

LINKS

Strengthening links between technologies and society
for European disaster resilience

D6.3 FINAL WORK PLAN FOR THE LINKS FRAMEWORK AND THE FIVE CASES

Research 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 two 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 various 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

This deliverable (6.3) focuses on the final work plan for the evaluation of the LINKS Framework in the case-based assessments. There are five cases in LINKS, in the frame of the following hazard scenarios:

- Earthquakes in Italy

- Industrial hazard in The Netherlands
- Drought in Germany
- Flooding in Denmark
- Terrorism in Germany

This deliverable provides a detailed overview and timeline of the activities that each case carries out in this second round of case assessments, as well as the specific Framework products on which each activity is focused and the stakeholders involved.

This document is mainly conceived as a work plan for internal (LINKS consortium) use. It supports the Case Assessment Teams (CATs) in LINKS by providing the overall roadmap and timeline for the work plan, including the assessment instructions for the CATs. Yet, it is a public document and therefore also of relevance to external stakeholders (e.g. researchers, practitioners) who are engaged in research activities similar to those carried out in LINKS and are looking for guidance on, e.g. planning and/or for practical tools (such as guidelines) that can support the research.

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LIST OF ACRONYMS

Abbreviation / Acronym	Description
CATs	Case Assessment Teams
DCT	Disaster Community Technologies
DMP	Disaster Management Processes
DRPV	Disaster Risk Perception and Vulnerability
DMO	Disaster Management Organisation(s)
LCC	LINKS Community Center
LCW	LINKS Community Workshop
SMCS	Social Media and Crowd sourcing
WP	Work Package

DEFINITION OF KEY TERMS¹

Term	Definition
Best practices	This encompasses the preferred actions in a specific type of situation to efficiently and effectively achieve a certain objective. Best Practices may be formalised in internal policy documents such as handbooks and standard operation procedures and could be based on one or several lessons learned approved by decision-makers (definition builds on DRIVER+ terminology, LINKS Glossary).
Case	Context-based study, realised through fieldwork, to assess the LINKS Framework. A case implies an empirical inquiry that investigates a real-life hazard scenario (LINKS Glossary).
Case-based assessments	The assessment of the LINKS Framework in local cases (LINKS Glossary).
Crowdsourcing	Describes a distributed problem-solving model where the task of solving a challenge or developing an idea get 'outsourced' to a crowd. It implies tapping into 'the wisdom of the crowd' (definition builds on Howe, 2006; see also LINKS Glossary).
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 organisations in their planning for using social media and crowdsourcing in disasters.

¹ Definitions are retrieved from the LINKS Glossary @ <https://links-project.eu>.

Term	Definition
LINKS Knowledge base	The outputs and knowledge obtained from the assessment of three knowledge domains. This knowledge is used to develop the LINKS Framework (LINKS Glossary).
Resilience	The ability of individuals, institutions, and systems to recover from disturbance and to develop and adopt alternative strategies in response to changing conditions (definition builds on Tyler & Moench, 2012; see also LINKS Glossary)
Scenarios	In LINKS the scenarios are the hazards, contextualised in each case (case 1, earthquake, Italy; case 2, industrial, the Netherlands, case 3, drought, Germany, case 4, flooding, Denmark, case 5, terrorism, Germany). They are informed by methodological choices and are instrumental for the case-based assessments of the Framework as they are the real-life scenarios through which the LINKS Framework is assessed (LINKS Glossary)
Social media	A group of Internet-based applications that build on the ideological and technological foundations of the Web 2.0 and that allow the creation and exchange of user-generated content (UGC). Forms of media that allow people to communicate and share information using the internet or mobile phones (definition builds on Kaplan & Haenlein, 2010; see also LINKS Glossary).

1 INTRODUCTION

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 social media and crowdsourcing (SMCS) in disasters. This is achieved through the creation of the LINKS Framework. The Framework which can be accessed online via the LINKS Community Center, acts as a knowledge repository and learning tool on the current uses of SMCS in disasters, for disaster management organisations and other interested stakeholders.

