 38: Training modules – SIA on volunteer management #5

When it comes to using IT or conceptual solutions for coordinating spontaneous volunteers, not only the issue of misuse of data but also of the manpower of the volunteers could arise. This can be the case when spontaneous volunteers are used for purposes other than assisting the response and the beneficiaries. There is a fine line between accepting the help of volunteers and using them for inappropriate tasks or for tasks that should be remunerated. For example, if a fire station recruits volunteers to reply to calls and then decides to ask them to do other, unplanned chores, including picking up the trash and refurbishing the fire station.

In each EU country there are legislations that define what a volunteer is, his rights and the rights of the organisation that works with volunteers. Ensuring the protection of the volunteers is therefore key to the success of the activities in the long run. This includes making sure they are informed of their rights and that these rights are respected. For instance, in Belgium a volunteer can only work a certain amount of hours per week. Volunteering also affects a person's right to unemployment benefits and if the volunteer does not ask for previous approval from the local unemployment office, he/she risks losing his/her unemployment benefits.

A trivial example of the misuse of volunteers took place in 2014 in a winery in the US. The winery got fined $115,000 for using volunteers illegally by telling them they were going to come and learn how to make wine and in the end ended up actually mass-producing wine for them.

Our assessment suggests the use of a tool used by the United Nations Industrial Development Organisation. Does anyone know what the Four-Eyes Principle is?

- In order to not create suspicion regarding the effort from the population or to misuse volunteers for other tasks than originally indented, a four-eyes principle could be put into place, ideally separating the level that a) requests b) alerts and deploys the volunteers and c) the level which gives clearance to the deployment. This principle is described as following by

United Nations Industrial Development Organisation: « The four-eyes principle means that a certain activity, i.e. a decision, transaction, etc., must be approved by at least two people. This controlling mechanism is used to facilitate delegation of authority and increase transparency ».

➔ **Over to you:** Can you suggest any other methods or solutions that could be used to ensure the protection of volunteers and avoid their misuse?

Step 3c: Trust-Suspicion, State-Citizen-Relationship

Time: 15 minutes

Method: Presentation and discussions

Teaching Material: SIA PowerPoint presentation slide #40 to be used for the module, sources, and audio-visuals

Slide #40

Figure 39: Training modules – SIA on volunteer management #6

Another dimension relevant for organisations, who are wishing to foster the engagement of the community, is trust. Not every organisation may be perceived as trustworthy enough by the population to register their data or offer their assistance to them – and thus - might not be a proper operator of such unaffiliated volunteer management solutions. This might be the case with organisations not well-established in the volunteering sector or also with government agencies. Especially governmental agencies may have the additional challenge, that the seeking for support from the population might be perceived as outsourcing public duties to the private sector, thus influencing the state-citizen-relationship.

Cultural differences also influence the way people respond to authorities and build their trust towards them. Acknowledging these cultural differences in trusting and relying on authorities must be a part of the process of communicating with the public. Language barriers and cultural differences are critical barriers that broaden the gap between citizens and authorities and cause mistrust.

➔ **Over to you:** How do you think this issue of trust can be tackled?

- One of the recommendations from our own self-assessments was that before officially launching unaffiliated volunteer management programs, potential host organisations shall commission an independent survey to find out whether it would be accepted as host organisation by the envisioned target groups. In any case it might be advisable to partner with civil society organisations used to work in community engagement and use trusted and appropriate communication channels for reaching out to the target groups.
- For what concerns cultural barriers, a way forward could be the involvement of local people with the aim of better disseminating messages and inducing reliance to authorities and local leaders. Nonverbal solutions such as pictograms and icons could also be used as an effective way to transfer a message across communities and various cultures. Specific roles and definitions however need to be clarified and assigned to guarantee the successful use of globally accepted nonverbal solutions. A clear definition of agency, authority and citizens roles should also develop trust among the different stakeholders.

Step 4a: Doing Societal Impact Assessment (Group Work)

Time: 2x 30 Minutes + 10 minutes for conclusions

Method: Group work, participants divided in teams with one moderators/writer per team

Teaching Material: SIA PowerPoint presentation slide #41 work sheet & Module 3a Questionnaire on Criteria; flip chart/post-it notes, pens

Slide #41

Figure 40: Training modules – SIA on volunteer management #7

You will be divided into groups of 4-5 and I will distribute a function with 2 or 3 criteria to each group. Each group then has to identify a moderator and a writer. The moderator will be asked to present the results at a later stage.

The questionnaire, as well as a short definition of each criterion is in the booklet that was given to you at the beginning of the session. Please make sure you fill in the questionnaire with the outcomes of your discussions as a group.

Function 1: Training Communities for Psychological Support (first 30 minutes)

Criteria to be discussed → Social cohesion, solidarity, participation, suspicion-trust, non-discrimination, in/justice – in/equality, diversity and cultural sensitivity, misuse-protection, participation.

Function 2: Building and Measuring Community Resilience (second 30 minutes)

Criteria to be discussed → Transparency, privacy and data protection, unease-calmness, suspicion-trust, misuse-protection, dignity, non-discrimination.

Questionnaire, please refer to the Annex:

a. Is this criterion clear to you? Is the name appropriate and the definition clear enough?
b. Can you think of a situation where the function we are discussing has created a negative impact in terms of the list of criterion you were given? (Give an example! Write down)
c. Can you think of a situation where the function we are discussing has created a positive impact in terms of the list of criterion you were given? (Give an example!)
d. Which recommendation would you give to a developer/crisis manager in order to avoid the negative effects and foster positive effects?
e. Can you think of additional criteria that are relevant to the function? What would be the potential positive and/or negative impacts of this criteria?
f. How do you think that taking these issues into account can improve your solutions?

In the last 10 minutes, each moderator will be asked to sit in the plenary, give a general feedback from the exercise and provide us with the conclusions from the discussions and the answers to the questionnaire.

Step 4b: Comparison of Results

Time: 30 minutes

Method: Presentation

Teaching Material: SIA PowerPoint presentation slide #42 to be used for the module

Slide #42

Figure 41: Training modules – SIA on volunteer management #8

Function 1: Training Communities for Psychological Support

Related WP and Tasks: WP32, WP33, WP35

There are different motivations for training communities such as policymaking processes, or practical disaster experiences that trigger action. A common aim of training activities in the area of community resilience is to raise their preparedness and their response capacities. These trainings can have different contents such as first aid, introductory courses to risk reduction or trainings on how to cope with stressful psychological situations after the occurrence of a disaster (WP32). At this point it is necessary to remind that communities are not only geographical units. That people are living close together in a small village does not automatically mean that they have much to do with each other [1]. Community has also another (sometimes imagined) dimension where membership to the community is prescribed and based on common characteristics that are shared with members and differentiate then from other groups (such as school classes, music clubs, religious associations or social media groups).

Example of challenges:

1) In DRIVER, WP32 we use a train the trainer cascade to train affiliated volunteers to cope with stressful psychological situations and also to enable them to provide psychological support to the affected population (T32.2, T32.3, T32.4) Especially when training activities are aimed at the population, potential detrimental impacts shall be taken into consideration.
2) In DRIVER WP33 we test methods and material with CM professionals to better interactively engage with communities so that they are better prepared in case of crisis. This includes the provision of guidelines as well as training activities. When CM professionals train communities both the trainer-trainee as well as the CM professional – lay public power relation shall be reflected in order to build mutual trust.

Assessments

Social cohesion & Solidarity, Participation, Suspicion-Trust, Non-Discrimination

Training for and with communities with the aim of raising their resilience has mostly positive effects such as the strengthening of existing networks and building up new interpersonal relations, leading

to strengthened and overlapping social networks and an increased resilience. But as described above community is not all about social cohesion. Members of communities share commonalities with group members but also differences with other groups. Also within one community there is no homogeneity but diversity as well as power relations (e.g. kin relationships between community leaders and certain members) which must not be forgotten.

