LINKS

Strengthening links between technologies and society for European disaster resilience

D8.5 SECOND LINKS COMMUNITY WORKSHOP AND LINKS ADVISORY COMMITTEE REPORT

Report

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EXECUTIVE SUMMARY

About the project

LINKS "Strengthening links between technologies and society for European disaster resilience" is a comprehensive study on disaster governance in Europe. In recent years, social media and crowdsourcing (SMCS) have been integrated into crisis management for improved information gathering and collaboration across European communities. The effectiveness of SMCS on European disaster resilience, however, remains unclear, the use of SMCS in disasters in different ways and under diverse conditions. In this context, the overall objective of LINKS is to strengthen links between technologies and society for improved European disaster resilience, by producing sustainable advanced learning on the use of SMCS in disasters. This is done across three complementary knowledge domains:

- Disaster Risk Perception and Vulnerability (DRPV)
- Disaster Management Processes (DMP)
- Disaster Community Technologies (DCT)

Bringing together 15 partners and 2 associated partners across Europe (Belgium, Denmark, Germany, Italy, Luxembourg, the Netherlands) and beyond (Bosnia & Herzegovina, Japan), the project will develop a framework to understand, measure and govern SMCS for disasters. The LINKS Framework consolidates knowledge and experiences on the uses of social media and crowdsourcing in disasters, into products for relevant stakeholders. The Framework is accessible online through the LCC, and can be used by stakeholders to openly explore knowledge, or as a strategic planning tool for guiding disaster management organisations in their planning for using social media and crowdsourcing in disasters. It will be developed and evaluated through five practitioner-driven European cases, representing different disaster scenarios (earthquakes, flooding, industrial hazards, terrorism, drought), cutting across disaster management phases and diverse socioeconomic and cultural settings in four countries (Denmark, Germany, Italy, the Netherlands). Furthermore, LINKS sets out to create the LINKS Community, which brings together a wide variety of stakeholders, including first-responders, public authorities, civil society organisations, business communities, citizens, and researchers across Europe, dedicated to improving European disaster resilience through the use of SMCS.

About this deliverable

The purpose of this deliverable (D8.5) is to report and elaborate on the results of the LINKS Community Workshops (LCW) and LINKS Advisory Committee (LAC) meetings in order to guide, inform, and qualify future events. The report covers the LCWs and the LAC Meeting held between Month 21 to Month 29 of the LINKS project. The LCWs and LAC Meetings that will be organised between Month 29 and the end of the project will be covered in the Final LCW and LAC report (D8.6).

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LCWs and LACs form an integral part of the broader LINKS Community. This project aims to build capacity at the local level through the LCWs, which are organized locally by the LINKS project partners and are linked to the five predefined case studies (earthquakes in Italy, industrial hazards in the Netherlands, droughts in Germany, flooding in Denmark, and terrorism in Germany). The LCWs and the LAC meetings are essential for the sharing of best practices regarding the use of SMCS in disaster risk management and resilience among local practitioners and stakeholders, as well as for gathering and communicating information regarding the project's objectives and results. The LAC consists of invited professionals and experts from relevant organizations (representing practitioners, researchers, and citizens) that advise, inform and validate developments and results in the project.

Summary of Key Results

In summary, the main objectives of the LINKS Community Workshops (LCWs) are to:

- Improve information and knowledge exchanges among the stakeholders in local cases, together with relevant stakeholders and experts in the broader LINKS Community;
- Collect data and inform the assessments of the LINKS knowledge domains and the development of the LINKS Framework;
- Disseminate project developments and results.

The LCWs that took place between M21 and M29 allowed the practitioners invited to network and exchange valuable information, to learn about the LINKS project, and to validate and suggest improvement to the LINKS products. As such they accomplished the 3 objectives set as stakeholders were able to exchange knowledge and information with other practitioners and experts. In each LCW local stakeholders were able to exchange knowledge with practitioners who had expert experience relative to the objectives of the LCWs and could provide valuable feedback. The feedback gained was useful for the development of the LINKS Framework and its products as most of the LCWs had as an objective the improvement or validation of either The Guidelines Library, The Technologies Library, Feel Safe, or the Including Citizens Handbook. Furthermore, the LCWs were a great opportunity for the organizers to introduce the LINKS project to the participants and allow them to learn of the project's developments and results. For more detailed information please see section 3.10.

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TABLE OF CONTENTS

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No. 883490

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No. 883490

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No. 883490

LIST OF TABLES

LIST OF FIGURES

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LIST OF ACRONYMS

Acronym / Abbreviation	Description
DCT	Disaster Community Technologies
DMP	Disaster Management Process
DRPV	Disaster Risk Perception and Vulnerability
DMO	Disaster Management Organization
(DRR)	Disaster Risk Reduction
LAC	LINKS Advisory Committee
LCC	LINKS Community Center
LCW	LINKS Community Workshop
SMCS	Social Media and Crowdsourcing
WP	Work Package

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DEFINITION OF KEY TERMS[1]

Term	Definition
Disaster Community Technologies	A DCT is a software(-function) for interaction with, within or among groups of people who have similar interests or have common attributes (communities) in case of a disaster as well as performing analysis of these interactions.
Disaster Management Processes	A collective term encompassing a systematic series of actions or steps taken to reduce and manage disaster risk. Disaster management processes are often associated directly with the phases of the Disaster Management Cycle. In the context of LINKS, DMP are specifically referred to as the policy frameworks, tools and guidelines developed to govern disasters across all phases of the Disaster Management Cycle.
LINKS Framework	The LINKS Framework consolidates knowledge and experiences on the uses of social media and crowdsourcing in disasters, into products for relevant stakeholders. The Framework is accessible online through the LCC, and can be used by stakeholders to openly explore knowledge, or as a strategic planning tool for guiding disaster management organizations in their planning for using social media and crowdsourcing in disasters.
LINKS Community Center	The LCC brings together different stakeholders (LINKS Community) in one user-friendly and flexible web-platform and enables them to exchange knowledge and experiences and to access, discuss and assess learning materials on the usage of SMCS in disasters.
LINKS Knowledge Domains	The three crucial domains of analysis for studying European disaster resilience and SMCS. These include: Disaster Risk Perception and Vulnerability (DRPV), for assessing changes in the citizens' perception of disaster risks induced by SMCS, as well as assessing the changes in the vulnerability of practitioners and citizens. Disaster Management Processes (DMP) for analysis of how SMCS changes the procedures and processes within the crisis and disaster management.

[1] Definitions are retrieved from the LINKS Glossary (https://links-project.eu/glossary/).

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	Disaster Community Technologies (DCT), for assessing SMCS related technologies used by practitioners (and citizens) in disasters.
LINKS Community Workshop	Workshops for capacity-building at the local level, organised locally by the LINKS project partners and linked to the five pre-defined case studies (earthquake in Italy, industrial disasters in the Netherlands, drought in Germany, flooding in Denmark and terrorism in Germany). They are crucial for gathering and communicating information regarding the project's objectives and requirements, and for exchanging best practices among local stakeholders on the use of SMCS in disasters.
LINKS Advisory Committee	Invited professionals and experts from relevant organizations (representing practitioners, researchers, and citizens) that advise, inform and validate developments and results in the project.
(Disaster) Risk perception	Risk perception is the way individuals and groups appropriate, subjectivize and perceive risks that might or might not be calculated in an objective manner during risk assessments. The importance of studying risk perception more seriously is obvious: risk perception directly influences people's ability and level of preparedness. Risk perception covers what is also referred to as "risk awareness".
Practitioner	Someone who is qualified or registered to practice a particular occupation or profession.

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1. INTRODUCTION

One of the primary objectives of the LINKS project is to create a sustainable stakeholder community: The LINKS Community. The deliverable D8.1: LINKS Community Strategy (Philpot, J., & Reuge, E., 2020) explains that the LINKS Community consists of multidisciplinary stakeholders from a variety of countries, professions, and schools of thought, who work together with the LINKS Consortium to learn and benefit from project development and results, and to contribute their knowledge and expertise in order to improve the LINKS research as a whole.

Three primary approaches to knowledge-sharing and interaction are utilized by the LINKS Community during the project's lifetime:

- The LINKS cases (earthquake in Italy, industrial disaster in the Netherlands, drought in Germany, flooding in Denmark, and terrorism in Germany) are relevant to diverse hazard scenarios, geolocations, sociocultural and demographic contexts, and leverage local stakeholders' contextualized knowledge.
- The LINKS Community Workshops (LCWs) are used for capacity-building among relevant stakeholders at the local level, and are planned and coordinated by the LINKS project partners to address specific topics related to the research and results.
- The LINKS Advisory Committee (LAC) is a body of selected relevant professionals and experts, who are to advise, inform and validate the work done throughout the project.

At different points and on different levels throughout the project, the LCWs and LAC are used to collect contextualised knowledge that informs the project research and results. This input is crucial for the development, evaluation, and future use of the LINKS Community Center (LCC) and LINKS Framework and to ensure the effectiveness of the products even once the project concludes. The LCC and LINKS Frameworks will serve as a resource for disaster management organizations and other relevant stakeholders before disasters, to plan for uses of social media and crowdsourcing (SMCS) in disaster risk management. The LCC acts as an online platform facilitating the sharing of good practices and information, as well as ongoing uses and experiences of SMCS within the LINKS Community. Through the LCC, LINKS Community members engage with LINKS results through the LINKS Framework, which consists of different learning paths and products, such as libraries of technologies and guidelines on SMCS.

The LCWs are a key component of the LINKS Community and one of the main tools through which the Community engages with the project partners. In particular, the LCWs can be considered as a means to foster knowledge exchange within the Community, which is in turn critical to the success of the project and to ensuring that project’s partners are provided with valuable feedback for the development of the LINKS products.

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In summary, the main objectives of the LCWs are to:

- Improve information and knowledge exchanges among the stakeholders in local cases, together with relevant stakeholders and experts in the broader LINKS Community;
- Collect data and feedback from the participants in order to help the development of the LINKS products;
- Disseminate project developments and results.

This deliverable will often refer to the LINKS Products, at times referred to simply as products. By products the deliverable intends the various tools, platforms, guidelines that the project consolidated in the LINKS Framework and accessible through the LINKS Community Center (LCC) web-platform. The products impacted by the LCWs that took place between M21 – 29 are described below:

- **Including Citizens Handbook**: set of instructions, guidelines, examples, check-lists, exercises to use existing SMCS and develop new Crowdsourcing initiatives to promote more inclusive approaches in DRM. In particular it focusses on solutions for four main tasks or thematic areas: increasing awareness, mobilizing people, making accessible information, and engaging volunteers. It would contain resources for a wide range of individuals, from trained people (volunteers) to minorities or people with disabilities.
- **Pocket Ethics Guidelines**: it consists in a checklist and guide on how to ensure ethics in research and communication through SMCS, especially with vulnerable groups.
- **Resilience Wheel**: it is a visual model for holistically framing what organizations need to consider and prioritize when applying SMCS in disaster risk management. It simplifies the complexity of managing disasters through technology into a set and subset of factors through which the link between disaster management and technology can be understood
- **Feel Safe (Previously called Educational Toolkit)**: is an online platform with a twofold aim: 1) to provide educational material to engage children in disaster preparedness activities, 2) to promote knowledge and good practices in Europe around children's rights during emergencies and participation in emergency management. The website contains specific resources on SMCS, digital education and earthquake impact mitigation.
- **Technologies Library**: gathers and structures information about existing social media and crowdsourcing technologies to grasp the overwhelming market and to guide the selection and application of these technologies. For practitioners, it provides a highly needed overview about the market, gathers and structures the relevant information about these technologies and thus guides the selection and the application of a suitable technology for disaster management organizations.
- **Guidelines Library**: gathers and structures existing guiding documents (guidelines, legal documents, SOP) that support the implementation and use of social media and crowdsourcing in LINKS' target audiences. While the library target disaster management

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organizations it also contains documents intended for use by researchers, businesses, citizens or others with interest in using SMCS in their crisis communication.

This deliverable is specifically concerned with the developments of the LCWs and LAC meetings held between M21 - M29. It elaborates and gives an update on the main results of the LCWs and LAC meetings, and reports on the next steps to be taken in the planning of future workshops and the development of the LINKS products within the Framework.

The report is structured as follows:

- Section 2 reports on the LCW roadmap, the difference in the focus of the workshops in respect to the previous LCW report (D8.4), and the LCWs planned in the future and how they relate to the LINKS products.
- Section 3 reports on the nine LCWs organised between Month 21 and Month 29 of the project, their objectives, format, outcomes, as well as next steps and lessons learnt.
- Section 4 covers the LAC Meeting held between Month 21 and Month 29
- Section 5 concludes the report

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2. LINKS COMMUNITY WORKSHOPS ROADMAP

The LINKS project aims to organize 20 LINKS Community Workshops (LCWs), 10 of which have already been held and are included in either the previous deliverable on the LCWs (D8.4) or in this present deliverable. These workshops are organised in the context of the five local cases taking place in Italy, the Netherlands, Germany and Denmark and depending on the specific aims of the LCW, they can be planned to examine several cases or focus on one. In order to plan ahead and help with the organization of the LCWs the LCW roadmap was created.

The LCW roadmap exists to help plan and coordinate the LCWs that take place throughout the 42 months of the project in order to facilitate their preparation, allow the organizers to synergise and avoid the duplication of efforts, as well as consider potential challenges, such as the COVID-19 pandemic. The COVID-19 pandemic did indeed interfere with some of the planned and early on led to LCWs being postponed. However, the organizers learned to adapt to the situation and employed technology to their benefit by organizing the workshops with hybrid capabilities, allowing participants who could not travel access. As a result, 9 LCWs were organised (4 of which have a hybrid format) between M21 – M29, generating valuable feedback for the development of the LINKS products (to be discussed in the next section reporting on the LCWs).