During the lifetime of the project the Framework is developed and evaluated in cases assessments, through which we investigate real-life hazard scenarios: earthquakes, industrial hazard, drought, flooding and terrorist attacks. This document (D6.3) is the last of three strategic planning deliverables for the cases assessments following D6.1 (September 2021) and D6.2 (December 2021). In the first deliverable, D6.1 (Fonio & Clark, 2021), we outlined the main steps to prepare for the case-based assessments by providing a step-by-step approach to ensure appropriate planning. The second deliverable, D6.2 (Fonio & Clark, 2022), provided a detailed framing of the individual LINKS cases, the work plan, and the timelines for activities in the cross-case and deep dive assessments, as part of the first round of case assessments conducted from November 2021 to April 2022.

This third and final work plan provides a breakdown of the steps and activities to take place across the second round of case assessments from November 2022 – March 2023. It includes the update of activities in each case, including the activity scopes and timelines. It further builds from the second methodological deliverable D2.7 (Lüke et al., 2022) to provide the case assessment teams (CATs) with guidelines for conducting and evaluating the activities in this round of assessments. The CATs consist of local partners in each case from practitioner organisations and research institutes, which carry out the evaluation of the Framework in the case assessment activities.

In this round of assessments, the collaboration between CATs and relevant stakeholders in the cases (e.g. schools, police, fire brigades, local authorities, civil protection authorities) will work towards the ongoing development and making use of the Framework and its related products, through different case activities. In this regard, this document is also written closely with the CATs. This collaboration is central to understanding the contexts of the different cases and for the organisation and execution of the activities across and within the different case communities.

1.1 How to Read this Document

This document is structured as follows:

- Section 2 summarises the past and current stages of development of the LINKS Framework in the case assessments.
- Section 3 provides the overall roadmap for the second round of case assessments, and instructions for the CATs for conducting the activities.

- Section 4 outlines the work plans for all the ongoing and planned activities for the five cases.
- Section 5 provides conclusive remarks and an overview of the next steps for the project.

In addition to these sections, Annex I provides a chart of the product owners and task forces responsible for the products, and Annex II shows tables with the activities already completed by the CATs in the last period of the project.

2 THE LINKS FRAMEWORK AND THE FIVE CASES

The LINKS Framework is one of the primary outputs of the LINKS project. The central focus of the Framework is to provide knowledge, and facilitate knowledge sharing among different stakeholders, supporting cooperation and the exchange of good practices, especially through the LINKS Community Center (LCC) as the technical interface to the project results.

The Framework encourages strategic thinking and can be used by DMOs to plan how they will deploy SMCS throughout all phases of a disaster (D5.3 Fonio et al., 2022). The Framework is structured as learning paths and products. The learning paths build from the two main themes of *engaging with citizens* and *improving communication* based on the outputs across the LINKS Knowledge Bases (Disaster Risk Perception and Vulnerability - DRPV, Disaster Management Processes - DMP, Disaster Community Technologies- DCT) - and the first round of case assessments: D5.3).

Figure 1: The LINKS Framework



Source: WP5

The themes and related sub-themes (e.g. how to make information accessible) are a departure points to assess and explore the pre-defined learning paths with the case-assessment teams. More concretely, this involves providing a set of guiding questions for each sub-themes that leads the users through a route for acquiring knowledge derived from the LINKS products included in the Framework (D2.7). The products are useful tools (e.g. Technologies Library, Guidelines Library, Use Cases Library, the Including Citizens Handbook, Educational Toolkit (now rebranded Feel Safe) and

the Resilience Wheel) that one or more stakeholders can adopt in their activities (D5.3). The following figure shows an example of how the sub-theme Making Information Accessible feeds from some of the LINKS products in the Framework.

Figure 2: Example of a Learning Path



Source: Figure 21 in D2.7

Deliverable 5.3 addressed the first round of development of the Framework, and explained how stakeholders might use it, including the various thematic learning paths and products contained inside it. The document provided an in-depth look at the design process and the inputs from Knowledge Bases and cases that went into the first version of the Framework.

The second round of development is now underway (D5.4, November 2022). The Framework is being implemented and assessed in the five cases by CATs using, refining and evaluating the Framework.