- **Recommendation:** When engaging with communities as trainer you should ensure that all participants can speak or contribute in an equal way, promoting a climate of openness. Also think of power relations between members of the community which may not be visible and hinder certain members to speak freely. Also reflect about the power imbalance between trainer (CM professional) and trainee (lay public). Thus foresee both a joint oral and anonymous written feedback mechanism so that people are able to articulate their views.

In/justice & In/equality, Non-Discrimination, Diversity & Cultural and Gender Sensitivity:

Training may exclude some groups within the population (e.g., as training with communities relies heavily on communication, it can happen that due to language issues some part of the population is excluded). The selection of potential volunteers may influence social cohesion in a negative way, when members of specific groups are discriminated against on grounds of their nationality, gender, language, ethnicity, class, and/or religion.

- **Recommendation:** When designing a training curriculums and selecting participants ensure that socio-cultural diversity is taking into account in the curriculum and the profile of trainees is as inclusive as possible, especially since members of specific groups, such as migrant communities and social minorities, are often underrepresented within CM professionals and volunteers. Trainers should also be able to deliver training activities to various societal target groups and take into account different culturally bound coping mechanisms.

Misuse- Protection:

Trainers engaging with communities may overestimate their skills and exceed their competences. This is especially critical in the case of giving psychosocial support to the public, where overestimation may lead to the failure of directing participants to a qualified psychologist or psychotherapist.

- **Recommendation**: As CM organisation providing PSS training, select PSS-Trainers carefully to guarantee that confrontation techniques and methods of self-awareness are applied rightly and trainers do not overestimate their skills. Think about regular external evaluation of your trainers. Having a qualified psychologist in the host organisation overseeing the development of PSS training programmes and monitoring their application can assure the proper application of the former points.

Privacy & Data Protection:

Organisation offering community trainings could easily give away the data of the trainees and make profit. Thus data protection shall always be ensured and adherence to privacy & data protection legislation is necessary.

- **Recommendation**: Ensure conformity with European data protection legislation and rights and cultural customs related to privacy. Also when collecting and processing private data at trainings, the informed consent of participants is needed.

Participation

Trainees should be given the opportunity to participate in the design and improvement of the training curriculums. If, for example, participants provide feedback on the training and their input is ignored or their proposed improvements not included in future training rounds, they will have the feeling of being excluded and may not be willing to participate again.

- **Recommendation**: Training curriculums should also pay special attention to how to establish a sphere of trust among trainers and trainees and include adequate evaluation and feedback mechanisms.

Function 2: Building and Measuring Community Resilience

Related WP and Tasks: WP33, WP34

Establishing a baseline status of the vulnerabilities or capacities of a person or a territorial entity such as a city, a local government is needed to assess the change of behaviour and the effectiveness of interventions. Nevertheless the academic discussion on measuring disaster resilience comes to the conclusion that establishing metrics and standards for measuring resilience remains a significant challenge as there is no consensus on how to measure it [2]. The point is that resilience can't be observed directly but must be derived from indirect indicators that need to be assessed with a baseline measure before of an intervention or disaster and then a long time after. Most current attempts to measure resilience define a set of desired characteristics for individuals, households, communities, systems, regions or countries that are considered resilient. The method is using a bottom-up approach while at the same time being based on general theories of resilience. In most measurements, characteristics such as physical, economic (e.g. income, productivity), social (e.g. community network, civic engagement), political, institutional are used. Then mostly questionnaires are used to get the respective data from stakeholders such as the population.

Example of challenges:

1) In DRIVER, WP33 we experiment with an interpersonal method to gather information on community resilience indicators to measure community resilience. Missing information on the reason and the exact procedure on side of the participants may lead to unease.
2) DRIVER WP34 experiments with assessment tools for local government resilience assessment in order to identify gaps and define action plan for all stakeholders. It is

based on a participative discussion methodology that is expected to have the best results.

Assessments

Transparency, Privacy & Data Protection, Unease-Calmness, Suspicion-Trust:

When assessing resilience, it is important to communicate transparently what kind of data is being used. It is important to make clear that not the performance of individuals is assessed using rather abstract categories such as the well-being before and after a disaster, b) the vulnerability, c) the resilience capacities to cope, adapt, and transform in case of a disaster (e.g. % of population with access to risk information), d) disaster-related shocks, losses and stress, etc. In the case sensitive data is collected from individuals adequate data protection measures must be taken and communicated to the participants. Also failing to communicate the reasons behind your research may lead to unease and suspicion and could prevent people to give the needed data.

- **Recommendation:** Explain in easy terms what you are doing and how especially the expected added value for the participant.

Misuse-Protection, Dignity, Non Discrimination:

How are the results from the measurements represented and how is having access to it? A metric or colour coding might be good for decision makers and planners to get a quick overview of the resilience status of a territory. Also one could think that after knowing their score, the population will immediately strive to improve and sharing the score online, might lead to “positive “competitiveness. But publicly sharing scores or other forms of visualisation, such as colour codes (red, yellow or green) can also lead to stigmatisation of a community.

- **Recommendation**: Solution developers shall be careful with sharing a quantitative visualisation of the resilience assessment. Such graphical representations might be appropriate for decision makers to get a quick overview, making them available to the public might trigger stigmatisation, which is especially problematic, when the assessments rely on very small samples.

Step 5: Conclusions

Time: 10 Minutes

Method: Presentation

Teaching Material: SIA PowerPoint presentation slide #43 to be used for the module, post-its

Slide #43

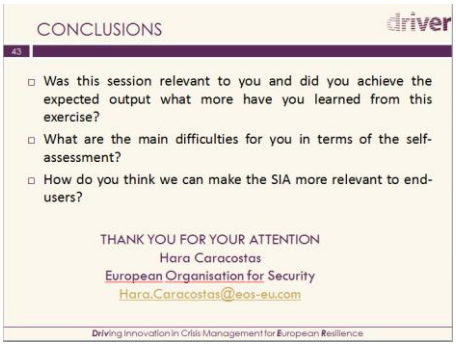


Figure 42: Training modules – SIA on volunteer management #9

I would now ask you to take the post-its in front of you and come and stick your answer under each of the questions on the board (or flip-chart).

The questions are:

- Was this session relevant to you and did you achieve the expected output what more have you learned from this exercise?
- What are the main difficulties for you in terms of the self-assessment?
- How do you think we can make the SIA more relevant to end-users?

Learning results and Outputs for Module 3a

- ✓ Knowledge on how to identify more functions than before this training
- ✓ A better understanding of the impact of their work on society in terms of what they are designing and developing, and not only within DRIVER;
- ✓ An understanding of the SIA, of example assessments provided in D84.21;
- ✓ Capacity to conduct assessments while designing and developing solutions on crisis management.

Module 3b: "Strengthened responders"

This module reflects to the work performed under the overarching titled "IT support for CM professionals", which is mainly tackled in SP4 and aims to promote a societal perspective in the context of experimentations. Furthermore, it envisages interaction and discussion among partners that take part not only on SP4 activities and promote these views not only within DRIVER.

Today we have divided this module into four parts: Introduction to the framework and adaptation of the module to SP activities; working with functions; group work and discussion of results.

What does this module want to achieve?

- ✓ Raise awareness and promote understanding of societal issues;
- ✓ Create a streamlined approach, in regards to societal impact, which each SP will be using throughout the lifespan of the project;
- ✓ Deliver a training focused more on the support of CM professionals, namely SP4

Step 1: Introduction to the framework and adapting the module to SP activities

Time: 10 minutes

Method: The specific case study used for this module, is an experiment already conducted by SP4. This was a way to directly relate the work of SP4 with topics on societal impact. Specifically in this module, we commence with the Common Operational Picture (COP).