The LCWs' roadmap covering M21 -M29 of the project is illustrated below in Figure 1:

Figure 1: LCW Roadmap M21-29

	Feb	Mar	Apr	Apr	May	May	May	May	June
0	21 (07.02.2022)	22 (11.03.2022)	23 First half (08.04.2022)	23 First half (08.04.2022)	24 (04.05.2022)	24 (04.05.2022)	24 (10.05.2022)	24 (27-28.05.2022)	25 (14.06.2022)
LCWS #	2	3	4	5	6	7	8	9	10
Location	Germany	Denmark	Germany	Germany	Germany	Germany	Netherlands	Italy	Denmark
WPs	WP6	WP3	WP4	WP4	WP6	WP4	WP5-7	WP2	WP3
Cases	Terrorism Germany	Flooding	Drought Germany	Drought Germany	Terrorism Germany	Drought Germany	Industrial	Earthquake in Italy	Flooding
Description	Experiences in the uses of SMCS and DCT and needs of the practitioners for the use of SMCS.	Initial workshop for practitioners in FBR and HBR. Presentation of preliminary results of cross case and dialogue between practitioners.	The use of SM during a heat wave in the city of Paderborn. Discussion with members of the district and the fire brigade of Paderborn as well as the German Society for the Promotion of Social Media and Technologies in Civil Protection (DGSMTech). In this LCW the participants	The use of SM during a heat wave in the city of Paderborn. Discussion with members of the district and the fire brigade of Paderborn as well as the German Society for the Promotion of Social Media and Technologies in Civil Protection (DGSMTech). Focus on requirements for SMCS	Presentation of the first outcomes from the interviews and the survey. Discussion with participants about the project and its outcomes, what they think about the use of SMCS during emergencies, especially its advantages and also challenges.	Presentation about DCTs	The LCW focused on the needs of healthcare professionals and those with a vested interest in the LINKS industrial case. The primary goals of the workshop were to explore the health-care professionals' needs, how health care professionals can bring themselves and others to safety, and in what way LINKS can provide support for the cause.	Feel Safe /intergenerational discussion	Workshop structured around the theme: use of SMCS for prevention and during a crisis situation. The organiser presented the preliminary results from the Danish case and conducted group conversations about how to
Organiser	DHPol	FRB; HBR, UCC, UCPH	SIC	SIC	DHPol	SIC	Sitech, VRZL, GGD-ZL	UNIFI, SCIT, PDT	FRB

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Whilst the LCWs are aimed at capacity building at the local level as they are locally organized and are excellent opportunities for valuable exchanges of information, through which the LINKS project is introduced to practitioners and important feedback relating to the LINKS project and products is gathered. However, whilst the LCW strategy employed previously, as described by D8.4, focused mostly on capacity building, the current strategy has been amended to also focus on product validation and improvement. This was achieved by keeping in mind the LINKS products in the organization of the LCWs and gathering feedback which directly contributes to the betterment of the products within the LINKS Framework.

The organizers of the LCWs have been afforded some flexibility in the planning and organization of the workshops as this will help improve the quality of the workshops and allows the organizers the time to involve the participants best suited to give feedback on the LINKS products and project. Therefore, the exact timing of some of the LCWs that take place towards the end of the project is still approximative and may change depending on the needs of the project and of the organizers.

One of the main objectives of the LCWs is to help improve the LINKS products by gathering feedback from practitioners which will either validate the work or provide suggestions on how to further develop the products. The next round of LCWs will allow the organizers to gather more inputs for the development of the products.

- The next Dutch LCW held in November 2022, will aim to gather feedback towards the development of the Citizen Handbook and Feel Safe as they will investigate the needs of school directors and students in the case of an industrial disaster at Chemelot.
- Instead, the next German LCW dealing with terrorism, to be held in January 2023, will address the development the Pocket Ethics Guidelines by focussing on how to protect and engage potentially vulnerable groups using SMCS, as well as improve the Citizen's handbook by addressing one of its four main themes: making the right information accessible, through asking practitioners to assess how the public evaluates the credibility of information shared in SMCS as well as how to prevent the spread of false information on social media.
- The next LCW dealing with flooding, organised by our Danish partners for January 2023, aims to help develop the Resilience Wheel through inviting practitioners to discuss new methods to integrate crowd sourcing and strengthen the focus of the needs of the citizens in crises and passing on that feedback to the product owners. Whilst their LCW, scheduled for March 2023, will focus on improving the Citizens Handbook by inviting citizens to explore their risk perception of cloud bursts in order to develop material aimed at the improving citizen awareness of these dangerous types of weather events that can lead to flooding.
- The Dutch Industrial disaster LCW planned for February 2023 aims to improve the Citizen Handbook by inviting local school directors and citizens to discuss their needs during industrial disasters and focussing on spreading awareness.
- The earthquake case based LCW organised by our Italian partners, planned for March 2023, has as an objective helping the development of the Feel Safe by inviting Children and their

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grandparents to discuss memories of disasters and strategies for risk management. The final Italian earthquake LCW, planned for the middle of April 2023, aims to help develop the Feel Safe and the Citizens Handbook by asking children to present the achievements through the Feel Safe to local project's stakeholders.

- The German drought LCW planned for May 2023, aims to help improve the Technologies Library and Use Cases Library by inviting practitioners to discuss selected functions of the products in detail and provide feedback on potential improvements.

The LCW roadmap has been useful to help coordinate the workshops and keep the project on track. It is often monitored by EOS and the case coordinators and updated according to the needs of the organizers of the LCWs and of the project.

The LCWs' roadmap for the next six months of the project is illustrated below in Figure 2:

Figure 2: The LCW Roadmap M30-36

	Nov	Jan-23	Jan	Feb	Feb	March	March	Mar	Apr	May
0	30 (1.11.2022)	32 (10.01.2023)	32 (15.01.2023)	33	33	34	34	34	35	36 (15.05.2023)
LCWS #	11	12	13	14	15	16	17	18	19	20
Location	Netherlands	Germany	Denmark	Netherlands	Netherlands	Denmark	Netherlands	Italy	Italy	Germany
WPs	WP5-6-7	WP6	WP3	WP5-6-7	WP5-6-7	WP3	WP5-6-7	WP2	WP2	WP4
Cases	Cross cases	Terrorism	Flooding	Industrial	Industrial		Industial	Italy Eartquake	Italy Earthquake	Drought
Description	Usefulness of the Framework for the broader CM community. Citizen handbook & Feel Safe.	This LCW shall particularly try to evaluate the Citizens Handbook and the Pocket Ethics Guidelines made available in the LCC.	Collaboration on use of new methods to integrate crowd sourcing and strengthen the focus of the needs of the citizens in crises. Resilience Wheel	Investigating the information needs of school directors and students in case of an emergency. citizen handbook	This workshop is to explore gaps left unexplored during the previous workshops. Citizen Handbook & Use Cases Library	Workshop with citizens to explore their risk perception of cloud burst. Focus on the Citizens Handbook	Final Dutch LCW focus on what LINKS can practically do to improve the risk communication using SMCS	Present results to local community and discuss them. Children meet the grandparents. Memories of disasters. Analog meets new technologies. Sharing strategies for risk management	final Italian LCW in which the Children from Fanciulli school present to local project's stakeholders the achievements and the Feel Safe	To assess and evaluate the current status of the Technologies Library and the potential of the Use Cases Library
Organiser	ST;VU, VRZL	DHPol	FRB	ST;VU, VRZL	ST;VU, VRZL	FRB	ST;VU, VRZL	UNIFI; SCIT; PDT	UNIFI; SCIT; PDT	SIC

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3. LINKS COMMUNITY WORKSHOPS

In the following section the 9 LCWs organised between M21-M29 of the LINKS project will be described. The LCWs are organised in the order of the LINKS Cases: Case 1 Italy (Earthquake), Case 2 Netherlands (Industrial Disaster), Case 3 Germany (Drought), Case 4 Denmark (Floods), and Case 5 Germany (Terrorism).

3.1 2nd Italian LCW (earthquake)

The second LINKS Community Workshop (LCW) in the Italian case dealing with earthquakes was titled "Risk events affecting our community: memories from the past. How did technology change the way we prevent and respond to emergencies?" The workshop was organized by Save the Children Italy (SCIT) and was held in two sessions, the first on May 25th and the second on the 28th of May 2022 at the IC G. Fanciulli school in the Arrone and Ferentillo municipalities, Italy. The following section provides an overview on the workshop and reports on its main outcomes.

3.1.1 Context and Objectives

Since 2009 Italy was hit by several large earthquakes beginning with Aquila (2009) and Emilia Romagna (2012) and culminating in a swarm of earthquakes between August 2016 and January 2017, which affected 140 municipalities across four different regions (Abruzzo, Marche, Lazio and Umbria). The earthquakes highlighted the limits of traditional disaster communication mechanisms, not least for the populations in precarious socio-economic conditions. Social media proved useful in overcoming the limits of the traditional communication mechanisms and allowed the practitioners to reach citizens and move them to action. However, the effects and impact of Social Media and Crowd Sourcing (SMCS) on the communities in times of disasters still needs to be studied. Presently, the civil protection authorities promote several projects and new approaches to communication in emergencies with special attention to children and elderly people. LINKS has engaged with these projects in order to assess the effects on local communities.

The workshop was organised as an interactive event on the design of the Feel Safe online platform and aimed to spread awareness on safety and risk management, through an activity with relevant practitioners and children. Overall, the objective is to promote a culture of safety and risk prevention through the memory of risk events affecting our community and the use of new technologies for prevention and response. Furthermore, the workshop tested the virtual reality simulator for the management of earthquakes created by the LARES Association.

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Figure 3: Emergency responders and students

3.1.2 Format

The workshop was divided into two parts and held on two different days. On the 25th of May, a focus group discussion took place with teachers to assess the design of the Feel Safe on DRR and technologies. The discussion was followed by an interactive workshop, on the 28th of May, where students, between the ages of 12 and 13, and emergency responders and civil protection experts worked together. This intergenerational activity allowed the practitioners and children to collaborate in assessing the risks affecting the community, learn from past events, and explore the challenges of the future. In particular the practitioners and children were asked to brainstorm on how technologies have changed the way we prevent and respond to emergency situations. Furthermore, included a test of the virtual reality simulator for the management of earthquakes created by the LARES Association.

3.1.3 Participants

The LCW on the 25th of May was attended by 10 people, who were teachers from the project's partner school IC G.Fanciulli in Arrone, which also hosted the event. The second part of the Workshop, held on the 28th, was attended by 10 adults and 45 children (32 males and 23 females). The children were from different Middle School classes. The adult participants were selected according to their expertise in emergency response and civil protection and represented the following associations and organizations:

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- Emergency experts representing the civil protection of Terni
- Emergency experts representing the civil protection of Arrone
- Emergency experts representing from Orme di Ascan, an association specialized Search and Rescue with dogs
- Emergency experts from Lares Italia, an association specialized in teaching risk reduction to children.

The participants are identified below according to which LINKS stakeholder groups they belong to, their expertise, and their relevance for the workshop.

- LINKS stakeholder groups: practitioners, feedbackers, policy/decision makers, educators, developers.
- Expertise: Civil protection, emergency response, education.
- Relevance: Some participants are practitioners with relevant experience who can provide valuable feedback on how SMCS and DCTs could be used, the rest were the target audience (teachers and children) for the educational tool kit and could provide insights into how to better the product.

3.1.4 Outcomes

The workshop was able to achieve several outcomes and to gather various insights, some of which are presented below:

- The workshop allowed for an effective exchange of views between practitioners and strengthened networking whilst promoting links between project's beneficiaries and stakeholders.
- Emergency experts were able to reflect on their past experiences and share their expertise with the students, who increased their risk awareness and gained a better understanding of civil protection mechanisms and risk management.
- The workshop raised awareness on the use of new technologies and SMCS and their impact in emergencies, such as how mapping and warning have become more effective, the importance of communication and of everyone's role in ensuring resilient societies became apparent.

The LCW allowed teachers to learn more about the Feel Safe on DRR and to collaborate in practical activities, through which they were able to gain valuable insight and provide their suggestions. The children learned directly from experts in emergency response and civil protection about safety and risk management and were able to interact with and learn through a virtual reality simulation. Furthermore, the experts were able to elaborate on how technology can be vital in saving lives during emergencies. It became clear that there is a gap in the use of digital education with children in school and that, often, teachers do not know how to maximise this opportunity nor know which

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kind of activities to propose to students. Therefore, the Feel Safe would be of great use in educating and informing the educators, children and other more vulnerable groups. The LCW also made it apparent that local authorities and CSOs working as first responders lack guidelines on how to use social media for early warning and the first phases of an emergency. They requested good practices, training and guidance which in part could be fulfilled through the citizens handbook. The organizers gained a clearer understanding of how DRR activities best fit the classroom and how the Citizens' Handbook could be of use to counteract the lack of SCMS guidelines for public administrators at the local level. Through the workshop the organizers were able to gather valuable feedback on the structure of the DRR Feel Safe, which will help shape the next phases of development.

Table 1 below summarizes the workshop's expected and achieved outcomes, both from the participants and organiser's perspective.

Table 1: Summary of the 2nd Italian LCW's objectives and outcomes

LCW objectives and outcomes	Description
Objective(s) of the LCW	• Promote an interactive event on the design of the Feel Safe online platform. • Bring children closer to the world of civil protection through an intergenerational activity and raise awareness on safety and risk management. • Promote a culture of safety and risk prevention through the memory of risk events affecting our community and the use of new technologies for prevention and response.
Expected outcome for the participants	• To learn more about the Feel Safe platform and to be given the chance to participate in the development process of it. • To educate children on safety and risk management and to connect the school with other experts and initiatives at local level. • To provide children with inspiring knowledge about risk management. • To receive an audience and receive a platform to share their expertise and experiences from past emergencies.
Achieved outcome for the participants	• The teachers were able to learn more about the Feel Safe platform and were able to participate in practical activities and provide their input and suggestions.