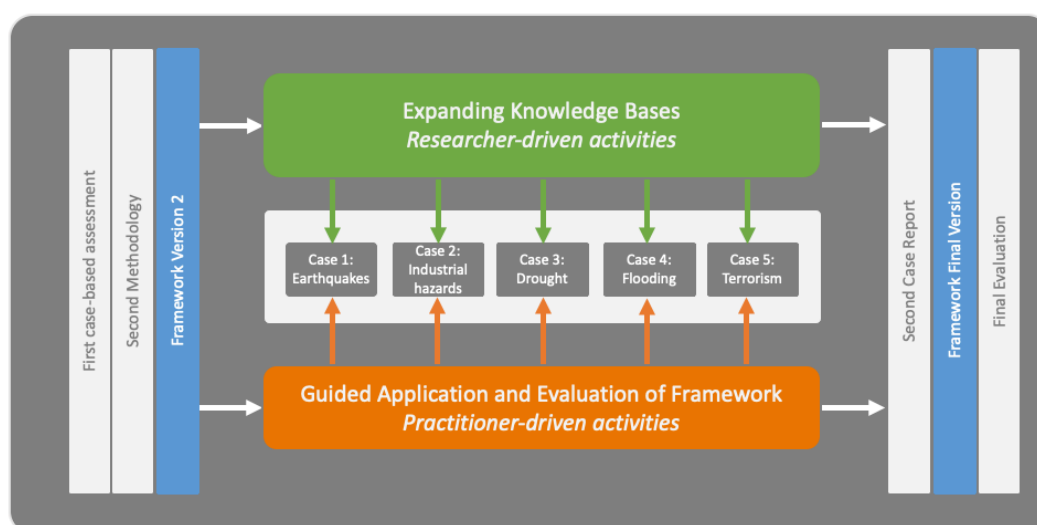
2.1 From the First to the Second Round of Case Assessments

The work plan in D6.2 (Fonio & Clark, 2022) focused on the first round of case-based assessments and activities that took place between November 2021 to April 2022. The first round of assessments consisted of both cross-case and deep dives assessments applied in all cases. The assessments were carried out through different methods and activities. For the cross-case assessments, the CATs used semi-structured interviews and a survey. The deep dives included additional activities (e.g.

workshops, serious gaming) carried out in parallel to the cross-case activities, which allowed the CATs to focus on areas relevant to their organisational and local contexts. The findings of these activities informed the three LINKS Knowledge Bases (DRPV, DMP and DCT) and the new version of the methodologies (D2.7). The results have also informed the development of the products included in the first version of the Framework (D5.3).

The second round of case-based assessments will be carried out between November 2022 and February 2023. It builds on the first round of assessments and moves towards the specific case needs and challenges, contextualised in the LINKS Framework themes, and on the development of the learning paths and products. The second case assessment is intrinsically connected to the second methodology (D2.7), which departs from the results of the first case assessment and the experiences and organisational setting of the practitioners in the LINKS consortium. The second methodology is designed across the three knowledge base perspectives (social, institutional, and technical) and around researcher-driven and practitioner-driven activities. The combination of research and practice allows the generation and expansion of new knowledge (researcher-driven activities) while further testing, refining, and validating results from the project's first phase in practice (practitioner-driven activities) (See figure: 3).

Figure 3: Research Design for Second Round of Case Assessments



Source: LINKS

In the second round of assessments, the collaboration between CATs and relevant stakeholders in the cases has a prominent role in developing activities, contributing to the products and using actionable results from the project. Many stakeholders within the local case communities were involved in the first round of case assessments through workshops and interviews. In this phase, the CATs will validate and apply the knowledge and experiences included in the Framework within their organisations and the local communities. At the practical level, the cases assess how the Framework

could be applied in their operations. The application entails exploring the respective learning path and implementing and improving the products that can address the organisation's needs.

For example, as shown in Figure 2, a learning path connected with the theme Improving Communication and the sub-theme Making Information Accessible would have the guiding question: Who do you want to access the information? Based on the intended target group, the learning path would guide the organisation from the question to relevant information from the product Including Citizens Handbook. They may also be directed to guidelines and examples for the organisation to work on who they want to access the information. At the same time, the organisation can contribute to the products by adding new information, guidelines and examples based on their experiences.