Teaching material: COP case study, SIA PowerPoint presentation slides 44-#48, Flip chart/post-it notes as well as pens and markers and the following readings

These reading will accompany the discussion. Participants, have to read them in advance, as those directly relate to their upcoming experiments. The readings also relate to the content of the scenario, built with the aim of conducting group work.

UNHCR, Convention and Protocol related to the Status of Refugees, *http://www.unhcr.org/3b66c2aa10.html*

Migration Policy Centre, Migrant Crisis, Refugees, *http://www.migrationpolicycentre.eu/migrant-crisis/migrant-crisis-refugees/*

Syrian refugee crisis: EU Trust Fund launches single biggest EU response package ever for €350 million, helping up to 1.5 million refugees and their host communities in Lebanon, Turkey, Jordan and Iraq, *http://europa.eu/rapid/press-release_IP-15-6212_en.htm*

Standard Eurobarometre 83, pg 36, Migration, http://ec.europa.eu/public_opinion/archives/eb/eb83/eb83_first_en.pdf

Redial project, http://euredial.eu/?utm_source=MPC%20Newsletter&utm_campaign=4264b319eb-MPC_Newsletter_Errata_corrige_12_15_2015&utm_medium=email&utm_term=0_5739ea1f8b-4264b319eb-56517993

Slide #44 - #45

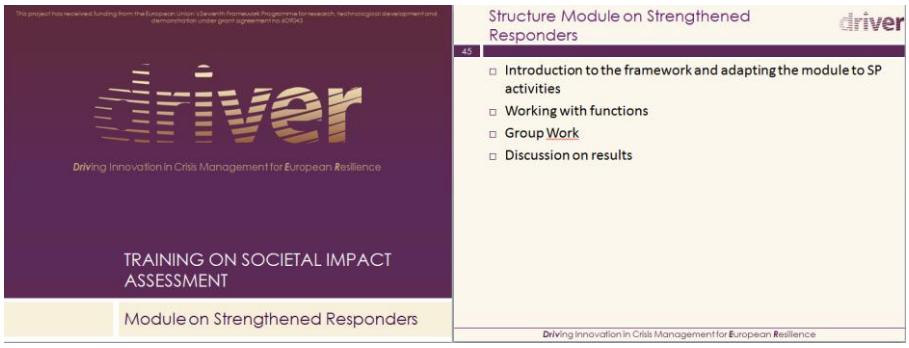


Figure 43: Training modules – SIA on strengthened responders #1

This session includes the following steps:

1. Introduction to the framework and adapting the module to SP activities
2. Working with functions
3. Group Work
4. Discussion on results

Slide #46-#47

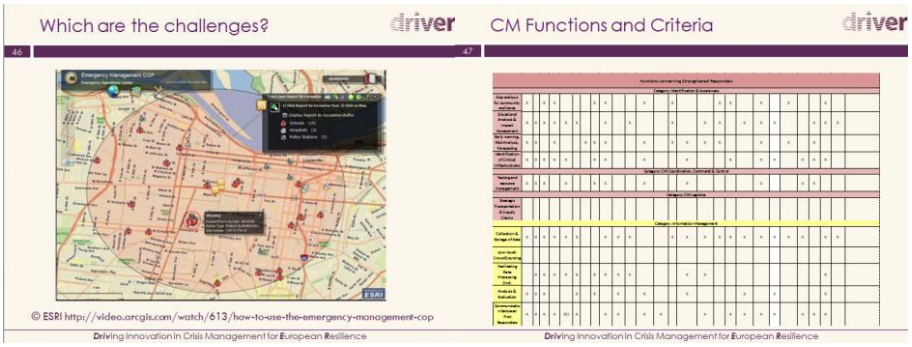


Figure 44: Training modules – SIA on strengthened responders #2

To begin with, I have extracted a small part from the COP experiment and wanted to make a correlation with this framework.

According to the short description on this experiment, you state: "COP is a standardised approach to **collecting and bringing information together and making it immediately available for all involved parties.** It particularly applies to the management of complex and cross-border operations, involving diverse Crisis Management organisations". FEMA for example, even if it has planned a COP since Hurricane Katrina, has not been able to develop one; the reason being "contextual understanding, access to needed data and conflict resolution within a virtual environment". In the case of the US, the federal agency will be transmitted information and data after the State has run out of funding. How would such a solution be translated in a European scale and what would the impact be on citizens?

What I would like you to do, is to consider, how these information have been collected and brought information together, and what is the impact on the collection of any such data. Collection of sensitive data, can cause unease, can infringe to fundamental freedoms and can breach laws on privacy and data protection. It can also enhance citizen-state-relationship if transparency is a key component and international relations.

Slide #48

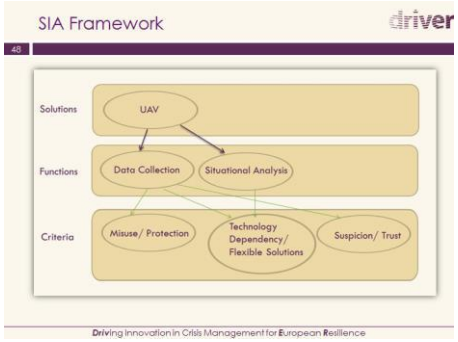


Figure 45: Training modules – SIA on strengthened responders #3

A picture of a COP, however, can tell us many things and can also reveal many questions in regards to societal security. Where has the information been stored, who has access to them, Is this tool tracking individuals and what is the retention period of the data. How can society know that their rights have not been infringed upon?

And now that you have completed this experiment and that you are aware of all the functions of this assessment; functions for SP4 are also mentioned in the booklet pp. 87-88. I would please ask you to create groups of 3-4 persons and write down three COP related negative/positive impacts on society. Make us understand why the COP is positive for strengthening CM professionals and try to self-criticise and also mention negative impact. This is simply a brainstorming sessions.

Please hand them to me, and we will discuss them at the end and assign to your team who will be presenting the results at the end, when we will compare these with the assessments we have conducted.

Step 2: Working with functions

In this particular training we work with two functions at the same time: Situational Awareness and Impact Assessment as well as Early Warning Risk Analysis and Forecasting.

Time: 10 Minutes

Method: Case study on influx of refugees – 2 different groups

Teaching Material: Flip chart/post-it notes, markers and pens will be used to highlight important part of the discussion.

In a few words, situational analysis and impact assessments are important solutions to prepare CM decision-making and plan effective response. Within DRIVER, such assessments are conducted to

identify damages and needs through mobile applications, airborne sensors, via social media and crowd-tasking and by integrating information from different agencies and dimensions. All topics addressed by SP4. To give an example, when collecting information through mobile applications for situational analysis, it is important to, in some way, account for the fact that not every citizen has a mobile device (or is an experienced user), which influences the results and options of participation. If not verified and contextualized, self-reported data may lead to societal distrust between individuals, because it can open up for the reporting of problems that are not verified and are the result of hasty conclusions. As such, crowd-tasked information is prone for misuse or to be used for circulating deceptive information which can heighten the unease in society. It may also create distrust vis-à-vis the state or the institution running the operation, if data is collected without informed consent.

On risk analysis and early warning are integral aspects for assessing crisis dynamics and approaching hazards. Because risk analyses and early warning systems have always been important technologies within crisis management, some of their secondary societal impacts are well documented, especially when it comes to their implementation. For example, as became apparent in summer 2014 in Oslo, Norway, when terror alerts about a potential Islamist attack were made public. Without concrete advice for the public, warnings can leave the general public with unease and a feeling of helplessness. Disproportionate warnings can undermine trust of the society in public authorities and provide fertile ground for discussions about raised surveillance.

Thus, early warning has to be at the proper moment with very concrete instructions and information.