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	• Children received education on safety and risk management and they were connected with emergency experts through the intergenerational workshop. • Emergency experts were given a platform to share their expertise and experiences from past emergencies and to reflect with the students about how technology, if correctly used, can save lives.
Expected outcome for the organizer	• Teachers were able to participate actively in the design and development of the Feel Safe platform. • Children were made aware of risk management and the role of technology in keeping us safe. • Strengthened networking and promoted links between project's beneficiaries and stakeholders. • Ensured a strong participation from the main stakeholders to the project's main outputs. • Raised awareness on risk management and the potential of technology to make our community more resilient.
Achieved outcome for the organizer	• All the expected outcomes were achieved by the event organizer.

3.1.5 Next steps

The information gained through this LCW will be used to further develop the Feel Safe online platform as well as help design the second research phase that will involve the partner school and local stakeholders.

3.2 1st Dutch LCW (industrial hazards)

The LINKS Community Workshop (LCW) conducted in the Netherlands, entitled "Workshop Healthcare Institutions", examined industrial disasters. The LCW was organised by the project's partners SITECH Services BV (ST), Veiligheidsregio Zuid-Limburg (VRZL), and GGD-ZL and took place on the 10th of May 2022 at the Brightlands Chemelot Campus, in the Netherlands. This section provides an overview on the workshop and reports on its main outcomes.

3.2.1 Context and Objectives

In the case of industrial disasters, it is of great importance that businesses and industry work together with authorities, as well as with local communities, so as to ensure an adequate

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preparation and timely response, which will help prevent accidents and loss of life. The present case will focus on the Sitech industrial site (ST) and its immediate surroundings, as embedded in the Safety Region Zuid Limburg (VRZL). ST utilizes chemicals, performance materials and sustainable materials for a very wide range of applications and markets. The site has its own port and rail terminal, and the chemical cluster is located next to the main road network and pipelines, all of which connect ST directly to Antwerp, Rotterdam, and the Rhine-Ruhr area.

The aim of the LCW was to enhance the disaster resilience of local communities through the implementation of new technologies, such as SMCS, to improve communication between ST, its businesses, local communities and public authorities such as VRZL. As a result of this improvement in communication, the relevant actors: local governments, police, fire squads and medical aid resources for emergency response efforts in the surrounding region will be brought together. Examples in this case will focus on improving disaster resilience through a better preparation of the citizens and the use of new technologies, as well as the gathering of actionable information, such as the effect, size, and scope of a chemical spill, from citizens during incidents. In particular, the workshop focused on the specific needs of healthcare professionals relating to a greater implementation in the use of SMCS in disaster resilience. The main goals of the workshop were to examine the needs of the healthcare professionals, explore the fastest routes to safety, and the ways LINKS can help practitioners use of SMCS.

3.2.2 Format

The healthcare workshop was held on the 10th of May in hybrid format to enable in-person discussions while not preventing participants who could not travel to the Netherlands from participating. The workshop was planned as an open discussion with guided questions and information material, and participants were selected from healthcare professionals from the institutions of Meditta, Zuyderland, and the GGD-ZL, and non-healthcare professionals from VRZL, Sitech, the municipality Sittard-Geleen, and the VU of Amsterdam.

The workshop began with a short introduction of the attendees and organizers revealing background information regarding the Bosmanloods and NOx incidents and how these were handled. The introduction was followed by an analysis of how previous reports (IFV, RIVM, and Q&A session) and conversations with locals conducted in the surroundings of Chemelot helped improve disaster resilience in the area. In a second moment, the LINKS projects and the goals of the workshop were presented to the participants, who were then divided into smaller breakout groups in order to have fruitful discussions on their experiences and lesson learnt from the Bosmanloods 2015 & NOx 2019 cases; what is needed to prepare for future incidents; as well as how SMCS may help. In the final part of the workshop the findings were preliminarily discussed with the whole group. Then the group was asked in which way LINKS could help fulfil their needs.

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3.2.3 Participants

The workshop was attended by 18 participants (7 male and 11 female) : 7 healthcare professionals and 11 non-healthcare related professionals with vested interest. The healthcare professionals represented the institutions of Meditta, Zuyderland Hospital, and GGD-ZL, whilst the non-healthcare related professionals represented the institutions of VRZL, Sitech, the municipality of Sittard-Geleen, and of the VU of Amsterdam. Concerning the participants' geographical distribution, most of them were local stakeholders from around Chemelot, but also nationally operating participants attended the workshop.

The participants are identified below according to which LINKS stakeholder groups they belong to, their expertise, and their relevance for the workshop.

- LINKS stakeholder groups: practitioners, feedbackers, policy/decision makers, developers with expertise in healthcare, social media technologies, disaster management administration, civil protection.
- Expertise: Healthcare, communication, civil protection.
- Relevance: All participants work in disaster resilience and at least encounter SMCS in their daily work. Some of the participants also work with SMCS on an operational level. Therefore, the participants held expertise to discuss about the needs and potentials of disaster resilience as well as how SMCS can be of use.

Figure 4: Discussion of findings

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3.2.4 Outcomes

The workshop allowed to achieve several outcomes and to gather various insights, some of which are presented below:

- The organisers gained a greater perspective into the needs of healthcare professionals
- More needs to be done in the realm of self-sufficiency quicker response (by the community).
- There needs to be more synchronisation in the chain of command (primarily in relation to the communication dynamic).
- Examined existing initiatives such as the Red Cross (Ready2Help) & neighbourhood prevention apps.
- Examined ways of improving existing structures within healthcare facilities such as the HAROP and their own communication tools.
- Examined the use of SMCS platforms like twitter and Facebook and how they might not be the right platforms for the purposes of LINKS.
- The NL alert works well but may need to be refined or adjusted for certain areas (such as informing people of the closest shelter zone).
- Learned from existing social media apps already used during emergencies (such as neighbourhood WhatsApp groups) and how existing platforms could be further developed.

Overall, the workshop allowed the organisers to effectively exchange knowledge with local and national practitioners and allowed the collection of information on the different needs of the health care professionals before and during a crisis. Additionally, the workshop provided the healthcare professionals with an introduction to the LINKS project, an explanation of what SMCS are used for in disaster response as well as how it could help the healthcare professionals in preserving their safety and that of their colleagues, employees, and patients. The health care professionals realized their role in preparing for a chemical related incident and the importance of bringing themselves, and those they are responsible for, to safety. Unfortunately, during this early LCW, the organizers didn't have the products in mind as they were too vague back then. Now that the products have been developed the organizers will be able to focus on how to improve them in their future LCWs. Furthermore, the workshop allowed the health care professionals to discuss how they would like to see the risk communication improved, retrospectively, this provided valuable feedback for the development of the Citizens' Handbook.

Table 2 below summarizes the workshop's expected and achieved outcomes, both from the participants and organiser's perspective.

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Table 2: Summary of the 1st Dutch LCW's objectives and outcomes

LCW objectives and outcomes	Description
Objective(s) of the LCW	• Gain a greater understanding of the needs of health care professionals in the Chemelot region regarding the use of SMCS in emergency response.
Expected outcome for the participants	• Exchange of knowledge on the role of healthcare professional during a chemical/industrial related emergency.
Achieved outcome for the participants	• Learned about the current use of SMCS in disaster response. • Learned about the LINKS project and products. • The participants were able to learn on what actions should be taken in the event of a chemical/industrial related emergency.
Expected outcome for the organizer	• To introduce local stakeholders to the Dutch LINKS case and create a network of potential participants. • To collect info on healthcare professionals needs and expectations for the future. • Introducing SMCS to the health care professionals and have them elaborate on the potential use of SMCS in their field.
Achieved outcome for the organizer	• The workshop resulted in valuable feedback in relation to the needs of the health care professionals. • The organisers learnt how the health care professionals themselves would like to see the risk communication improved.

3.2.5 Next steps

The lessons learnt from the first workshop will be used as a foundation for future workshops. Ultimately, the aim is to involve representatives of all four workshops in a final LCW. During the final workshop the findings of the previous four workshops will be shared. The goal is to create a risk communication strategy that is based around the needs of the community and that takes into account those who have more specialized needs. Furthermore, these workshops will allow the organisers to explore how SMCS can be used in relation to the needs of those in the community.

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3.3 1st German LCW (drought)

The first LINKS Community Workshop (LCW) conducted within the drought case was entitled "Safety Camp 2022: A social media and crowdsourcing strategy for an upcoming heat wave." The LCW was organised by the project's partner Safety Innovation Center (SIC) and took place on the 8th of April 2022 in the education and conference house "Liborianum" in Paderborn, Germany. This first LCW focused on social media communication strategies, the required guidelines and their potential incorporation in the LCC. Instead, the second German drought LCW described in section 3.2 focused on SMCS technologies usable in droughts. Thus, despite the LCWs taking place on the same day and with the same participants they are considered two separate workshops. Furthermore, from a timing perspective it makes sense to keep the LCWs divided. According to D8.2, a length of two to four hours is suggested for a LCW, but the workshops took place over a total of eight hours. This section provides an overview on the 1st German LCW within the drought Case and reports on its main outcomes.

3.3.1 Context and Objectives

One of the two German cases in LINKS focuses on drought (for the LCWs conducted within the second German case, focusing on terrorism, please refer to sections 11 and 12 of the present deliverable). Droughts affect many citizens in Europe, cause massive economic losses and have numerous secondary consequences such as forest fires, health problems (especially for the most vulnerable citizens such as the elderly and children), and water shortages. As the risk of drought will likely increase in Europe and all over the world, it is important to spread awareness and education in regions that are traditionally not prone to drought. These regions can in fact widely benefit from learning how regions experienced with droughts deal with the issues arising. Within this context, the LCWs play a crucial role as they allow local communities to benefit from the lessons learned elsewhere.

The aim of this LCW was twofold: on the one side, it was used to introduce the LINKS project to local stakeholders involved in disaster management in the region of Paderborn and to experts working with social media and crowdsourcing (SMCS) technologies in disasters; on the other side, it aimed to facilitate discussions about a strategy for the usage of SMCS in disasters to understand the status of the current SMCS usage and the existing needs.

3.3.2 Format

The workshop was held in a hybrid format to allow for in-person discussions while not preventing participants who could not travel to Paderborn from joining it. The workshop was planned as an open discussion with guided questions and information material. The participants were practitioners from various Disaster Management Organisations (DMOs) from Paderborn who were experts on the use SMCS technologies in disaster management.

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The LCW began with an introduction to the LINKS project and was followed by a presentation on "Selected challenges in the command staff in disasters". The scenario "heat wave in Paderborn" was then explained in order to give some background information to the participants. Said scenario was specifically chosen to emphasize the causes of the disaster and stress the importance of finding solutions to remedy the damages brought about by natural disasters like heat waves. The use of a local scenario helped the participants share concrete and grounded needs that might arise in and around Paderborn. In a second moment, the LINKS Community Center (LCC) was presented to the participants, who were then divided into two subgroups to enable a more fruitful discussion per group and were asked to develop a strategy for the usage of SMCS in the described scenario. The subgroups then reconvened to discuss the results and the participants were asked to provide feedback through the support of a real-time feedback tool (www.mentimeter.com).

This workshop was extended with a second workshop (see section 3.4) in the afternoon, dealing with the application of SMCS technologies during the response phase of a heat wave.

3.3.3 Participants

The workshop was attended by 17 participants: 14 on-site (4 females and 10 males), and 3 online (3 males). Concerning the participants' geographical distribution, most of them were local stakeholders from the city and district of Paderborn, but also nationally operating participants attended the workshop. The participants represented the following associations and organizations:

- The district of Paderborn (including fire departments and public safety answering point (PSAP)
- German Society for the Promotion of Social Media and Technology in Civil Protection (DGSMTech e.V.) with their individual practitioner backgrounds (e.g. police or German Federal Office of Civil Protection and Disaster Assistance (BBK)).

The participants are identified below according to which LINKS stakeholder groups they belong to, their expertise, and their relevance for the workshop.

- LINKS stakeholder groups: practitioners (fire-departments, public order office), feedbackers, policy/decision makers (authorities), developers, researchers.
- Expertise: firefighting, social media technologies, disaster management administration, civil protection, police, research for civil safety.
- Relevance: The participants were chosen based on their expertise in the use of SMCS in disaster management. Furthermore, some of the participants utilize SMCS on an operational level and have to consider them when making strategic decisions. Therefore, the participants have the knowledge and experience to discuss the needs and potentials of SMCS is disaster management.

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Figure 5: Participants to the first two drought LCWs

3.3.4 Outcomes

The workshop was able to achieve several outcomes and to gather various insights, some of which are presented below:

- Participants were able to exchange with each other and to compare how SMCS is handled in their respective DMOs;
- The discussion on the SMCS strategy allowed the practitioners to identify the most important aspects of the strategy as well as the areas with the most open questions;
- Virtual Operation Support Teams (VOSTs) were not known to all participants but seen as an important type for SMCS usage and a good point to learn from;
- Participants unanimously noted the lack of guidance documents. There are also no known responsibilities and contact persons for SMCS in the German civil protection;
- Crowdsourcing is not currently used for disaster response;
- There are differences in the use of social media (SM) between the local DMOs in Paderborn (for example some use Twitter, while others use different SM platforms).

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Overall, the workshop achieved its objectives as it allowed the organisers to collect valuable information regarding the use of SMCS by DMOs in the area of Paderborn. As a result, improving the organisers' understanding of the current status of the use of SMCS by the practitioners of the local area and outlining their needs and expectations on the project's outcomes. Additionally, it became clear that the organisations lack the guidelines for a successful implementation of SMCS technologies. A problem that can be overcome through the use of the LINKS products once they are ready for the market, as they will facilitate access to accurate information and learning material regarding the use of SMCS in disaster resilience.

One important LINKS product will be the Guidelines Library, which will be a helpful resource for the development of a SMCS strategy. As the name suggests, the Guidelines Library contains and structures existing documents, such as guidelines, legal documents, SOP, that support the implementation and use of social media and crowdsourcing in disaster management organisations. The LCW provided valuable feedback for the development of this product as the practitioners clarified their needs and may be used as a valuable contact to validate the upcoming version of the Guidelines Library. Furthermore, the participants also discussed how to improve the design of the LCC, which was updated accordingly. In particular the feedback helped develop the new menu on the homepage of the LCC, putting a much greater focus on Guidelines.