Considering the practitioners' needs and objectives alongside the learning paths in the Framework also allows the practitioners to participate in further developing the products. This co-creative approach works to establish local ownership of the LINKS results and address the needs and expectations of the CATs. While the case assessments are primarily practitioner-driven, they will be facilitated and implemented at the case level with support from the Knowledge Bases, and in close consultation with the product owners and product task forces set up around the development of specific products (see Annex I). The methodological task forces (cf. D2.3, 3.2) have merged into the product task forces. They will also be part of the consultation processes to discuss progress, issues and preliminary results, facilitating the coordination of the co-creation process of products in the cases.

In the next section, we present the detailed roadmap and instructions for the implementation of the LINKS framework in the five cases.

In section 4, we provide an overview of the central activities and timeframe for the implementation of the LINKS Framework at the case level (November 2022- February 2023). In D2.7 (section 4), we describe two levels of methods: a set of research-driven and practitioner-driven activities. The work plan in this deliverable, focuses on the practitioner-driven activities for the application and improvement of the Framework in practice.

3 ROADMAP AND INSTRUCTIONS FOR THE IMPLEMENTATION OF THE LINKS FRAMEWORK IN THE CASES

3.1 Overall Work Plan and Timeline for the Second Case Assessment

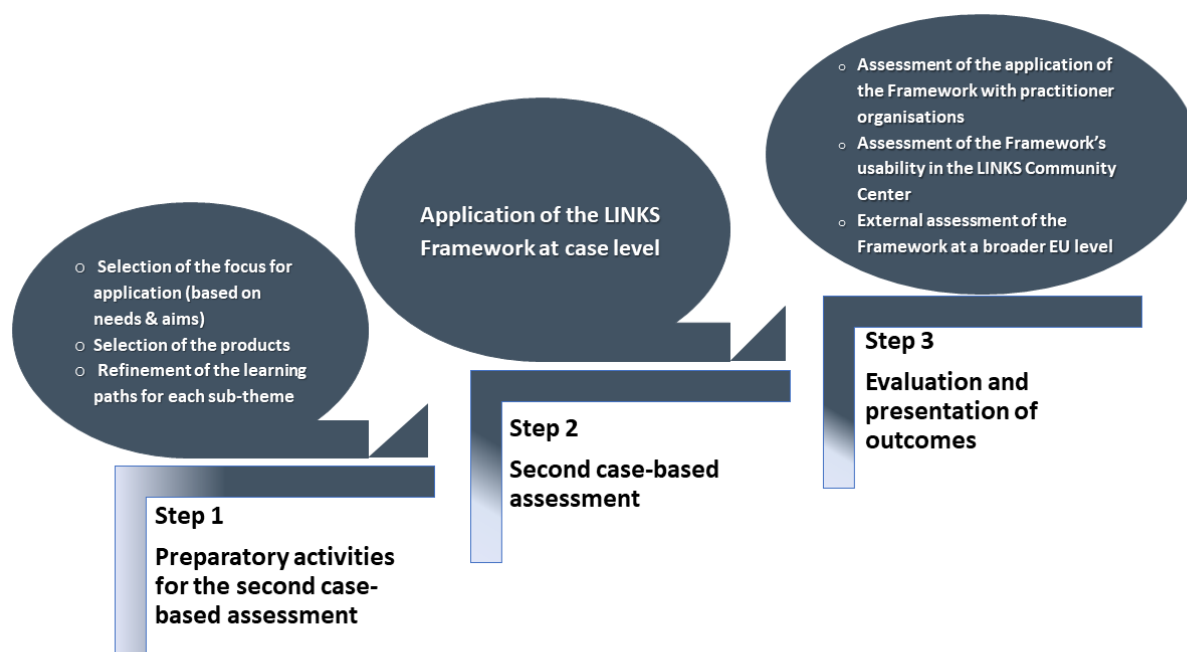
The goal of the work plan is to provide a detailed roadmap of activities that would lead to the evaluation of the LINKS Framework and its products. The implementation of the Framework and its products follows three steps. Step 1 is the preparatory activities for the second case-based assessment, and this phase runs from August to October 2022. Step 2 is the second case-based assessment and runs from November 2022 to February 2023. In February 2023, the final step, Step 3, consists of evaluating and presenting the outcomes from the preparatory activities and the second case-based assessment. A detailed guide to the three steps is provided in Section 4 of this document. In summary, the steps include the following:

In **step 1**, the preparatory activities for the second case-based assessment aim to determine the focus of the guided implementation in each practitioner organisation (learning path) in the CATs. This step also aims to corroborate products already being developed by partners in the CATs, and identify new products from the LINKS Framework that will support their needs and the objectives regarding specific problems or challenges related to using SMCS in disasters at the organisational level.

In **step 2**, the second case-based assessment aims to address the needs and challenges arising from the CAT organisations by applying and validating the products in different activities. In this step, the five cases are actively engaged with local stakeholders through LINKS Community Workshops, site visits and other methods in each case. The teams will keep track of their activities and the outcomes through an activity diary and other methods designated by the product owners via the product task forces (see Annex I).

Step 3 aims to evaluate the LINKS Framework's application with CAT organisations, including the usability of the Framework in the LCC (LINKS Community Center). The evaluation will be carried out using the instructions in this document. These instructions contain the reporting requirements for the Framework's guided applications via the learning paths. The instructions are structured so that the Framework's overall evaluation is examined at different levels (institutional, social and socio-technical). At the end of this process, the case teams will compile reports to be included in D6.5 (Second LINKS Case and Broader Context Report) in March 2023. There will also be an external evaluation of the Framework at a broader EU level.

Figure 4: LINKS Framework's Guided Application Towards Evaluation



Source: WP2-5 and D2.7

3.2 Instructions to the Case Assessment Teams

In this section, instructions for the second case assessments are provided for the CATs regarding the guided application of the learning paths and the Framework's evaluation in each planned activity mentioned in Section 4 (e.g. the site visits, LINKS Community Workshops, focus groups). The instructions include information on what is included in the preparatory phase and how the guided application of the Framework can take place on a case level, further aiding the assessment of the organisations and the LINKS Framework's societal and economic impact. As explained in Section 3, three steps are envisaged for the evaluation of the Framework:

1. Preparation
2. Second case assessments
3. Evaluation

3.2.1 Step 1 – Preparation

What: Preparation phase, mapping of case needs to learning paths in Framework.

Who: CATs and product owners.

When: September-October.

How: Meetings in which product owners and CATs provide input on learning path questions, answers and related products.

In this preparation phase leading up to the second case assessment, meetings are being arranged under WP6 from September-October 2022 with CATs and the product owners (see Table 12, ANNEX I) to provide feedback on the learning paths in the Framework. Specifically, the product owners provide input on the questions under each sub-theme of the

LINKS Framework formed to lead the users to answers provided by their products of different aspects (e.g. social, socio-technical) of using social media and crowdsourcing (SMSC). In this way, the refinement of the learning paths starts with the product owners, and a first mapping of the existing solutions/answers provided by the products are linked to the learning paths (Table 1).

Table 1: Excel File Tab – LearningPaths ProductsMap

Learning paths				Products				
Themes	Sub-themes	Aspects	Main guiding questions	Technologies Library	Guidelines Library	Use Cases Library	Including Citizens Handbook	Feel Safe
Engaging Citizens	Collecting and Analysing Information from SMCS	Social	1. Whom do you want to include in your collection and analysis of information, and from whom do you want to collect and analyse information?					
		Socio-/Technical	2. How to collect and analyse information from citizens?					
	Mobilising Citizens	Social	3. Who do you want to mobilise, and from whom would you want mobility-affiliated information?					
		Socio-/Technical	4. How can you mobilise the citizens?					
	Mobilising Volunteers	Social	5. Who do you want to mobilise (interested in volunteering), and from whom in such volunteering positions would you want mobility-affiliated information?					
		Socio-/Technical	6. How can you mobilise the volunteers?					