That been said, for the group work we have developed a short scenario, which would resemble a real life situation. We tried to include as many components of SP4 as possible, taking also under consideration the functions described.

Before we proceed though, would you like any clarifications on the framework?

Step 3: Group Work

Time: 10 Minutes

Method: Case study on influx of refugees – 2 different groups

Teaching Material: SIA PowerPoint presentation slides #49-#52, Flip chart/post-it notes, markers and pens will be used to highlight important part of the discussion; Module 3 b/c Questionnaire on Criteria;

Slide #49-#52

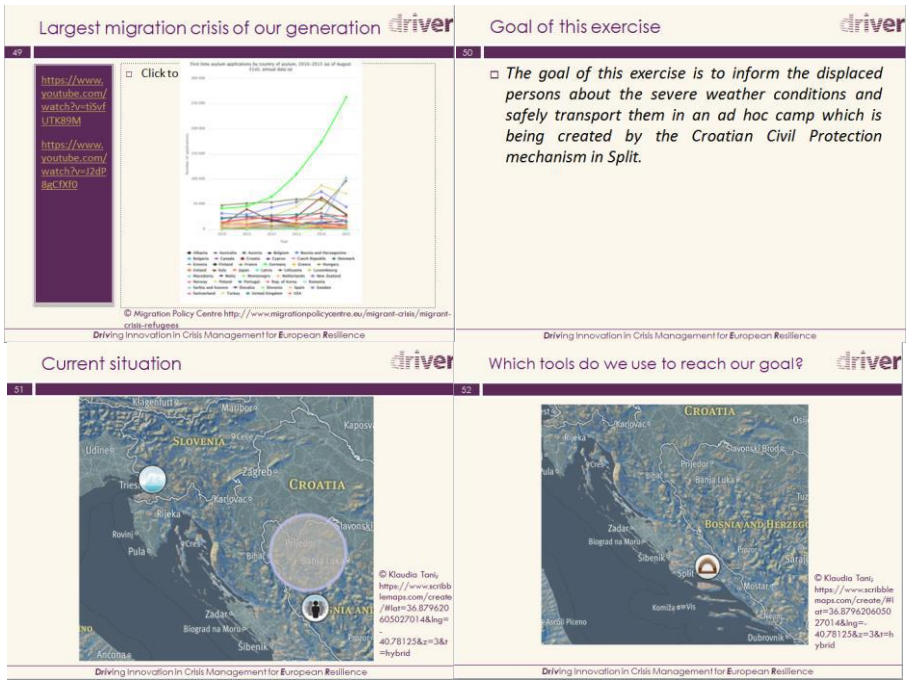


Figure 46: Training modules – SIA on strengthened responders #4

Scenario (can be found in the booklet)

In this section, we will have a more practical approach. We will be working with a specific scenario and go in-depth on the two scenarios we have been engaged with today. You will have to divide yourselves into two groups and chose someone to coordinate the discussion. In detail,

On March 10th, 4AM local time, information from the Bosnia and Herzegovina's Ministry of Defence was transmitted to four neighbouring countries, Austria, Croatia, Italy and Slovenia. The Ministry warned the respective border or local authorities, that an influx of approximately 700 displaced persons had crossed their border with Montenegro early morning hours. It was unclear which route they followed to enter Bosnia and Herzegovina as well as where they were headed thereafter. Inquiries have been posed to the Albanian border prefectures, but no information has been received.

Due to winter time and many roads throughout Bosnia and Herzegovina been closed because of snow, the route followed by the displaced persons is unpredictable and the country's civil protection authorities do not have the capacity to track their path, as they have been experiencing power outage in most of the country's western part, including the Bihac region and Banja Luka.

In case the displaced population tries to cross from Croatia to Italy, they will also be blocked, since rain has caused major flooding in some of the villages around Trieste. The SS202 national road has been closed and traffic has been diverted through SS14. No crossing is possible.

Civil Protection authorities in Bosnia and Herzegovina have asked through their Facebook and Twitter, for citizens that have viewed passing masses of population to immediately report to their local authorities or call the 112 European Emergency phone number. At the same time, authorities

also in all four countries have been asking their citizens to report on the same matter while deploying emergency responders to receive people if and when they cross borders.

The goal of this exercise is to inform the displaced persons about the severe weather conditions and safely transport them in an ad hoc camp which is being created by the Croatian Civil Protection mechanism in Split.

Separate yourselves into two groups, as CM professionals on one side and Displaced persons on the other. You are required to answer the following, by always having in mind the positive and negative impact of the criteria outlined in this slide.

Questions

- The first question is related to the solutions that the CM professionals are going to use. Please chose three, you have 5 minutes…Please let us know which solutions you are using to achieve the main goal.
- Then you have 25 minutes to go through the criteria, which are also mentioned briefly in the booklet on pp. 79-84, and let us know from your perspective:
    - Why are the solutions useful to achieve the goal and which are the most relevant positive and negative criteria as well as
    - Will the solutions help you (displaced persons) find out the ongoing situation? If yes/no describe the positive and negative impact towards you, if these solutions are used to achieve the goal.

Should you have any questions, please do not hesitate to ask.

Step 4: Discussion on results

Time: 30 Minutes

Method: Discussion with participants and writing

Training material: SIA PowerPoint presentation slide #53, Flip-chart, pens and markers to consolidate all ideas in writing

Slide #53

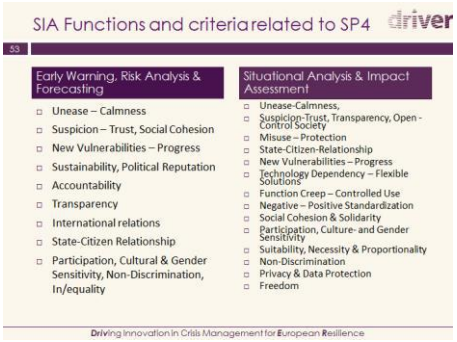


Figure 47: Training modules – SIA on strengthened responders #5

So, here we have the criteria for the two relevant functions which you can also find in the booklet. May I please ask the person presenting to let us know, which criteria you have chosen for positive and/or negative impact always in regards to the solutions used by the CM responders.

According to what you have heard, how would the CM professionals assess the solutions they aim to use? And what would you use differently to avoid negative impact?

Step 5: Comparison with the COP

Time: 15 Minutes

Method: Discussion with participants

Training material: Flip-chart, pens and markers to consolidate all ideas in writing

Slide #54

Figure 48: Training modules – SIA on strengthened responders #6

Finally, let's go back to the COP, give me your assessment on the positive and negative impact your experiment might have had as you wrote them in the beginning. Thereafter, let's discuss and compare if you still believe that what you wrote in beginning is appropriate or if you have re-evaluated or even added some negative/positive impact.

Finally, we have prepared a short feedback sheet. The consolidated results of that sheet, will allow us to understand better, what you have learned and if the assessment has been successful. So, please fill it in and should you have any further questions you can ask me or open your booklet. On the last page of the booklet you will also find a set of key questions that you should always ask yourselves before commencing the development or testing of a solution.

Slide #55

Figure 49: Training modules – SIA on strengthened responders #7

Thank you for your attention.

Learning results and Outputs for Module 3b

- ✓ Knowledge on how to identify more functions than before this training;
- ✓ A better understanding of the impact of their work on society in terms of what they are designing and developing, and not only within DRIVER;
- ✓ An understanding of the SIA, of example assessments provided in D84.21;
- ✓ Capacity to conduct assessments while designing and developing solutions on crisis management.

Module 3c: "Training and Learning"

This module reflects to the work performed under the overarching titled "Learning for CM professionals", which is mainly tackled in SP5 and aims to promote a societal perspective in the context of experimentations. Furthermore, it envisages interaction and discussion among partners that take part not only on SP5 activities and promote these views not only within DRIVER.