Table 3 below summarizes the workshop's expected and achieved outcomes, both from the participants and organiser's perspective.

Table 3: Summary of the 1st German (drought) LCW's objectives and outcomes

LCW objectives and outcomes	Description
Objective(s) of the LCW	• To enable a fruitful discussion on a strategy for the use of SMCS in disaster resilience. • To gain a greater understanding of the status of the current use of SMCS and the existing needs of the practitioners.
Expected outcome for the participants	• Get inspired by other DMOs. • Gain an overview of the different aspects which can be part of a successful SMCS strategy. • Learn which methods and tools can help to develop such a strategy. • Get an overview of how DMOs in Paderborn use SMCS during disasters.

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	• Get ideas how to deal with upcoming droughts and heat waves inspired by different SMCS strategy approaches.
Achieved outcome for the participants	• The participants successfully exchanged their views and experiences on the use of SMCS in disasters. • The practitioners became acquainted with the LINKS project and learned of the LCC as a useful resource.
Expected outcome for the organizer	• Confirmation on the key elements to handling droughts and heat waves through SMCS. • Gain insight into the importance of cooperation and communication with the population. • Feedback on the design of the LCC. • Feedback of the usefulness and expectations on the Guidelines Library.
Achieved outcome for the organizer	• Approaches and key elements of a SMCS strategy in the context of a drought were discussed. • Practitioners' insights and needs were gathered. • Needed topics, requirements and adjustments for the Guidelines Library could be identified. • The discussion provided actionable input for improvements of the LCC. • Measures and ideas on how SMCS can help to cope with upcoming droughts and heat waves were collected.

3.3.5 Next steps

The outcomes helped the organizers understand the current status of the use of SMCS by the practitioners of the local area of Paderborn. Additionally, the workshop helped outline the needs of the practitioners and their expectations on the outcomes of the project. One important output will be the Guidelines Library as a helpful resource for the development of a SMCS strategy. Furthermore, this LCW led to valuable networking opportunities and the participants are considered to be valuable contacts who may be asked to validate the upcoming version of the Guidelines Library.

Furthermore, the overall aspects of the discussed strategy helped to evaluate the design of the LCC and the LCC was updated in this regard. One example is the new menu on the homepage of the LCC, putting a much bigger focus on Guidelines than within previous version.

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3.4 2nd German LCW (drought)

The second LINKS Community Workshop (LCW) organised within the drought case was titled "Safety Camp 2022: A social media and crowdsourcing strategy for an upcoming heat wave" and was a continuation of that morning's workshop of the same name (see section 3.3: 1st German LCW (drought)). Like its morning's counterpart the workshop was organized by the Safety Innovation Centre (SIC) and was held on the afternoon of the 8th of April 2022 at the education and conference house "Liborianum" in Paderborn, Germany. The following section provides an overview on the workshop and reports on its main outcomes.

3.4.1 Context and Objectives

As a result of climate change Europe has been suffering from an increase in devastating droughts, that have led to major economic loss as well as health problems, especially for the most vulnerable citizens such as the elderly and children, forest fires and water shortages. As the risk of drought is likely to increase throughout Europe, it is important to spread awareness and education in regions that are traditionally not prone to drought. These practitioners in these regions can greatly benefit from the exchange of information and best practices from regions with experience handling droughts. Within this context, the LCWs play a crucial role as they allow local communities to benefit from the lessons learned elsewhere.

The aim of this LCW was the identification and assessment of potential functionalities of social media and crowdsourcing (SMCS) technologies with regard to disaster management as well as which technologies are already being used by the Disaster Management Organizations (DMOs) in the region of Paderborn. This workshop focused on the application and potentials of SMCS technologies during the response phase of a heat wave (response phase). It followed what had previously been discussed in the morning workshop, which focused on the time before a heat wave occurs in Paderborn (preparation phase) (see section 3.3).

3.4.2 Format

Like it's morning counterpart (see section 3.3) the LCW was held in a hybrid format and participants were able to attend via Teams. The workshop was planned as an open discussion with guided questions and information material. The Participants were chosen from various DMOs in Paderborn based on their expertise in SMCS technologies in disasters.

The workshop began with a general introduction, after which the LINKS Community Center (LCC) was explained and presented to the participants. The participants were then divided into two subgroups to enable a more fruitful discussion per group. The results of the subgroups were presented afterwards to each other. The workshop ended with the collection of feedback with the help of a real-time feedback tool (www.mentimeter.com).

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3.4.3 Participants

The workshop was attended by 17 participants: 14 on-site (4 females and 10 males), and 3 online (3 males). The participants were mostly local stakeholders from the city and district of Paderborn, but also nationally operating participants attended the workshop.

The participants represented the following associations and organizations:

- The district of Paderborn (including fire departments and public safety answering point (PSAP)
- German Society for the Promotion of Social Media and Technology in Civil Protection (DGSMTech e.V.) with their individual practitioner backgrounds (e.g. police or German Federal Office of Civil Protection and Disaster Assistance (BBK)).

The participants are identified below according to which LINKS stakeholder groups they belong to, their expertise, and their relevance for the workshop.

- LINKS stakeholder groups: practitioners, feedbackers, policy and decision makers, developers.
- Expertise: firefighting, social media technologies, disaster management administration, civil protection, police.
- Relevance: All the participants utilize SMCS in their daily work and have to consider SMCS when making strategic decisions. Therefore, the practitioners in attendance have the expertise and experience needed to discuss the needs and potentials of SMCS in disaster management as well as provide valuable feedback for the LINKS project.

3.4.4 Outcomes

The workshop allowed several outcomes to be achieved for various insights to be gathered, some of which are presented below:

- Participants were able to exchange ideas and collaborate with each other and discuss if and how SMCS technologies are used in other DMOs. As a result, a lot of helpful examples and technologies could be gathered and will be considered for the future work in LINKS.
- The Participants were aware of effective technological solutions for different aspects as they were used by other organisations. However, the participants lacked the knowledge needed to implement similar ones in their own organisations. It became apparent that the successful implementation of SMCS technologies is not only dependent on established structures in the organisations but often requires the commitment of individuals.
- The workshop made it apparent that there is increasingly an overwhelming amount of fake news and hate speech during disasters and that more research and technological support are needed to combat them. As a result, crowdsourcing is not particularly utilized for disaster

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response in Paderborn. Furthermore, there is a general distrust of crowd-based information gathering among some organisations due to questionable credibility.

The workshop was a useful exchange of views and allowed practitioners from the area of Paderborn to collaborate with practitioners from the national level. The outcomes of the workshop made it clear that guidance for organisations on the application of SMCS to disaster resilience is required. The participants were aware of the theoretical advantages of using SMCS technologies, however, they lack experience in applying new technologies to disaster management. The LCW also allowed the organizers to collect accurate information regarding the challenges faced by the practitioners when implementing SMCS as well as how the LINKS project may help improve the current use of SMCS in disaster prevention and management. The feedback from the LCW was used to validate the importance of the Technologies Library and helped develop the product through the discussion on potential applications of SMCS to disaster management. The views shared by the practitioners made it clear that the library would be extremely useful to access and apply new technologies to disaster prevention, management and resilience.

Table 4 below summarizes the workshop's expected and achieved outcomes, both from the participants and organiser's perspective.

Table 4: Summary of the 2nd German (drought) LCW's objectives and outcomes

LCW objectives and outcomes	Description
Objective(s) of the LCW	• Exchange of views with practitioners to gain insight into the current application of SMCS as well as well other potential uses.
Expected outcome for the participants	• To learn from the expertise and experience of DMOs. • Gain insight into the current use of SMCS in Paderborn. • Exchange of ideas on how SMCS can be used to tackle future droughts and heat waves.
Achieved outcome for the participants	• The participants were able to learn about existing tools for the use of SMCS. • Participants were able to learn about the LINKS project and of the LCC. • Participants were able to share their experiences with the use of SMCS during emergencies and discuss other ways SMCS can be of use in droughts and heat waves.

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Expected outcome for the organizer	• Organizers gained a more in-depth view of how SMCS are used during droughts. • Organizers gained insight into other potential uses of SMCS during droughts and heat waves. • Feedback on how the LINKS project can contribute to a greater use of SMCS in disasters through the development of the Technologies Library.
Achieved outcome for the organizer	• The current version of the Technologies Library was validated and the practitioners shared ideas on the development of categories. • Learned of new potential uses of SMCS in disaster resilience were discussed. • Learned how SMCS could be used in upcoming droughts and heat waves.

3.4.5 Next steps

The fruitful collaborations within this LCW clarified the current status of the use of SMCS by DMOs and practitioners in Paderborn. The feedback will be used to improve the categories of the Technologies Library and will impact the next development process. The knowledge gained in this LCW will be used further in the project to develop the products. In particular, the feedback will be used to improve the design of the LCC in order to better support the practitioners when selecting a technology which best fits their needs. Furthermore, the participants could be to validate the next version of the Technologies Library.

3.5 3rd German LCW (drought)

The third German Links Community Workshop (LCW) on drought was organised in collaboration with the German second LCW on terrorism (see section 3.9). The two German partners, Safety Innovation Centre (SIC) and Deutsche Hochschule Der Polizei (DHPol) were able to organize this workshop on the 4th of May across both the drought and terrorism cases and integrate it within the wider "special forces and social media", which took place at the DHPol from the 2nd to the 4th of May. Whilst the format and participants are the same for both workshops the objectives and outcomes were different and as such they are reported on as two separate workshops.

This third SIC LCW was entitled "Evaluation of Social Media and crowdsourcing technologies for the police's crisis management" and took place on the 4th of May 2022 as a hybrid event at the DHPol in Münster, Germany. Due to the policy restrictions put in place by DHPol, SIC could only participate online via Teams.

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3.5.1 Context and Objectives

The overall aim of the workshop was to evaluate the current use of SMCS within the German special forces and learn how LINKS could contribute to improving the situation. SIC was particularly interested in how the SMCS Technologies Library can satisfy the specific needs of German special police forces as well as what kind of information is still missing and what categories could be added to the Technologies Library.

3.5.2 Format

The workshop was a hybrid event held on the 4th of May in order to allow the remote participation of UCC and of SIC. The workshop was planned with presentations followed by an open discussion.

After the LINKS project was introduced, SIC gave a presentation displaying a market analysis of the existing technologies for SMCS, which are found in the Technology Library, included in the LINKS Community Centre (LCC). Once SIC had finished presenting, an open discussion ensued on the participants' experiences with SMCS, with a special focus on the tools and the requirements to use them.

3.5.3 Participants

The workshop was organised by the project's partner DHPol and was attended by 25 participants: 18 male and 7 female practitioners from police and special forces backgrounds.[2]

The participants are identified below according to which LINKS stakeholder groups they belong to, their expertise, and their relevance for the workshop.

- LINKS stakeholder groups: practitioners, disaster management administration, civil protection.
- Expertise: Emergency response, communication, SMCS, civil protection
- Relevance: The practitioners are all confronted with the use of SMCS during their daily work within the German police, as such they have the expertise to discuss the potential of new technologies as well as their needs regarding SMCS.

3.5.4 Outcomes

The workshop allowed SIC to achieve several outcomes and to gather various insights, some of which are summarized below:

- The participants were able to learn about the current use of existing SMCS technologies and provide suggestions on how to gather and structure the information of the technologies.

[2] Due to the confidentiality concerns expressed by the members of the special forces no photos were taken and their specific organizations are not shared.

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- Participants were able to share their experiences with the use of SMCS technologies during emergencies and mention their needs.

The LCW went rather well, as the overall objective of gaining insight into the current use of SMCS by the German police special forces during emergencies was achieved. The practitioners were eager to learn more about the SMCS Technologies Library and the existing SMCS technologies used during emergency situations. In particular, the participants suggested ways of improving the Technologies Library through a restructuring the information on the technologies included.

Table 5 below summarizes the workshop's expected and achieved outcomes, both from the participants and organiser's perspective.

Table 5: Summary of the 3rd German (drought) LCW's objectives and outcomes

LCW objectives and outcomes	Description
Objective(s) of the LCW	• Evaluate the current use of SMCS by the German Police special forces. • Gain feedback on the Technologies Library.
Expected outcome for the participants	• Gain an overview of the LINKS project and what it can provide to the special forces of the police. • Get an overview of SMCS technologies and the underlying market.
Achieved outcome for the participants	• The participants were able to learn about existing tools for the use of SMCS. • The practitioners were eager to learn more about the SMCS Technologies Library and the existing SMCS technologies used during emergency situations.
Expected outcome for the organizer	• Needs and challenges for SMCS technologies and overview of required functions from the special forces of the police. • New ideas for potential functions of SMCS technologies.
Achieved outcome for the organizer	• New ideas for the adjustment and further development of categories were gathered. • New potential functionalities of SMCS Technologies could be identified and discussed.

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3.5.5 Next steps

The LCW allowed for the collection of information regarding the current use of SMCS by the German Police special forces as well as their needs and priorities. The valuable feedback received will be used to help develop the categories of the Technologies Library as well as the next workshops.

3.6 1st Danish LCW (flooding)

The first LINKS Community Workshop (LCW) dealing with flooding was titled "Use of social media and crowdsourcing." The workshop was organized by the Danish case team Frederiksberg Kommune (FBR) and was held on the 11th of March 2022 at Frederiksberg, Denmark. The following section provides an overview on the workshop and reports on its main outcomes.

3.6.1 Context and Objectives

In recent years, flash floods have become a major issue in Europe. However, despite the efforts taken, the early warning measures that have been implemented to prevent urban flash floods, have been shown to be largely inadequate in preventing much of the damage caused by these floods. Practitioners have deduced that this is in large part due to communication gaps between stakeholders. As part of its community-based alarm system efforts aimed at reducing the communication shortcomings, the Municipality of Frederiksberg has implemented technologies and methods such as WIFI networks, mobile apps, and social media tools, among stakeholders living and operating in Frederiksberg. Sharing data will increase alerts, public awareness and engagement, improve preparedness, and help citizens understand the community risk models by improving alerts and first responders' response. In addition, the case will shed useful light on the interactions between disaster risk reduction and climate change adaptation efforts.