Improving Communication	Making Information Accessible	Social	7. Who do you want to access your information, and from whom do you want to access information?					
		Socio-/Technical	8. How can you make your information accessible ?					
	Targeting Communication	Social	9. Who do you want to target with your communication plan?					
		Socio-/Technical	10. How can you target your communication?					
	Ensuring Credible Information	Social	11. Who do you want to share credible information with, and from whom do you receive credible information?					
		Socio-/Technical	12. How can you ensure credible information exchange?					

The mapping of the questions and answers/solutions is colour-classified in an Excel file tab named '*LearningPaths_ProductsMap*' (Table 1) in the *Framework_GuidedApplication*' Excel document.² In orange are the questions and product solutions that cover social aspects (e.g., the inclusion of vulnerable groups in risk communication plans). In grey are the questions and product solutions that cover socio-technical and technical solutions (e.g., technologies used, social media platforms, socio-technically oriented approaches etc.).

Next, the needs contextualised within the themes, sub-themes and learning paths of the Framework, as well as the products of interest to the CATs that can address their case needs, should be identified. This takes place in phases as part of the guided application of the Framework learning paths.

3.2.1.1 Guided Application of the Framework

For each planned activity for the Framework evaluation in the case assessments during the November-February period, the CATs are asked to choose a specific direction and focus for their activities. The direction is mapped along the learning paths identified in Table 1. The CATs will apply the Framework's knowledge on using SMCS to improve communication and engage citizens with guided applications of one or more learning paths based on case-specific needs mapped to the learning paths and products in the Framework. To do this, CATs must fill out an 'activities diary' from which the feedback on different application levels (activities for the Framework evaluation, impacts of the activities, and inputs for Framework improvement) will be collected. This is done through the Excel document '*Framework_GuidedApplication*'.

² Accessible for CATs at [Workplans CATs 2nd Assessment](#).

3.2.1.2 Mapping the case activities

At the start of this phase, the CATs are asked to fill in the information regarding their case activities in the tab named '*Activities_GuidedApp*' in the Excel document. This includes the type of activity, the scenario and the scale of the activity (Table 2).

Table 2: Activities Diary Part 1

Organisation(s)	Actual stakeholders involved in the assessment	Case(s)	Activity	Date	Scenario	Scales
Name of the organisation	Name/Title	Country	Type and Description	dd/mm/yy	Hazard	neighbourhood, city, county, country

Specific information to be filled included:

- **Organisation(s):** The name of the organisation planning each activity.
- **Actual stakeholders involved in the assessment:** Abbreviation or full title/description of stakeholders involved in each activity.
- **Case(s):** Each participating country at the case assessments for the activities.
- **Activity:** Type of activity that takes place and a short description.
- **Date:** Date that the activity.
- **Scenario:** Hazard-specific to the cases. Each activity and its objectives must revolve around hazard-specific scenarios (flood, industrial, terrorism, earthquakes etc.). They can also be multi-hazard. In this way, each organisation focuses on hazards that deal with or foresees to deal with to adapt accordingly.
- **Scales:** defined scale for the guided applications under the hazard-specific scenario. Participants in each activity can be stakeholders, communities, and businesses representing different geographical scales. For example, communities in the city where the organisation/practitioner is situated or officials from a country level. But, the activity must involve the scale aspect to be more focused and tailored, considering inputs from the various participants. For example, each activity can apply a specific scale in its objectives, such as in a flood/industrial hazard/earthquake scenario affecting a particular city, exposed communities/people, or a country. It is suggested to proceed with one activity that is upscaled from the previous ones (e.g., from municipality level to country level).

3.2.1.3 Mapping the Aims of the Framework Application

Continuing from the previous process, CATs should fill in information for each activity, with details on the needs, the aim, related Framework themes, products and learning paths, and the expected outcomes of the product application in the case and within the organisation (Table 3).