Today we have divided this module into four parts: Introduction to the framework and adaptation of the module to SP activities; working with functions; group work and discussion of results.

What does this module want to achieve?

- ✓ Raise awareness and promote understanding of societal issues;
- ✓ Create a streamlined approach, in regards to societal impact, which each SP will be using throughout the lifespan of the project;
- ✓ Deliver a training focused more on the learning of CM professionals, namely SP5.

Step 1: Introduction to the framework and adapting the module to SP activities

Time: *10 Minutes*

Method: *Presentation*

Teaching material: SIA PowerPoint presentation slides #56-#58, and the following readings:

These reading will accompany the discussion. Participants, have to read them in advance, as those directly relate to their upcoming experiments and this training.

Training to prepare for ethical dilemmas in disasters, http://globalhealth.ie/ifgh-2012-training-to-prepare-for-ethical-dilemmas-in-disasters/

DITAC Project, http://cordis.europa.eu/docs/results/285/285036/periodic1-pub-sum-periodic-report-fp7-ditac-final.pdf

Coping with disasters, A Guidebook to Psychosocial Intervention, http://www.toolkitsportdevelopment.org/html/resources/7B/7BB3B250-3EB8-44C6-AA8E-CC6592C53550/CopingWithDisaster.pdf

Slides #56-#57

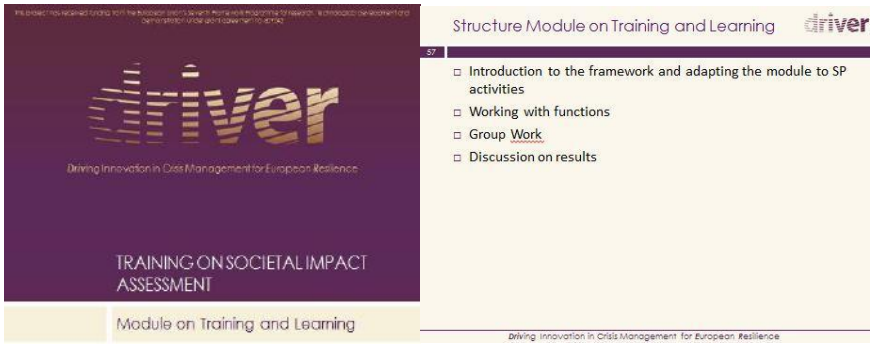


Figure 50: Training modules – SIA on training and learning #1

This session includes the following steps:

1. Introduction to the framework and adapting the module to SP activities
2. Working with functions
3. Group Work
4. Discussion on results

Slide #58

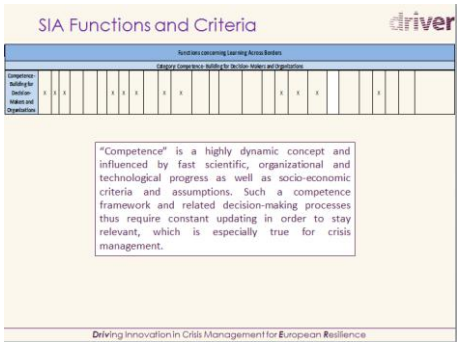


Figure 51: Training modules – SIA on training and learning #2

This training session is dedicated to the experiments undertaken under SP5. Those of you taking part in these experiments, you build scenarios yourselves. We are not here, however, to teach you how to build your scenarios, but rather, to ensure that societal implications when building those setups are taken under consideration. What we aim is to raise awareness on key societal issues that may arise when conducting your experiments.

In this specific training we focus on the development of a competence framework for crisis management that is applicable across the EU, through the integration of different learning and competence approaches. That is the aim of WP52. Within tasks 54.1 and 54.3, models are also being developed to enhance decision-making processes and context training.

"Competence" is a highly dynamic concept and influenced by fast scientific, organizational and technological progress as well as socio-economic criteria and assumptions. Such a competence framework and related decision-making processes thus require constant updating in order to stay relevant, which is especially true for crisis management. Since the relevant DRIVER tasks look at the overarching and harmonized CM frameworks, the assessments and recommendations below will focus on the way in which the modelling inherent in these solutions can cause secondary effects, both positive and negative, for society. For example, in the Asian Pacific, there are several administrations that to not have the capability to employee a large amount of employees on disaster management. For this reason, many of the countries or regions create partnerships with stronger nations that can supply some competency needed. The framework in itself introduces unit standards and qualifications. Most of these regions or countries have introduced a National Training and Qualification Network.

In general, if decision-makers base their decisions and lessons learnt on the fact that society is homogeneous, gender-, culture- and age-specific effects will not be taken into account and create long-term impacts of side-lining such specific needs and issues during crises. This cannot be the case when Europe being a multifaceted, multilevel and multicultural continent. Marginalising certain aspects of a society, especially at a decision-making level, can cause not only mistrust, but enact a sense of frustration that under certain processes may be leading individuals to extraordinary lengths.

Step 2: Working with functions

Time: 15 Minutes

Method: Presentation

Teaching material: SIA PowerPoint presentation slides #59-#60; Module b/c Questionnaire on Criteria;

Slide #59

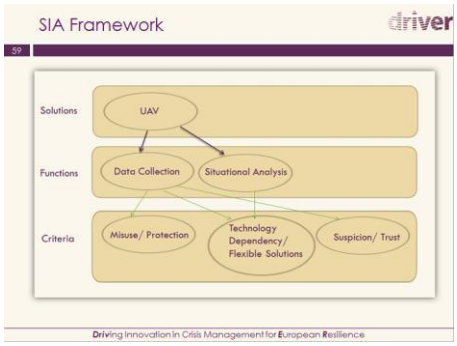


Figure 52: Training modules – SIA on training and learning #3

In this particular training we work on Competence Building for Decision-Makers and Organisations. You can observe here the relevant criteria that derived from PRIO's analysis. You can find the description of all the criteria in your booklet.

Slide #60

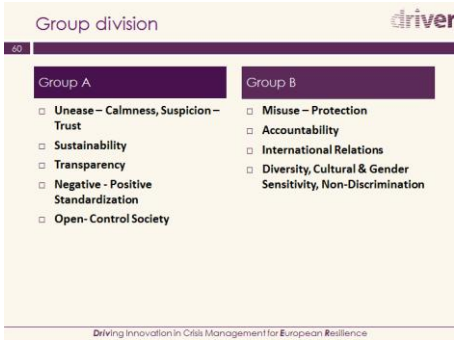


Figure 53: Training modules – SIA on training and learning #4

GROUP WORK

In this session I would like you to divide yourselves into two groups, and chose a representative that will give us in the end an overview of your discussion. In the booklet you will find the criteria and you will observe that we have already divided them into two parts.

What I would like you to do is to:

- Go through each one of the criteria; discuss and identify where and how are those are used within WP52 and the competence framework;

- Describe specific examples of their usage;
- Identify ways to solve negative impacts.

Step 3: Discussion on results

Time: 30 Minutes

Method: Discussion and Presentation

Training material: SIA Power Point Presentation slides #61-#79, Flipchart, markers and pens to write down the results and ideas

So, let us go through the criteria one by one, and the responsible group will identify possible negative impact and thereafter we will compare it with what we have recommended. Meanwhile, I will be writing down the results on the PPT so we can compare.