The LCW aimed at improving information and knowledge exchanges between practitioners, in particular the workshop focussed on the use of and barriers to social media and crowd sourcing. Furthermore, it was a valuable opportunity for the organizers to test how the workshop set up worked on a smaller scale before engaging a larger stakeholder group.

3.6.2 Format

The Workshop began with a brief introduction on the LINKS project and a presentation on the preliminary results from the Danish case. The practitioners were then split up into two subgroups to facilitate a more fruitful discussion on their own past experiences, relating to social media and crowdsourcing (SMCS) for prevention and in crisis management, as well as to examine what existing barriers remain for use of SMCS.

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3.6.3 Participants

The workshop was attended by 6 participants, 2 male and 4 female. The participants were mostly local stakeholders from the Frederiksberg municipality and were chosen due to their expertise in communication, project management, as well as experience in the fire brigade. The practitioners were invited as they could benefit from the results from the LINKS project and had valuable knowledge regarding the use of social media to communicate with citizens. The participants represented the following associations and organizations:

- Frederiksberg utility company
- Frederiksberg Kommune (FRB)
- Hovedstadens beredskab (HBR)

The participants are identified below according to which LINKS stakeholder groups they belong to, their expertise, and their relevance for the workshop.

- LINKS stakeholder groups: practitioners, feedbackers, policy/decision makers, developers.
- Expertise: Communication, project management, emergency response, and firefighting.
- Relevance: All participants are practitioners with relevant experience who can provide valuable feedback on how SMCS and DCTs could be better utilised in emergency response.

3.6.4 Outcomes

The workshop was able to achieve several outcomes and gather various insights, some of which are presented below:

- The participants recognised the importance of fruitful exchanges of information and expressed a wish for further collaboration and networking opportunities.
- The practitioners were able to explore how SMCS is used as well as the barriers connected to more intensive use of SMCS.
- It was a valuable experience for the organizers to collect feedback on the format and content for the planning and creation of future workshops.

Overall, there was an active engagement from all attendees and there was a wish from the participants for further networking and collaboration. The practitioners reiterated the importance of collaborating and sharing information regarding the current use SMCS and were able to identify areas where the LINKS project could help overcome shortcomings. In particular the participants stressed the need to develop sections on risk awareness and volunteering in the Including Citizens Handbook. Furthermore, the input received has been taken into account when revising the Resilience Wheel and updating the Guidelines Library.

Table 6 below summarizes the workshop's expected and achieved outcomes, both from the participants and organiser's perspective.

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Table 6: Summary of the 1st Danish LCW's objectives and outcomes

LCW objectives and outcomes	Description
Objective(s) of the LCW	• Improving information and knowledge exchanges in particular on the use of and barriers to SMCS • Testing the format of the LCW.
Expected outcome for the participants	• Gain an overview of the LINKS project. • Gain insight into the use of and barriers to SMCS. • Valuable networking opportunity.
Achieved outcome for the participants	• The participants were very engaged and found the topic very interesting. • The practitioners appreciated the exchange of knowledge and networking opportunity. • Stressed the importance of the further collaboration.
Expected outcome for the organizer	• To learn more about how SMCS is used in the region. • To learn of the barriers connected to more intensive use of SMCS and how LINKS may be of help. • To validate the format for future workshops.
Achieved outcome for the organizer	• The organizer collected valuable feedback on the current use of SMCS in the region. • The organizer collected valuable feedback on the Including Citizens Handbook. • The format of the LCW was validated.

3.6.5 Next steps

The next steps will entail applying the lessons learnt and organizing an LCW with more participants as well as applying the feedback gained on the products. In particular the risk awareness and volunteering sections of the Resilience Wheel will have to be developed.

3.7 2nd Danish LCW (flooding)

The second Danish LINKS Community Workshop (LCW) dealing with flooding was titled "Use of social media and the inclusion of citizens in prevention and crisis management of serious events e.g. flooding." The workshop was organized by the Danish case team Frederiksberg Kommune (FRB) and was held on the 14th of June 2022 at Frederiksberg, Denmark. The following section provides an overview on the workshop and reports on its main outcomes.

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3.7.1 Context and Objectives

The second Danish flooding LCW took place within the same context as the first (see section 3.5). Namely that Europe has experienced a number of flash floods in recent years and that despite efforts made, early warning measures have been ineffective. Therefore, the implementation of new SMCS technologies could be essential to reduce the damage done by flash floods. Through the sharing of data, alerts, public awareness, public engagement will be enhanced, preparedness will improve, and community risk models will be better understood by first responders, citizens, and other stakeholders. Furthermore, the case will shed light on how disaster risk reduction and climate change adaptation are interrelated.

As a result of a previous workshop, cross-case interviews, and preliminary findings from the first focus groups, the Danish case team had a clear picture of the current use of social media and crowdsourcing (SMCS) technologies in emergencies today. In this workshop the aim was to allow for an exchange of knowledge among practitioners in order to gain a deeper understanding and explore how the stakeholders believe that SMCS can be strengthened through tools, methods or systems. Furthermore, the workshop explored the barriers that need to be overcome for a greater use of SMCS in disaster resilience. In particular the LCW focussed on how social media and the inclusion of citizens may strengthen crisis management and prevention.

3.7.2 Format

The LCW was planned as a group work followed by a discussion. Prior to the workshop a two page summary of the preliminary results from the Danish case was sent to all the participants in order to give the participants the possibility to prepare for the workshop. The workshop began with a short introduction to the LINKS project, crowdsourcing, and the preliminary results in order to give all the attendees a common understanding. Then the participants were split into smaller groups and asked to discuss what could be done to improve the use of SMCS during floods and what barriers existed to the implementation of their ideas. An external facilitator was used to prepare the right setting for all to be involved in the workshop and make sure that all ideas from the workshop were documented.

3.7.3 Participants

The workshop was attended by 12 participants (40% male and 60% female), mainly communication staff working in emergency response from national authorities in Zealand, Denmark. The participants represented the following associations and organizations:

- Frederiksberg utility company
- Mid and west Zealand police
- Danish health authority

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- Copenhagen police
- Danish civil aviation and railway authority
- National police
- Danish meteorological institute

The participants are identified below according to which LINKS stakeholder groups they belong to, their expertise, and their relevance for the workshop.

- LINKS stakeholder groups: practitioners, feedbackers, policy/decision makers, developers.
- Expertise: communication, social media technologies, emergency response, civil protection.
- Relevance: All participants work in communication and emergency response and encounter SMCS in their daily work. Furthermore, they have to consider SMCS when making life saving strategic decisions and are experts in their fields. Therefore, they have a clear understanding of the current use of SMCS in disaster response and how their use can be improved especially when it comes to communication with citizens.

Figure 6: Participants to the 2nd Danish LCW

3.7.4 Outcomes

The workshop was able to achieve several outcomes and gather various insights, some of which are presented below:

- The participants were all actively engaged with the topic and found that the workshop was very useful for the exchange of knowledge and networking.
- The workshop resulted in more than 20 suggestions for tools, methods and systems connected future use of social media, crowdsourcing and citizen engagement. The feedback

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gathered was on the apps that could be used to exchange information during a crisis, volunteering networks, and activity on Facebook.

- Furthermore, the participants validated the usefulness of the LCC as a platform that could contain all these solutions.

Overall, the LCW was a success as all the objectives were accomplished. However, some of the participants would have liked more specific use examples to make the discussion more grounded. Nevertheless, the information shared by the practitioners led to suggestions that could be used to improve the Technologies Library. One third of the feedback from the practitioners explored prevention whilst two thirds dealt with managing a crisis. This emphasis on crisis management over prevention was reflected in the conclusions drawn from the cross-case interviews.

Table 7 below summarizes the workshop's expected and achieved outcomes, both from the participants and organiser's perspective.

Table 7: Summary of the 2nd Danish LCW's objectives and outcomes

LCW objectives and outcomes	Description
Objective(s) of the LCW	• Improving information and knowledge exchanges. • Gain insight into what could be done to improve SMCS.
Expected outcome for the participants	• Gain an overview of the LINKS project. • Gain insight into the use of and barriers to SMCS. • Valuable networking opportunity.
Achieved outcome for the participants	• The participants were very engaged and found the topic very interesting. • The practitioners appreciated the exchange of knowledge and networking opportunity. • Stressed the importance of the further collaboration.
Expected outcome for the organizer	• To learn more about how SMCS is used in the region. • To learn of the barriers connected to more intensive use of SMCS and how LINKS may be of help.
Achieved outcome for the organizer	• The organizer collected valuable feedback on the current use of SMCS in the region. • The organizer collected valuable feedback on the Technologies Library. • The format of the LCW was validated.

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3.7.5 Next steps

The fruitful discussions within this workshop clarified the current status of the use of SMCS in crisis management and prevention. The exchange between the practitioners led to some interesting ideas on how to increase the use of SMCS, such as integrating social media into the daily operations of the practitioners, which would lead to a shift in the internal culture of the national authority departments as they grow accustomed to working with these new technologies. As a result, practitioners would be more effective at utilizing SMCS during emergencies. Another, next step will be to teach citizens more about evaluating sources in order to spread awareness and render crowdsourced information more reliable and effective. The information gathered through the workshop will help plan the future workshops with municipalities, utility and fire brigades and then a final workshop with the citizens.

3.8 1st German LCW (terrorism)

The first LINKS Community Workshop (LCW) conducted in Germany within the context of the terrorism case was entitled “Use of SMCS within the German Police- Similarities and Differences”,. The LCW was organised by the project’s partner Deutsche Hochschule Der Polizei (DHPol) and took place on the 7th of February 2022 as an online event on Microsoft TEAMS.

3.8.1 Context and Objectives

Terrorism has been on the rise for the past two decades and attacks have generated major social and economic loss. Finding an effective response to terror attacks has been problematic given the challenging organizational and technological nature of the design of solutions. In order to successfully combat terrorism a diverse set of organizations must coordinate their actions, collaborate with affected citizens, and provide effective handling and long-term recovery and relief. Public organizations must apply the processes of collection, analysis and the release of the information concerning the crisis situation and the affected communities in order to effectively respond to the threat. Furthermore, the arrival of new technologies, such as social media and crowdsourcing (SMCS), has provided promising new opportunities to gather information, which is characterized by high volume, variety, velocity and wide availability.

The question is how these technologies can be implemented to best fit the needs of response organizations and local communities. Therefore, in this LINKS Community Workshop (LCW), the goal is to identify and monitor new opportunities for the use of social media and crowdsourcing technologies based on the needs of the practitioners.

3.8.2 Format

The workshop was held online on the 7th of February in order to ensure participation during the COVID19 pandemic, where travel was restricted. The workshop was planned as an open discussion and the participants were selected from previous interviews, as they represented the relevant stake

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holder groups of Police and open-source intelligence (OSINT) experts. The held interviews have shown that there is a different use of SMCS within the German police, which made clear that this needed further attention.

The workshop began with a brief introduction of the agenda and of the attendees and organizers. Followed by a presentation of the LINKS project, whereby its vision and goals were described, and all aspects of the LINKS Framework were defined. Then, the workshop itself started and the participants discussed the use of social media within their organisations as well as their needs and expectations. Additionally, a short discussion was held regarding the advantages and disadvantages of warning apps, such as KattWarn.

3.8.3 Participants

The workshop was organised by the project's partner Deutsche Hochschule Der Polizei (DHPol) and was attended by 7 participants: 5 male and 2 female practitioners from police and open-source intelligence (OSINT) backgrounds.[3]

The participants are identified below according to which LINKS stakeholder groups they belong to, their expertise, and their relevance for the workshop.

- LINKS stakeholder groups: practitioners, disaster management administration, civil protection.
- Expertise: Emergency response, communication, SMCS, civil protection.
- Relevance: The practitioners are all confronted with the use of SMCS during their daily work within the German police, as such they have the expertise to discuss the potential of new technologies as well as their needs regarding SMCS.

3.8.4 Outcomes

The workshop allowed to achieve several outcomes and to gather various insights, some of which are presented below:

- Participants were able to exchange information and cooperate with the other participants
- It became clear that there are differences in the use of social media between the various police forces in Germany, as some only use Twitter, whilst others use a different social media platform, there is a lack of specific guidelines, and many agencies lack special 'SM-officers.'
- Participants made it clear that better communication between agencies is necessary, also through the use of social media.
- The participants gave their views on guidelines, such as they should be short and explicit (e.g. Checklist), they should include information regarding the law for the use of SMCS, and

[3] Due to confidentiality concerns expressed by the members of the special forces no photos were taken and their specific organizations are not shared.

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the short checklist should include links to long explanations, as well as ad hoc text modules which can be adapted to a specific emergency.

The workshop made it possible to gain a more in-depth picture of the current use of SMCS within the German police, such as what tools they use, but also which problems they face. Additionally, the needs of the practitioners as well as their expectations regarding the outcomes of the project became apparent. The LCW allowed the organizers to assess which particular tools and guidelines are already known and used, which gave further data for the development of the Technology Library and of the Guidelines Library of the LINKS Framework.

Table 8 below summarizes the workshop's expected and achieved outcomes, both from the participants and organiser's perspective.

Table 8: Summary of the 1st German (terrorism) LCW's objectives and outcomes

LCW objectives and outcomes	Description
Objective(s) of the LCW	• Gain a greater insight into the needs of the practitioners, who are involved in the preparation and use of SM within the German Police, in regards to the use of SMCS in disaster resilience.
Expected outcome for the participants	• Learn about how police forces in Germany are currently using SMCS during emergencies. • Valuable networking opportunity.
Achieved outcome for the participants	• The participants successfully had an exchange of views and produced valuable feedback regarding their needs, such as the need of guidelines.
Expected outcome for the organizer	• The organisers were able to gain valuable feedback on how the LINKS project can improve the use of SMCS in disaster resilience. • The organisers were able to gain valuable feedback on the usefulness and expectations of the Guidelines Library.
Achieved outcome for the organizer	• Gained insight into the current usage of SMCS by German police forces. • Practitioners' insights were gathered on the importance of the Guidelines Library. • Positive networking experience and exchange of knowledge.