Slides #61-#62

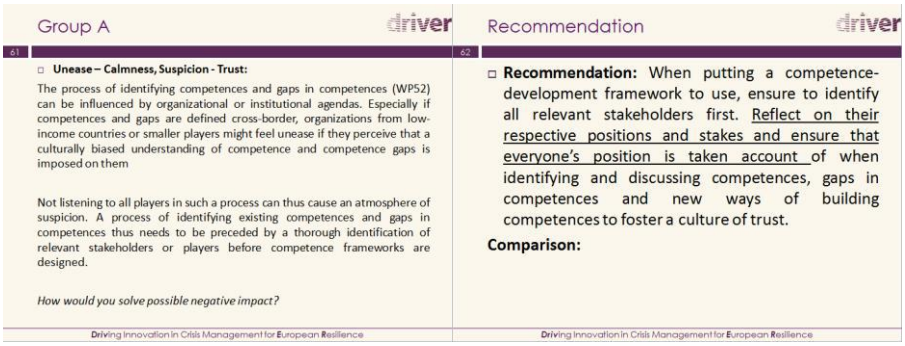


Figure 54: Training modules – SIA on training and learning #5

Group A: Unease – Calmness, Suspicion - Trust:

The process of identifying competences and gaps in competences (WP52) can be influenced by organizational or institutional agendas. Especially if competences and gaps are defined cross-border, organizations from low-income countries or smaller players might feel unease if they perceive that a culturally biased understanding of competence and competence gaps is imposed on them that, for example, benefit certain economic and employment interests of other countries or organizations. Not listening to all players in such a process can thus cause an atmosphere of suspicion. A process of identifying existing competences and gaps in competences thus needs to be preceded by a thorough identification of relevant stakeholders or players before competence frameworks are designed. A democratic process of including both bigger and smaller players and reflecting on their positions, interests and stakes is thus a step to foster calm, trust and a progressive way of discussing competence-building.

How would you solve possible negative impact?

Our recommendation is:

- **Recommendation:** When putting a competence-development framework to use, ensure to identify all relevant stakeholders first. Reflect on their respective positions and stakes and ensure that everyone's position is taken account of when identifying and discussing competences, gaps in competences and new ways of building competences to foster a culture of trust.

Slides #63-#64

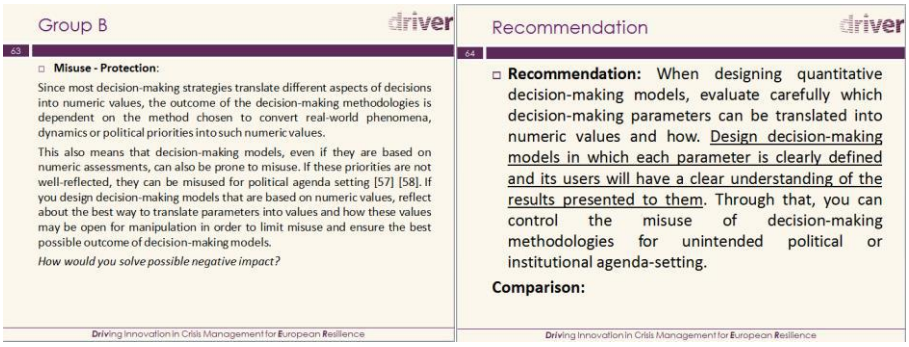


Figure 55: Training modules – SIA on training and learning #6

Group B: Misuse - Protection:

Since most decision-making strategies translate different aspects of decisions into numeric values, the outcome of the decision-making methodologies is dependent on the method chosen to convert real-world phenomena, dynamics or political priorities into such numeric values. Numeric values, however, may not be applicable to any kind of decision-making problem, or they may skew the process of decision-making, because they cannot accurately represent the factors influencing a decision. This also means that decision-making models, even if they are based on numeric assessments, can also be prone to misuse. If these priorities are not well-reflected, they can be misused for political agenda setting [57] [58]. If you design decision-making models that are based on numeric values, reflect about the best way to translate parameters into values and how these values may be open for manipulation in order to limit misuse and ensure the best possible outcome of decision-making models.

How would you solve possible negative impact?

Our recommendation is:

- **Recommendation:** When designing quantitative decision-making models, evaluate carefully which decision-making parameters can be translated into numeric values and how. Design decision-making models in which each parameter is clearly defined and its users will have a clear understanding of the results presented to them. Through that, you can control the misuse of decision-making methodologies for unintended political or institutional agenda-setting.

Slides #65-#66

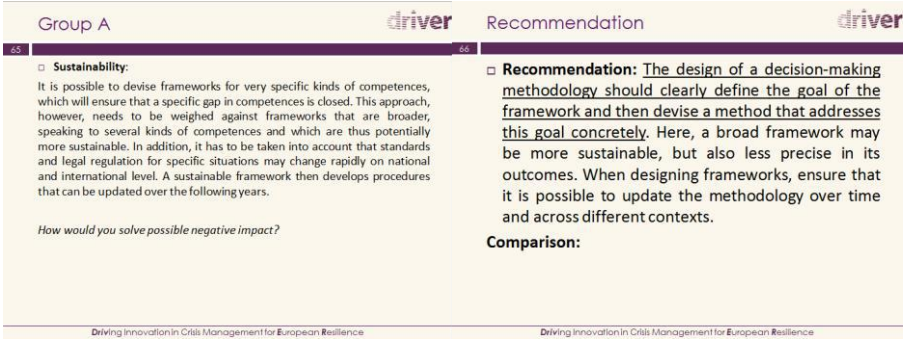


Figure 56: Training modules – SIA on training and learning #7

Group A: Sustainability:

It is possible to devise frameworks for very specific kinds of competences, which will ensure that a specific gap in competences is closed. This approach, however, needs to be weighed against frameworks that are broader, speaking to several kinds of competences and which are thus potentially more sustainable. In addition, it has to be taken into account that standards and legal regulation for specific situations may change rapidly on national and international level. A sustainable framework then develops procedures that can be updated over the following years.

How would you solve possible negative impact?

Our recommendation is:

- **Recommendation:** The design of a decision-making methodology should clearly define the goal of the framework and then devise a method that addresses this goal concretely. Here, a broad framework may be more sustainable, but also less precise in its outcomes. When designing frameworks, ensure that it is possible to update the methodology over time and across different contexts.

Slides #67-#68

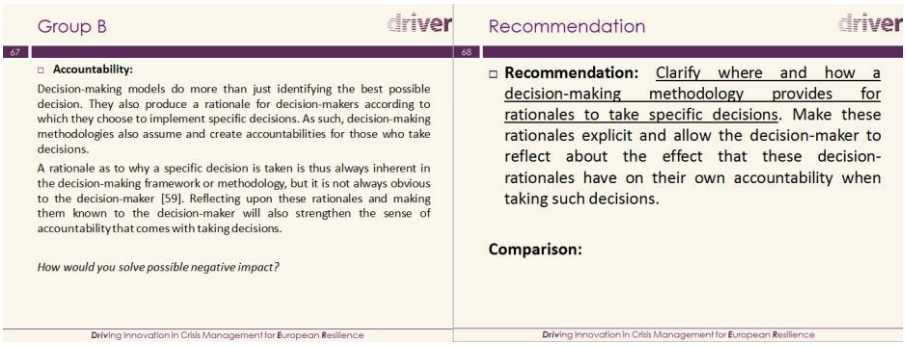


Figure 57: Training modules – SIA on training and learning #8

Group B: Accountability:

Decision-making models do more than just identifying the best possible decision. They also produce a rationale for decision-makers according to which they choose to implement specific decisions. As such, decision-making methodologies also assume and create accountabilities for those who take decisions. A rationale as to why a specific decision is taken is thus always inherent in the decision-making framework or methodology, but it is not always obvious to the decision-maker [59]. Reflecting upon these rationales and making them known to the decision-maker will also strengthen the sense of accountability that comes with taking decisions.

How would you solve possible negative impact?

Our recommendation is:

- **Recommendation:** Clarify where and how a decision-making methodology provides for rationales to take specific decisions. Make these rationales explicit and allow the decision-maker to reflect about the effect that these decision-rationales have on their own accountability when taking such decisions.

Slides #69-#70

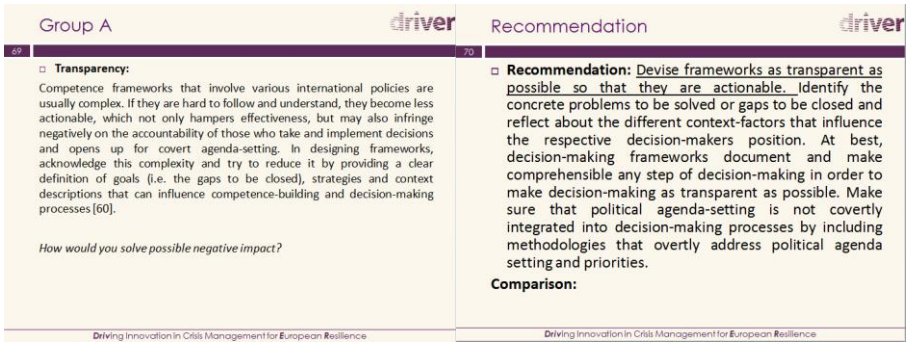


Figure 58: Training modules – SIA on training and learning #9

Group A: Transparency:

Competence frameworks that involve various international policies are usually complex. If they are hard to follow and understand, they become less actionable, which not only hampers effectiveness, but may also infringe negatively on the accountability of those who take and implement decisions and opens up for covert agenda-setting. In designing frameworks, acknowledge this complexity and try to reduce it by providing a clear definition of goals (i.e. the gaps to be closed), strategies and context descriptions that can influence competence-building and decision-making processes [60].

How would you solve possible negative impact?

Our recommendation is:

- **Recommendation:** Devise frameworks as transparent as possible so that they are actionable. Identify the concrete problems to be solved or gaps to be closed and reflect about the different context-factors that influence the respective decision-makers position. At best, decision-making frameworks document and make comprehensible any step of decision-making in order to make decision-making as transparent as possible. Make sure that political

agenda-setting is not covertly integrated into decision-making processes by including methodologies that overtly address political agenda setting and priorities.

Slides #71-#72

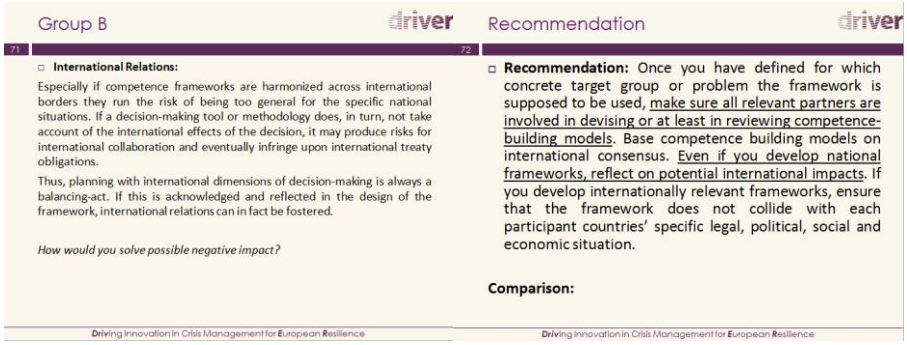


Figure 59: Training modules – SIA on training and learning #10

Group B: International Relations:

Especially if competence frameworks are harmonized across international borders they run the risk of being too general for the specific national situations. If a decision-making tool or methodology does, in turn, not take account of the international effects of the decision, it may produce risks for international collaboration and eventually infringe upon international treaty obligations. Thus, planning with international dimensions of decision-making is always a balancing-act. If this is acknowledged and reflected in the design of the framework, international relations can in fact be fostered.

How would you solve possible negative impact?

Our recommendation is:

- **Recommendation:** Once you have defined for which concrete target group or problem the framework is supposed to be used, make sure all relevant partners are involved in devising or at least in reviewing competence-building models. Base competence building models on international consensus. Even if you develop national frameworks, reflect on potential international impacts. If you develop internationally relevant frameworks, ensure that the framework does not collide with each participant countries' specific legal, political, social and economic situation.

Slides #73-#74

Figure 60: Training modules – SIA on training and learning #11

Group A: Negative - Positive Standardization:

Especially international and high-level frameworks for decision-making have the potential to create new standards, since they contribute to a normalization of the suggested decision-making process. As such, the developers of that framework carry a certain responsibility to ensure that the suggested competence frameworks can in fact be followed by every country and that they take account of relevant context-factors for each country in order to assure positive over negative standardization.

How would you solve possible negative impact?

Our recommendation is:

- **Recommendation:** Take into account how a new framework also creates new standards in decision-making. Can these standards be fulfilled by every participating country? Are they actionable and effective standards for every country? What are the accountabilities that the framework requires? While reflecting on answers to such questions already at the design-stage of competence and decision-making frameworks, you can ensure a positive new standard has the chance to materialize.

Slides #75-#76

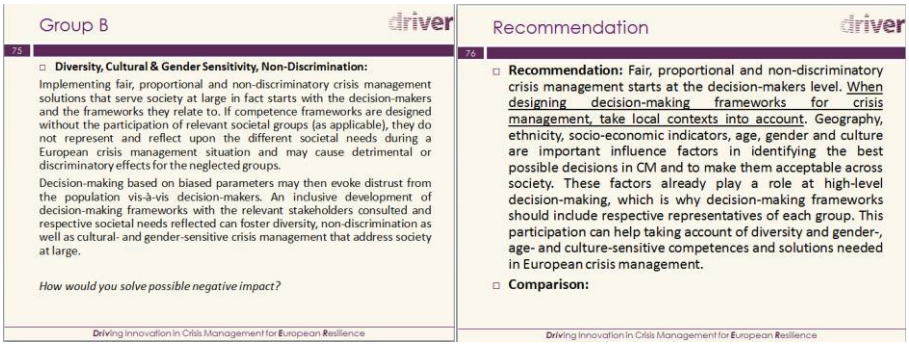


Figure 61: Training modules – SIA on training and learning #12

Group B: Diversity, Cultural & Gender Sensitivity, Non-Discrimination:

Implementing fair, proportional and non-discriminatory crisis management solutions that serve society at large in fact starts with the decision-makers and the frameworks they relate to. If competence frameworks are designed without the participation of relevant societal groups (as applicable), they do not represent and reflect upon the different societal needs during a European crisis management situation and may cause detrimental or discriminatory effects for the neglected groups. This concern, for example, to cultural and gender- bias or related insensitivities in decision-making. Decision-making based on biased parameters may then evoke distrust from the population vis-à-vis decision-makers. An inclusive development of decision-making frameworks with the relevant stakeholders consulted and respective societal needs reflected can foster diversity, non-discrimination as well as cultural- and gender-sensitive crisis management that address society at large.

How would you solve possible negative impact?

Our recommendation is:

- **Recommendation:** Fair, proportional and non-discriminatory crisis management starts at the decision-makers level. When designing decision-making frameworks for crisis management, take local contexts into account. Geography, ethnicity, socio-economic indicators, age, gender and culture are important influence factors in identifying the best possible decisions in CM and to make them acceptable across society. These factors already play a role at high-level decision-making, which is why decision-making frameworks should include respective representatives of each group. This participation can help taking account of diversity and gender-, age- and culture-sensitive competences and solutions needed in European crisis management.