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3.8.5 Next steps

The next steps will entail applying the lessons learnt and organizing an LCW with more participants as well as applying the feedback gained on the products. In particular the Technologies Library and Guidelines Library will have to be developed.

3.9 2nd German LCW (terrorism)

The second LINKS Community Workshop (LCW) conducted in Germany, entitled "Evaluation of Social media and crowdsourcing- technologies for the police's crisis management", followed up on the outcomes and insights reached in the previous workshop. The LCW was organised by the project's partner Deutsche Hochschule Der Polizei (DHPol) and took place on the 4th of May 2022 as a hybrid event at the DHPol in Münster, Germany.

3.9.1 Context and Objectives

The second German LCW was integrated into the workshop "special forces and social media", which took place at the DHPol from the 2nd to the 4th of May. DHPol presented the LINKS project, its goals and its building blocks. Additionally, first findings were presented, including the German survey regarding the state of the art of the use of social media and crowdsourcing (SMCS) within the German Police forces and the previously conducted interviews.

The aim of the workshop was to evaluate the current state of art of the use of SMCS within the German special forces as well as how the LINKS project could contribute to the project's outcomes. The aims of the LCW were to inform the special forces about LINKS and gain insight into how our products will help the emergency-response organisations regarding the use of SMCS. Therefore, the workshop was used for information dissemination, information gathering, and stimulating discussions regarding the use of SMCS within emergency-response-organisations.

3.9.2 Format

The workshop was a hybrid event held on the 4th of May in order to allow the remote participation of Kobenhavns Professionshojskole (UCC) and of the Safety Innovation Centre (SIC). The workshop was planned with presentations followed by an open discussion.

The workshop began with a brief introduction to the LINKS project. Then, the first findings reported in previously conducted interviews and in the German survey regarding the current use of SMCS technologies within the German Police forces were presented. Next, the preliminary findings on crisis management from the cross-case analysis were presented. Then the organisers displayed a market analysis of the existing tools for the use of SMCS in disaster resilience, which can also be found in the LINKS Community Center (LCC). The presentations being over, an open discussion

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ensued on the participants' experiences with SMCS and on the existing barriers to the implementation of these new technologies in disaster resilience.

3.9.3 Participants

The workshop was organised by the project's partner Deutsche Hochschule Der Polizei (DHPol) and was attended by 25 participants: 18 male and 7 female practitioners from police and special forces backgrounds.[4]

The participants are identified below according to which LINKS stakeholder groups they belong to, their expertise, and their relevance for the workshop.

- LINKS stakeholder groups: practitioners, disaster management administration, civil protection.
- Expertise: Emergency response, communication, SMCS, civil protection.
- Relevance: The practitioners are all experts in emergency response due to their work within the German police and security forces, as such they have the expertise to discuss the potential of new technologies and SMCS in emergency response.

3.9.4 Outcomes

The workshop allowed to achieve several outcomes and to gather various insights, some of which are presented below:

- The participants were able to learn about existing tools for the use of SMCS
- Participants were able to learn about the products they can expect from the LINKS project
- Participants were able to share their experiences with the use of SMCS during emergencies and mention their needs.

Overall, the workshop went well, as the participants gained insight into the potential application of SMCS during emergency situations as well as about the existing Disaster Community Technologies (DCTs) ready to be implemented. Whilst the project was seen as quite relevant for the participants, as they understand the importance of new technologies, the practitioners from the special forces voiced that they were reluctant to share sensitive information and to use SMCS during operations, as the information shared online could be exploited. Nevertheless, the practitioners were eager to learn more about the new or existing technologies for using SMCS in disaster resilience. In particular, the participants discussed about the practical steps needed to incorporate the theory into practice and were interested in how the LINKS project could help. Furthermore, some participants were interested in the LINKS products, such as the Guidelines Library and Technologies Library, which would be essential for discovering relevant technologies and guidelines that could improve disaster

[4] Due to confidentiality concerns expressed by the members of the special forces no photos were taken and their specific organizations are not shared.

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resilience. Additionally, the practitioners appreciated and stressed the importance of cooperation between Police forces in Germany and internationally. The LCW allowed the organizers to get an overview of the features of particular DCTs that have proven valuable to facilitate coordination during major terrorist attacks and to understand which features hindered them, particularly with the aim to evaluate the usefulness of the tools collected in the SMCS Technologies Library.
Table 9 below summarizes the workshop's expected and achieved outcomes, both from the participants and organiser's perspective.

Table 9: Summary of the 2nd German (terrorism) LCW's objectives and outcomes

LCW objectives and outcomes	Description
Objective(s) of the LCW	• Information dissemination (focus on first outcomes of case assessments and the information about available tools for SMCS). • Information gathering (about how SM is already used in the German police special forces and what they need for further using SMCS or adapting current strategies).
Expected outcome for the participants	• To learn more about LINKS and especially about the products they can expect, such as the tools and guidelines. • Gain insight into state of the art of the use of SMCS also in different countries and different emergency-response organisations.
Achieved outcome for the participants	• The participants were able to learn about existing tools for the use of SMCS, specifically the Technologies Library. • Participants were able to learn about the products they can expect from the LINKS project. • Participants were able to share their experiences with the use of SMCS during emergencies and mention how relevant the topic is for them.
Expected outcome for the organizer	• The organizers gain a more in-depth view of how SMCS is used within the German special forces. • The organizers learn about needs and expectations from the German special forces to use or adapt new strategies for the use of SM and SMCS during emergency situations. • The organizers raised awareness of the products of the project LINKS and how the participants can profit from them.

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Achieved outcome for the organizer	• The outcomes were all achieved by the organizers. However, the response of how relevant the project seemed to be for the participants was a bit lower as expected (average: 3 on a 5-Point Likert scale).

3.9.5 Next Steps

The LCW allowed for the collection of information that will be used to design the next case assessment phase as well as the next workshops. Furthermore, the data will be used to shape the development of the products, as the information collected gives insights into what the practitioners prioritise regarding the guidelines and tools, which will be used to improve the Guidelines Library and Technologies Library.

3.10 Elaboration on the overall outcomes of the LCWs

The LINKS Community Workshops (LCWs) were for the most part a success. The participants found the workshops useful, appreciated the opportunity to network and collaborate with other practitioners, learned about the LINKS project, and provided useful feedback for the development of the LINKS Framework and products. Therefore, the LCWs accomplished their main objectives:

- Improve information and knowledge exchanges among the stakeholders in local cases, together with relevant stakeholders and experts in the broader LINKS Community;
- Collect data and inform the assessments of the LINKS knowledge domains and the development of the LINKS Framework;
- Disseminate project developments and results.

The LCWs that took place between M21 and M29 allowed the practitioners invited to network and exchange valuable information, to learn about the LINKS project, and to validate and suggest improvement to the LINKS products. As such they accomplished the 3 objectives set as stakeholders were able to exchange knowledge and information with other practitioners and experts. In each LCW local stakeholders were able to collaborate with practitioners who had expert experience relative to the objectives of the LCWs and could provide valuable feedback. The feedback gained was useful for the development of the LINKS Framework and its products as most of the LCWs had as an objective their improvement or validation. The LCWs fed directly to the development of the LINKS products:

Feel Safe benefitted from the Italian earthquake LCW as it was validated by the teachers and students and improved by their feedback on the structure of the online platform.

The Guidelines Library also benefitted from the Italian LCW relating to the earthquake case as the participants made it clear that local authorities and CSOs working as first responders lack guidelines

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on how to use social media for early warning and the first phases of an emergency, therefore validating the importance of the product and suggesting the improvement of it through the inclusion of more guidelines for public administrators at the local level. The Guidelines Library was also validated by the feedback gained from the 1st German LCW on drought, as the practitioners considered the product important and suggested altering the design of the **LCC** to include a menu on the homepage with a greater focus on the guidelines. As a result, the LCC was improved and the Guidelines Library validated. The Danish LCWs on Floods also benefitted the Guidelines Library as the practitioners explained what they considered the existing barriers to a greater implementation of SMCS to be and concluded that one of the barriers was a lack of guidelines. The Guidelines Library also benefitted from the 1st German LCW dealing with terrorism as the practitioners stated that there currently is a lack of guidelines about how to integrate SMCS into the overall command structure of the authorities as well on how to manage crowdsourcing activities. Therefore, relevant guidelines added to the Guidelines Library could solve this problem.

The Including Citizens Handbook benefitted from the Danish Flood LCWs as the participants stressed the need to develop sections on risk awareness and volunteering.

Resilience Wheel was in part validated by the 1st Danish flooding LCW as the participants stated that a model for what to prioritize when implementing SMCS to disaster risk management would be useful.

The Technologies Library was improved thanks to the insight gained from the 2nd German Drought LCW as the feedback was used to validate the importance and helped develop the product through the discussion on potential applications of SMCS to disaster management. The views shared by the practitioners made it clear that the library would be extremely useful to access and apply new technologies to disaster prevention, management and resilience. The Technologies Library was further developed through the feedback of the 2nd German LCW relating to the Terrorism Case, as the workshop allowed the organizers to get an overview of the features of particular DCTs that have proven valuable to facilitate coordination during major terrorist attacks and to understand which features hindered them, which helped evaluate the usefulness of the tools collected in the Technologies Library.

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4. LINKS ADVISORY COMMITTEE

This section provides an overview of the aim and composition of the LINKS Advisory Committee (LAC), together with a reference to the second LAC meeting.

4.1 Scope

The Committee meetings are used to incorporate the input and guidance of external experts at strategic moments during the project. This entails the incorporation of advisors from different fields of expertise and with different backgrounds and skills based on the objective and scope of a meeting. The meetings are conducted virtually, and eventually also in-person, when possible.

4.2 Composition and Members

Figure 7: LINKS Advisory Committee composition

LINKS ADVISORY COMMITTEE
TARGET GROUPS REPRESENTATION
NOV. 2022

Practitioner	Researcher	Policy & Decision Makers	Businesses	Civil Society	Media	Gender
	1	1		1	1	female
6	3		2			male
						divers

The specific names and organizations of the LAC members are listed in D8.4 (Bianchi, G., Giacinti, F., Vieillevigne, J., & Nuessler, D. (2022)).

Another scientific expert on Disaster Risk Prevention and Vulnerability joined the LAC in October 2022:

- Sara Bonati, Università degli studi di Genova DISFOR - Dipartimento di scienze della formazione

4.3 LAC Meetings

Following the conclusion of the 1st LAC meeting concerning the overall aim and format of the LAC, that LINKS should provide a flexible discussion platform which allows the reaction on different views

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into the further development of the project at relevant times, the format of the 2nd LAC meeting was organized accordingly.

4.3.1 The Second LAC Meeting

The 2nd LAC meeting was held as a virtual meeting on the 17th of February 2022. The meeting was organized by the consortium member SIC (responsible for WP 7 and 4) and intended to present and to get feedback from researchers and practitioners about the concept and content of the LINKS Community Center (LCC), specifically in relation to the Disaster Community Technologies (DCTs), SMCS Guidance documents as well as the stakeholder Networks. The administrative organisation and communication were done by FEU. After the introduction the main session was held simultaneously in 3 break-out-rooms to allow more in-depth-discussion and to increase the participants' speaking parts. The 2nd LAC meeting was attended by 10 participants from practice, research, policy & decision making, civil society and media. Furthermore, five consortium members from VU, UNIFI, SIC and FEU also participated to the meeting.

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Figure 8: Screenshot of the landing page of the LINKS Community Center