Slides #77-#78

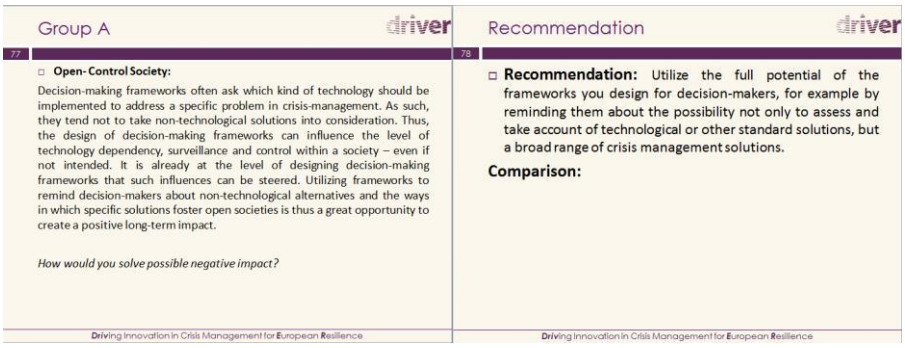


Figure 62: Training modules – SIA on training and learning #13

Group A: Open- Control Society:

Decision-making frameworks often ask which kind of technology should be implemented to address a specific problem in crisis-management. As such, they tend not to take non-technological solutions into consideration. Thus, the design of decision-making frameworks can influence the level of

technology dependency, surveillance and control within a society – even if not intended[10]. It is already at the level of designing decision-making frameworks that such influences can be steered. Utilizing frameworks to remind decision-makers about non-technological alternatives and the ways in which specific solutions foster open societies is thus a great opportunity to create a positive long-term impact.

How would you solve possible negative impact?

Our recommendation is:

- **Recommendation:** Utilize the full potential of the frameworks you design for decision-makers, for example by reminding them about the possibility not only to assess and take account of technological or other standard solutions, but a broad range of crisis management solutions.

Any further feedback, recommendation or comment?

Finally, we have prepared a short feedback sheet. The consolidated results of that sheet, will allow us to understand better, what you have learned and if the assessment has been successful. So, please fill it in and should you have any further questions you can ask me or open your booklet. On the last page of the booklet you will also find a set of key questions that you should always ask yourselves before commencing the development or testing of a solution.

Slide #79

Figure 63: Training modules – SIA on training and learning #14

Thank you for your attention.

[10] As for example can be found in the outputs of the DESSI Project (http://securitydecisions.org/about-dessi/).

Learning results and Outputs for Module 3c

- ✓ Knowledge on how to identify more functions than before this training;
- ✓ A better understanding of the impact of their work on society in terms of what they are designing and developing, and not only within DRIVER;
- ✓ An understanding of the SIA, of example assessments provided in D84.21;
- ✓ Capacity to conduct assessments while designing and developing solutions on crisis management.

Annex 5: Questionnaire on Criteria, for Module #2

Please discuss the following questions in your group.

1. Do you have an intuitive understanding of what these criteria could refer to? Which ones do you not understand immediately without reading the definitions?

2. Can you think of additional criteria, which are relevant for the solutions you are working with? Help: Think of the solutions you are working with. Do these criteria cover what you think could be potential impacts?

3. Which criteria do you think are the most relevant? Could you name some criteria as particularly important for us to pay attention to?

4. Which ones do you think are irrelevant (in relation to your work)?

5. Should we rename some criteria? If so, which ones and how?

6. Are some criteria too similar to each other? If so, which ones?

Annex 6: Questionnaire on Criteria, for Module #3a

1. Is this criterion clear to you? Is the name appropriate and the definition clear enough?

2. Can you think of a situation where the function we are discussing has created a negative impact in terms of the list of criterion you were given? (Give an example! Write down)

3. Can you think of a situation where the function we are discussing has created a positive impact in terms of the list of criterion you were given? (Give an example!)

4. Which recommendation would you give to a developer/crisis manager in order to avoid the negative effects and foster positive effects?

5. Can you think of additional criteria that are relevant to the function? What would be the potential positive and/or negative impacts of this criteria?

6. How do you think that taking these issues into account can improve your solutions?

Annex 7: Questionnaire on Criteria, for Module #3b & #3c

Please discuss the following primary questions in your group.

1. Why are the solutions useful to achieve the goal and which are the most relevant positive and negative criteria?

2. Will the solutions help you (displaced persons) find out the ongoing situation? If yes/no describe the positive and negative impact towards you, if these solutions are used to achieve the goal.

3. Which are the most important criteria? Outline 2 of them.

Annex 8: Training Calendar

This section includes an overview of those DRIVER meetings planned that could accommodate for an SIA training session[11]. This is done in order to create synergies between meetings that are already planned and the training sessions in order to avoid additional travel for all DRIVER partners. All relevant leaders have been contacted by ARTTIC. Throughout 2017, ARTTIC, in cooperation with EOS and PRIO, will also coordinate the organizational aspects of the SIA training sessions.

An online version of this calendar will be stored in DRIVER Space (under SP1 Management), and will be constantly updated and available to everyone. Furthermore, the practicalities of arranging the training sessions are not extensively addressed in this deliverable because they will vary from session to session, and they will also be adjusted to specific needs and the size of group. This work will be implemented by EOS throughout 2017, and all SP- leaders have already been informed that this training will take place, and that they are encouraged to participate.

[11] While some of these meetings are still planned for after the project suspension is lifted in 2017, the ongoing restructuring of the project has to be taken into account before the calendar can be further developed at this point.

2016[12]					
M21	**M22**	**M23**	**M24**	**M25**	**M26**
January	**February**	**March**	**April**	**May**	**June**
SP6 meeting: 25-27. January Location: Thales	SP4 Experiment 42: 11-12 February Location: Vienna	SP2 meeting: 1-5 March Location: tbc	SP5 meeting: 4-8 April (tbc) Location: Madrid	DRIVER AB meeting: 16 May Location: tbc	SP3 meeting: 20- 27 June (tbc) Location: The Hague
SP4: Experiment 42: 5-6 January Location: Tel Aviv	SP5: Experiment 55 Location: tbc	DRIVER Interim Review preparatory meeting & PMC meeting: 14 March Location: tbc	DRIVER Review meeting: 11 April Location: tbc	SP5: Experiment 54 Location: The Hague (tbc)	
	SP4:Experiment 41: 29 February- 4 March Location: Aix en Provence		SP4: Experiment 42 & Interim review: 19-21 April Location: The Hague	SP5: Experiment 55 Location: Sweden (tbc)	
		SP4: Experiment 44: End of March/beginning of April (tbc) Location: Bonn (THW)	SP4: Experiment 43: 25-29 April Location: Lund & Poland		
			SP5: Experiment WP53 Location: tbc		
SP3 Experiment 34.1: January-March Location: DRIVER platform cities & solutions using cities			SP3 Experiment 36.1: 22-24 April Location: Bonn (THW)	SP4: Experiment 46 (tbc) Location: Ispra	SP4: Experiment 45 (tbc) Location: Ispra

Table 3: Example Training calendar, January to June 2016

[12] This is an example of how the training calendar will look like in its online format. Some of these meeting in the calendar for 2016 have already been attended, others have been carried out, and some remain. The next update of when SIA trainings can take place in which meetings will happen when the final project structure is in place. However, every partner is aware of the SIA trainings, and have participated to the design of this calendar.

Color code explanation:

SP2 activities
SP3 activities
SP4 activities
SP5 activities
SP6 activities
Bigger DRIVER meetings

Annex 9: PowerPoint Presentation to be updated and used during the training sessions

The training modules are presented in Annex 3, 4 and 5. In order for the trainers to convey the content of these modules, a guiding PowerPoint presentation for all the modules has been prepared, as part of the material to be used for the training sessions. The presentation contains illustrative examples, and is the way in which the modules are presented visually to the participants. The PowerPoint presentation, of 79 slides, can be updated and – if needed - tailored to the need for each training session, and can be retrieved by the trainers from DRIVER Space.[13]

[13] After the restructuring is finalized, and the work package numbers are confirmed, the link will be added. For now, the PowerPoint is stored in the WP840-folder under SP8, where the task originally belonged.