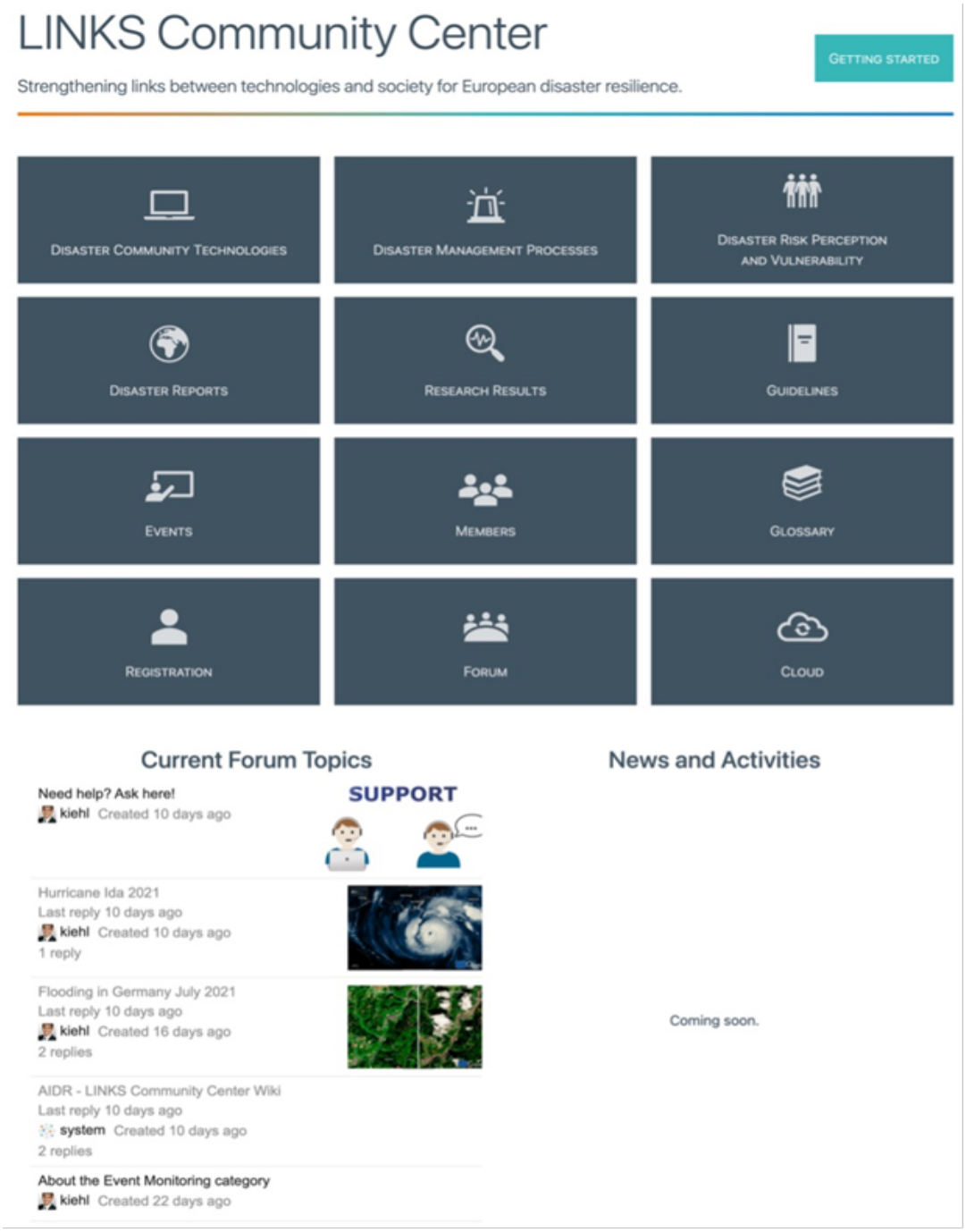

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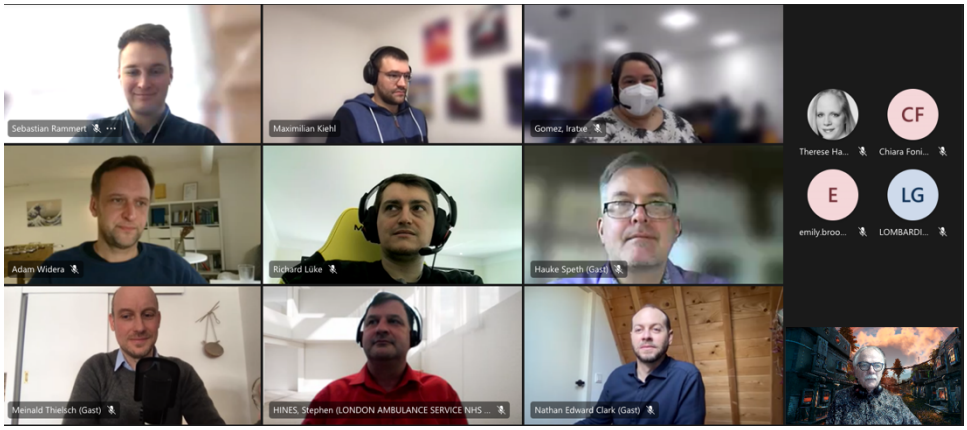
Figure 9: Screenshot from the virtual meeting



The broad representation of the target groups was the key for a fruitful discussion and valuable outcomes of the meeting.

Figure 10: Representation of LINKS' target groups at the 2nd LAC meeting

TARGET GROUPS REPRESENTATION
LAC meeting #2

Practitioner	Researcher	Policy & Decision Makers	Businesses	Civil Society	Media	Gender
		1		1	1	female
4	3					male
						divers

Table 10 below presents the workshop's expected and achieved outcomes from the organiser's perspective.

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Table 10: workshop's expected and achieved outcomes

LAC objectives and outcomes	Description
Objective of the LAC meeting	• Discussion and feedback from experts representing different stakeholders about the LINKS' work and the current results to support different stakeholders in developing a Social Media strategy to improve communication with citizens in disasters.
Expected outcome for WP 4 and 7	• Feedback from researchers and practitioners about concept and current content of • LINKS Community Center • Technology Library (former Disaster Community Technologies (DCTs) • Guidelines Library • Networks Library
Achieved outcome for WP 4 and 7	• The overall objective and research approach of LINKS could be presented and explained to the LAC members • LAC member's insights and comments about challenges related with the use of SMCS were gathered • The discussion provided actionable input for improvements of the LCC • Requirements and adjustments for the 3 libraries could be identified • Positive rating for the format of the workshop received together with some suggestions for further LAC meetings, e.g., length of meetings to allow in-depth-discussions • Some LAC members provided additional information about guidelines, networks and other sources on bilateral basis

Contributions from LAC members have been noted and were briefly discussed at the end of the meeting. As a follow-up of the meeting SIC and FEU evaluated the expert's comments and analysed the degree of feasibility.

A feedback report was sent to LAC members and demonstrated that many of their suggestions and recommendations had a considerable influence on the further development of format and content of the LCC.

Details about the actions taken were drafted by the responsible partners and can be found in the Annexes. These include:

- SIC, concerning the Technology Library (former DCT) and the LCC, and

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- FEU, concerning the Guidelines Library and the Networks Library

4.3.2 LAC Roadmap

As deliverable D5.3 (Fonio, C., et. al 2022) provides the vision and the design of the first version of the LINKS Framework, which is mainly intended for Disaster Management Organisations (DMOs) and other practitioners working with disaster risk management, more feedback from the potential users and relevant experts is needed.

The LINKS Framework can assist DMOs in their planning for using SMCS in disaster risk management and supports strategic planning around two main themes (engaging with citizens and improving communication) by providing a set of products (e.g. Technologies Library, Guidelines Library, Use Cases Library, the Including Citizens Handbook, Feel Safe and the Resilience Wheel), currently at different maturity levels. It supports strategic thinking around the two main themes mentioned above and six sub-themes:

- Engaging with citizens: collecting and analysing information, mobilising citizens, mobilising volunteers;
- Improving communication: targeting communication, ensuring the quality of information, ensuring credible information.

The Framework will be embedded in the LINKS Community Centre (LCC) and will be accessible through different entry points so that users have the opportunity to browse through all LINKS products or to follow some learning paths. The latter are pre-defined questions for each sub-theme that guide users towards relevant resources made available and distilled through the LINKS products.

Based on this, the planning for the next LAC meeting is as follows:

- It will be organised as a virtual meeting on TEAMS
- It will be scheduled for month 32
- It will be moderated by the WP5 lead (VU)
- It will focus on the latest developments in WP 5 (Framework)

In the **LAC meeting,** LINKS can comprehensively evaluate the Framework in all its components through the LCC. Also, specific LAC members could evaluate a particular product within the Framework, depending on their experience and expertise concerning that product. This meeting aims to evaluate the usability and helpfulness of the Framework and its products within the LCC by experts. This would entail:

- Evaluating if and how the Framework as a whole can be relevant to stakeholders who have not been involved in the LINKS cases;

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- Assessing if and how the learning paths actually guide users towards the products and if the latter fulfill their expectations (e.g. are the resources relevant in the context of the organizations)?
- Evaluating the usability of the LCC

Furthermore, it wants to evaluate the long-term applicability of the Framework's products to (potentially) meet user needs. For this evaluation, different entry points will be taken into consideration. For this, as diverse a LAC meeting as possible is needed. This means LAC members have diversity in all aspects (i.e. country, fields of expertise, gender, age etc.). The envisaged structure of the meeting (M 32) is as follows:

- Before the meeting, members will receive a form and instructions to evaluate the LCC, the Framework and its products no later than two weeks before the meeting.
- In that timeframe, they will be asked to access the LCC to get familiar with the LINKS Framework and its component based on pre-defined areas of interest (e.g. finding and applying technologies to achieve a specific objective).
- During the meeting, the main topics indicated in the forms will be addressed and further discussed. The feedback and information gathered through the forms and meeting will form the basis to further improve and evaluate the LCC, the Framework and its products with LAC (final meeting) and other steps of the external evaluation.

Based on the above, the planning for **the last LAC meeting** is as follows:

- It will be organised as an in-person meeting
- It will be scheduled either for month 42
- It will be moderated by the WP5 lead (VU)
- It will focus on the evaluation carried out during the previous meeting and other relevant issues that might have appeared in the last six months of the project.

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5. CONCLUSION

The present deliverable (D8.5) reports and elaborates on the main results of the LINKS Community Workshops (LCW) and LINKS Advisory Committee (LAC) meetings held between M21-29.

The document firstly provides an introduction to the LINKS Community, revisiting the purpose and objectives for LINKS Community engagement through LCWs as well as the LACs. Then the deliverable reports on the LCW Roadmap, focussing on how the objectives of the LCWs are becoming more product orientated. In the third section the report describes the various LCWs in the four case countries and elaborates on their outcomes. These LCWs were not only used to create a local network and to identify its main needs, but also to implement the information already collected through other research activities (e.g., interviews) and to better focus the next steps of the project towards the achievement of something that can effectively address the needs of the local stakeholders. Furthermore, these LCWs allowed the practitioners to discuss how SMCS could be used and implemented in disaster risk management, and provide valuable feedback and validation for refining and improving the products. Finally, D8.5 presents the main results of the Second LAC meeting, which was held virtually in February 2022 and allowed LINKS project partners to collect relevant external feedback on the LINKS Framework, and in general issues of operationalizing the LINKS concepts.

The information, inputs and feedback gathered during the LCWs and the Second LAC meeting are being incorporated to improve the project, such as in the updated methodologies (D2.7), and in the research analysing the case assessments under WP6 (D6.3). In particular the next LCWs will be orientated towards validation of the Framework learning paths and product with relevant stakeholders in the case communities.

In addition, the feedback gathered has help provide valuable inputs for the consortium with regard to the design and organisation of upcoming LCWs and LAC meetings. Those suggestions will continue to be adapted into the LINKS project so as to ensure the maximised impact of the LINKS Community Workshops and of the LINKS Advisory Committee Meetings.

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7. ANNEX I: LCW FEEDBACK FORM

This form gives an example of how feedback can be gathered during the LCW. These questions can be adapted to suit the specific context and content of each workshop, and can be eased to stimulate discussion, or participants can be asked to complete the form during the final session of the workshop, or after each discussion or work session.

Before leaving, we would kindly ask you to answer the following questions, to help us improve [INSERT TOPIC OF WORKSHOP]:

1. Which stakeholder group(s) do you belong to?

2. Was this session/workshop relevant to you? Please explain why/why not.

3. Based on your expectations in advance of the session/workshop, were the topics and questions raised easily understandable? Please explain why/why not.

4. Did you understand what was meant by [INSERT RELEVANT CONCEPT/RESEARCH TOPIC]? If some topics required more explanation, please list them.

5. During this session/workshop, which challenges, needs and gaps related to [INSERT RELEVANT CONCEPT/RESEARCH TOPIC] in your own work/organization were you able to identify?

6. Do you think the LINKS outputs discussed during the workshop/session could help you identify and address such challenges, needs and gaps in the future? Please explain why/why not.

7. Do you foresee any changes in your own work (or that of your organization) based on this Workshop?

8. Which other relevant organisations/institutions in your network would benefit from these results?

9. May we contact you at the end of the project in order to collect further reflections on how the discussions and outcomes of the workshop may have impacted your work?

10. Do you have any further comments or suggestions?

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8. ANNEX II: EXAMPLE OF COMPLETED LCW FEEDBACK FORM

This example is taken from the 2nd Italian LCW on earthquakes.

Which stakeholder group(s) do you belong to? Emergency responders and school teachers. 14 adults (9 teachers and 5 emergency responders)

2. Was this session/workshop relevant to you? Please explain why/why not. Yes, the focus group discussion on the DRR educational toolkit was much appreciated by the participants. They found it relevant and they would like to expand more on this topic and to engage with LINKS project also in 2023. Moreover, the intergenerational workshop focusing on memories of risk events affecting the community was considered as a unique opportunity for the children and the school at large. The discussion on the role of technologies in emergency management was useful also for the emergency responders who had the chance to reflect on this topic and gain the children-s perspective.

3. Based on your expectations prior to the session/workshop, did the topics and questions raised in the workshop meet those expectations? Please explain why/why not. Yes, they did.

4. (QUESTION FOR THE TEACHERS) Do you use online DRR educational resources during teaching? If yes, how do you use these resources? How easy is for you to find useful resources online? Yes, they do more than once a week. Resources are downloaded and then shared with students using social media platforms. However, it is often difficult to find the right resources in a short time.

5. (QUESTION FOR THE TEACHERS) What websites do you use to find online educational resources? How would you describe the ability of students to find and use online platforms? Myedu, Zanichelli scuola, hub campus, Mondadori, caffè scuola, loescher. Students are able to access and manage these resources but not without challenges. The children's ability to use technology is often limited to superficial knowledge and lack of understanding.

6. (QUESTION FOR THE TEACHERS) What relevant resources would you like to have access to? It was said that there is a need to find resources more easily and organized by categories such as age, typology, topic…

7. Do you conduct activities aimed at reducing vulnerabilities and promoting inclusion? What is an example of activities on vulnerabilities that come to you mind? Yes, for example, the school is organizing a project called ''rischio tutto'' for the scholastic year 2022-2023 dedicated to disaster risk reduction. It will be conducted during the hours dedicated to civic education. Moreover, the emergency responders who took part to the event, often participate in initiatives in collaboration with schools to talk to students about risks and correct behaviours.

8. Can the school have a key role in building more resilient communities and in raising awareness among children? Yes, we are part of a very active community and we believe that children can save lives. We also believe that risk management should be taught at a very early age and that children can greatly contribute to build more resilient societies. School is like the second home of every child and is never too early to talk about safety, as this is knowledge that they carry on to the rest of the community. School is also an excellent environment because of safety and the presence of peers.

9. Did you ever proposed or conduct DRR activities during civic education in school? Yes, we proposed to conduct a campaign by the name ''Rischio Tutto'' to focus on the theme of risk management and resilience.

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10. Would you like to participate further in the research activities? Yes. Both teachers and the civil protection volunteers who participated to the event are willing to participate in additional research activities. Also, emergency experts proposed a visit to the regional emergency hub to show children how they apply technology in emergency operations.

The feedback forms from the other workshops were not included due to space limits and language barriers as the forms are filled out in the participants' native language and as such require translation. Furthermore, the feedback from the workshops is also collected through other means and disseminated through other deliverables such as D6.4 (First LINKS Case Report) and D6.5 (Second LINKS Case and Broader Context Report).

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9. ANNEX III: FOLLOW-UP FROM THE 2ND LINKS ADVISORY COMMITTEE MEETING CONCERNING THE TECHNOLOGIES LIBRARY

TECHNOLOGIES LIBRARY	
INPUT FROM LAC	**COMMENT**
Functions for the detection of misinformation and manipulative content and verification of trustful information would be very helpful. This can be partly supported by a function which queries and evaluates meta data (location, date, time...).	Research needs to be done to assess the feasibility. To implement a category for that in the Technologies Library, we need to be sure that there are even reliable functions from the tools on the market. Since this is an extremely complex requirement and a lot of research is currently being done in this area, the current tendency is that probably no technology can reliably offer the detection of misinformation. We address this issue in the Guidelines Library and in the Use Cases Library (under construction).
Some kind of evaluation of the meaningfulness of the information in the context of the current scenario would also be helpful (sense-making). It would be helpful to have a function that can distinguish the unimportant content in social media from the important content.	Considered in Analysis (e.g., advanced search features, keyword search) on the one hand, on the other hand the success of the analysis functions highly depends on the operating person (e.g., choosing the right keywords, adjusting filters etc.). Additionally, research needs to be done to assess effectiveness.
User experiences and usability could be recorded in testimonials.	Will be part of an assessment strategy for the technologies. For the moment, a comment-function within the LCC is available for every technology.
Statements could be made about the reputation of the technology and the trust in it.	Already possible via the Forum embedded in the LCC. For the moment, a comment-function within the LCC is available for every technology.
It is equally important to highlight technologies that are already being used successfully in practice. These would be the favorites if an organization wants to start with SMCS.	Will be realized in the category already used by DMO (under construction) We currently working on a connection between the technologies and respective use cases, where the technology has been used in a real world disaster or an exercise. We also planning connections to guidelines, in which a concrete technology is explained.

TECHNOLOGIES LIBRARY (cont.)	
INPUT FROM LAC	**COMMENT**
Additional relevant inputs for the DCT-schema are specific EU projects, standardization efforts and existing taxonomies by relief organizations and are worth taking into further research.	We have a continuous desk research running and constantly monitor suitable projects or get in touch with them as well.
Experts advised to keep the filters simple and always clarify the purpose of a filter sufficiently first.	Currently mouse over explanations has been added in the LCC. Besides the mouseover explanations, we have a lot of explanatory information in respective Deliverables (D4.1, D4.2).

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It should be indicated what kind of data (text, audio, video...) the technology can process with.	Considered in the function Analysis (text, image, video).
It should also be highlighted whether the technology taps into sensitive or even highly sensitive data (e.g., personal data). A filter could also inform whether the technology is already taking measures to deal with data privacy.	Research needs to be done to assess the feasibility. For now we have added a GDPR compliant function, which shows if the technology is dealing with these issues.
Differentiation between citizens and authorities may be too harsh; it ignores the roles between. Also since there are also hybrid organizations in emergency management (e.g. partly consisting of authorities and partly of citizens), it could make sense to think about other communication directions than the four from the communication matrix.	We think about removing the Crisis Communication Matrix because it is already displayed in the functions (e.g. monitoring of social media data could be counted as Citizens --> Authorities).
The phases of the disaster management cycle are not clearly separable from each other and overlap.	We have replaced the Disaster Management Cycle with before, during and after a disaster. This at least overcomes the overlap of preparedness and preparation phase.
There is a need for a technology which would allow to scan the communication and direction of spontaneous helpers and volunteers.	Research needs to be done to assess the feasibility. For now we address this issue in the Guidelines Library.

TECHNOLOGIES LIBRARY (cont.)	
INPUT FROM LAC	**COMMENT**
Functions should be mapped that help to organize spontaneous volunteers.	We need some further research about the existence of functions, which provide help to that request.
In this context, the functional possibility of scanning restrictive platforms (e.g., Facebook groups) where volunteers communicate should be included.	Research needs to be done to assess the feasibility. However, due to restrictive API, it is not possible to automatically monitor e.g. Facebook groups.
The function of a problem detection was desired.	Considered in Event notifications one can find as a category in the Search & Monitor" function in the LCC where problem detection is translated to event detection (e.g., a monitoring tool detects an unusual accumulation of words in the social networks (e.g., attack or flood)) and concludes that it is an event and therefore notifies those responsible. For this purpose, problem and event detection are currently used synonymously. Ubermetrics for example provides such a feature based on Twitter activity.
Technologies that teach children what crises are and how to behave in them should be highlighted.	WP2 is developing a Feel Safe (own website) which should satisfy this need. Educational applications are currently not considered in the Technologies Library.
In order to reach all target groups with crisis communication, functions that support cross-channels can be helpful.	Will be implemented in the next round of adjustments.

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The criterion 'dual use' was suggested as helpful for applications that can be useful for both practitioners and civilians (e.g. messengers).	The Technologies Library does not primarily have citizens as a target group in mind. Therefore, this category would not make a lot of sense here. The use for citizens needs to get touched in other sections.

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10. ANNEX IV: FOLLOW-UP FROM THE 2ND LINKS ADVISORY COMMITTEE MEETING CONCERNING THE GUIDELINES LIBRARY

GUIDELINES LIBRARY	
INPUT FROM LAC	**COMMENT**
The wish was expressed to note whether a guideline or access to it costs money.	There were no guidelines listed so far which cost money.
It could also make sense to note whether a guideline contains statements about the possible costs of hardware or software.	This issue will be dealt with in the Technologies Library
As a main criterion to find a relevant guideline the combination with the target audience was discussed: Where do the guideline come from, what is its origin? Was it developed for authorities? How is it structured? Is this guideline from practitioner for practitioners?	For the time being it is possible to get answers to all these questions when reading the entire guideline. It is hoped that the extended list of themes which can be used as filters can ease the retrieval of a relevant guideline Nevertheless information about the publisher is available via hyperlinks on the results page which can be accessed by clicking on the title of the guideline in the overview list (landing page of the guidelines library)
It could make sense to add the traditional media (TV, radio, newspapers) as a target group.	Introduction of Media as a target group does make sense since the verification guidelines are made available.
Similarly, it might make sense to add different functional levels to the target group Practitioner (e.g., strategic leader, press officer, situation analyst, incident managers, volunteer operational firefighters, community managers, volunteer coordinator, etc.).	From an analysis of the collected guidelines evolves that the different functional levels could not be found in the guidelines to such an extent that introduction of such filters would make sense.
It would be helpful to note whether the Guideline documents the benefits of SMCS during past disasters and derives lessons learned.	It is planned to introduce a special library Use cases into the LCC where examples are shown where use of SMCS has been beneficial. Nevertheless, guidelines which contain good practice examples will be marked accordingly.

GUIDELINES LIBRARY (cont.)	
INPUT FROM LAC	**COMMENT**
The first official publication date should also be documented to check whether the guideline is still current.	The date of publication is included
It was suggested that the section should be called good/best practices, as much of the content of the Guidelines is about this.	The names of the various parts of the LCC, e.g. the libraries, are fixed for the time being. The content and names will be issues to be dealt with in the second round of evaluation foreseen in early 2023.
Practitioners are directly confronted with the question of whether guidelines contain legal requirements and implications that are of interest	The theme legal/standards have been introduced as a filter.

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to organizations. It should therefore be made clear whether the guidelines contain information on this.	
It would be important to recognize that the main benefit for the guidelines is intended for pure practitioners and not for researchers (who are primarily interested in data).	The focus on practitioners as the main target group has been acknowledged by introducing abstracts which are aiming at allowing quick check of the content.
Keeping the overview on guideline up to date and sustainable was identified as the biggest challenge.	Within the duration of the project a special task force TF Guidelines will check if updated guidelines will become available. Nevertheless, the content of guidelines may still be up-to-date even without regular update.
It would be interesting and useful to describe in a guideline how it is practicable to document the benefits of SMCS in a current crisis, to process them internally in the organization and to generate lessons learned for the next use.	It is planned to introduce a special library Use cases into the LCC where examples are shown where use of SMCS has been beneficial. Nevertheless, guidelines which contain good practice examples will be marked accordingly.

GUIDELINES LIBRARY (cont.)	
INPUT FROM LAC	**COMMENT**
It might be worthwhile to introduce the type of operation/disaster as an additional criterion in order to obtain more specific instructions for action tailored to a scenario.	The filters 'before, during and after a disaster/crisis has been introduced. It will be an issue of the evaluation if this filter eases the retrieval of a relevant guideline
A guideline would be helpful that compares the boundaries and possibilities of the different communication channels	Several guidelines address this issue by providing description of so called tools. Currently such guidelines can be found by using the filter 'technology

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11. ANNEX V: FOLLOW-UP FROM THE 2ND LINKS ADVISORY COMMITTEE MEETING CONCERNING THE NETWORKS LIBRARY

NETWORKS LIBRARY	
INPUT FROM LAC	**COMMENT**
A description of the scope of the network would be helpful (e.g., level of activities (local, national, international, or membership size would be conceivable).	Subcategories International and National are already implemented. Activities are regularly described in their who we are section, more details can only be provided by direct contact. We can ask for more information whenever the network confirms interest in the LINKS project. For the time being local associations are only mentioned if they are of interest in one of the 5 Cases.
A geospatially presentation of the networks on a map could make sense.	This is not an easy task because some of the networks cover most of European countries. A geospatial presentation of the registered offices appears not be relevant for choosing the network
Information on the modus operandi (how a network works, e.g., monthly meetings etc.), the work outputs of a network (e.g. recommendations or position papers) and the number of members could be helpful.	Membership size could be included whenever it is available on the network's webpage, activities are regularly described in their who we are section, more details can only be provided by direct contact. We can ask for more information whenever the network confirms interest in the LINKS project
A specification of the network's participants (e.g. academic, operational, strategic) could be helpful.	A general distinction one can draw from the various sub-categories already listed in the networks section. In DMO networks one can normally find all types of actors.
If expertise is available on an SMCS topic area, this should be noted separately.	If available this information will be provided in the general description section of the network; could be
It would be helpful to note whether the Guideline documents the benefits of SMCS during past disasters and derives lessons learned.	It is planned to introduce a special library Use cases into the LCC where examples are shown where use of SMCS has been beneficial. Nevertheless, guidelines which contain good practice examples will be marked accordingly.

NETWORKS LIBRARY (cont.)	
INPUT FROM LAC	**COMMENT**
It could also be noted whether the network is open to information contributions from outside the network.	We live in an information society and as such all the networks give their contact details and most of them are also active on social media. It can be assumed that they are all welcome receiving information from outside. The route may be different depending on the status (authority, NGO, researchers, businesses) and size of the network
A query as to whether the network information is up to date would be helpful.	For the time being it is unlikely that this could be done in an automated way. A user could derive the actual status

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	by checking the latest news, posts, tweets in the networks' communication channels
The question is whether verification of the information via the network is necessary and feasible or whether it has already been carried out. Perhaps it is worthwhile to think about this aspect in more detail.	A verification of the information via the network has not been carried out and is considered neither to be necessary nor feasible. Currently the information about the network is taken from their websites and the information is regarded as a true record.
The improvement of the quality of the information in a network with the use of a moderation was assumed by the experts in the discussion.	After the project will be finished a moderation by a consortium member is not foreseen. The LINKS community instead should guarantee and/or comment on the quality of information via the forum in the LCC.

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12. ANNEX VI: FOLLOW-UP FROM THE 2ND LINKS ADVISORY COMMITTEE MEETING CONCERNING THE LINKS COMMUNITY CENTER

LINKS COMMUNITY CENTER	
INPUT FROM LAC	**COMMENT**
Participants expressed the urgent need to have an overview of data management systems (e.g., crowdsourcing systems for earthquake detection) used by national security agencies. This is where the LCC could contribute.	Some examples are currently listed in the LCC section Useful resources. It is under discussion if this should be better placed in the Use Cases Library (under construction).
The importance of the practical examples within the LCC was emphasized by the participants: These could consist of either real-world events or exercises. The practice examples should focus on helpful lessons learned and the management of knowledge. Reports from practice examples could be converted back into learning materials.	The Use Cases Library (under construction) will contain these examples
The LCC could also help with the cost/benefit analysis on whether introducing social media within a disaster management organization is worth it.	As a huge part of the costs when implementing social media, we acknowledge that information about the pricing of the provider or accessibility to the technology is interesting for users. Therefore, the new category Business model" will be added. Information about how to establish a social media team can be found in the Guidelines Library.
The LCC should include a list of members and their organizations to support the community aspect.	Planned to be integrated
An improved search function based on tags could make material inside the LCC more accessible.	The search function already supports keywords
A forum section for open questions could help new community members.	Already implemented

LINKS COMMUNITY CENTER (cont.)	
INPUT FROM LAC	**COMMENT**
In the LCC there might be the possibility to get into the SMCS topic via the type of a hazard. You would then have to be able to select, for example, to receive all interesting SMCS information about e.g., drought.	Planned in the context of the Use Cases Library (under construction)
Maybe not all information in the LCC is always needed. The information should be accessible to all, but a focusing and filtering on certain aspects should be possible. The complete LCC should cover as many areas and disasters as possible.	Filters are already available

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The LCC should provide an overview of what standardization initiatives (ETSI etc.) already exist or are being developed in the field of SMCS.	Is currently discussed in the consortium
It will be a challenge to keep the LCC up to date and to operate it sustainably beyond the end of the project	Sustainability is already considered for all decisions