Table 3: Activities Diary Part 2

<i>Needs</i>	Aims in relation to the needs of the organisation and framed within the Framework themes/sub-themes and products				Guided application of the Framework/learning path	Expected Outcomes (of the product)		Actual Outcomes (to be assessed at the end of the activity)		Product Updates
<i>Uses and challenges in applying SMCS in your organisation</i>	<i>Aim</i>	<i>Theme</i>	<i>Sub-themes</i>	<i>Products</i>	<i>Guiding question(s) of interest(see tab 'LearningPaths_ProductsMap')</i>	<i>Social</i>	<i>Socio-Technical</i>	<i>Social</i>	<i>Socio-Technical</i>	<i>Organisations contributions to the product</i>

The specific sections to be filled in include (from left to right):

- **Needs:** The needs of the organisation concerning the uses and challenges in applying SMCS in all disaster phases.
- **Aims:** The aims refer to the aims/objectives of the organisation concerning the needs, and framed within the themes and sub-themes of the LINKS Framework. i.e. Which is your aim according to your needs tailored to the Framework themes and sub-themes.
- **Guiding Questions in Learning Paths:** highlight the guiding question of the learning path of choice that the activity will expand upon to explore in the specific hazard and scale context of the case. As introduced in earlier, the questions can touch upon social or socio-technical needs. It is up to the case teams to decide those in the preparatory step (see Table 1). These can be found in the Excel file tab named '*LearningPaths_ProductsMap*'.
- **Products:** the relevant product(s) being applied/evaluated in the activity.
- **Expected outcomes:** Reporting the expected social/socio-technical outcomes of the product in the case and within the organisation. To be filled in at the beginning of each activity as it aims to capture expectations according to the organisation needs.

3.2.1.4 Ethics planning

CATs should revisit and prepare the relevant ethics documents for carrying out activities in the cases. All ethics documents are included under the General folder in SharePoint. The most relevant for the cases are copied under the WP6 > Second Round of Case Assessments folder. Those include, pocket-guidelines, informed consent sheets/forms, and the data management plan. Attendance sheets for meetings are also included in that folder.

3.2.2 Step 2 – Second Case Assessments

What: Guided application of the learning paths and products in the LINKS Framework in the cases.

Who: Organizations involved in the CATs.

When: From November to February.

How: Bi-monthly reporting on product improvements and content.

Step 2 is concerned with the application and assessment of the Framework in the case activities by the CATs. Practically, this entails: on the one hand, **exploring and using the resources available in the LINKS Framework related to one or more learning path(s)**, on the other, **keeping track of their work in the activities diary**

to provide periodic feedback for the products (both recommendations for improvement and content) which are being applied to address their needs. Product owners and product task forces guide this work (see Table 12, ANNEX I) working towards the focused development of each product in the Framework.

3.2.2.1 Activity and Product Updates

In section 4, the activities for each case are outlined in detail. After those activities have been mapped in the activity diaries to learning paths and products in the Framework, the CATs must report bi-monthly on the assessment activities within the diary and through a series of surveys. This includes:

- Activity/product updates (monthly from November – February)
- Content updates (monthly from November – ongoing)

These entries are made bi-monthly by CATs under the 'Activities_GuidedApp' tab. Teams should update the details for past, ongoing and new activities. Once activities have concluded, teams should provide feedback for specific product improvements (features, design, and content) based on the organisations use/engagement with the product during the planned activities. This is done bi-monthly in the column "Product Updates". Product owners will use this information for product improvements. Partners can also provide overall design and usability feedback for the integration of the products in the LCC.

Note, that product owners may also agree with CATs on additional means of evaluation and providing feedback for specific product improvement.

In this regard: for the Guidelines Library and Use Cases Library, all CATs are also asked to provide specific feedback on the current structure and filter systems for these products in the LCC via EU-survey links provided internally. For content, the product owners have also requested the following information by CATs before the end of January 2023:

a) Guidelines Library

SMCS related guidelines and any comments/suggestions about those guidelines. Especially those guidelines, in which a specific use of technologies is described.

b) Use Cases Library

Each partner in the cases provides 2-3 Use Cases, on innovative or interesting ways in which social media and crowdsourcing were used during disasters or by disaster management organisations. Especially cases with a specific use of technologies are of interest.

c) Technologies Library

The contribution to the Technologies Library within the next case assessment phase and beyond is currently designed as a twofold approach:

- First, if the needs of the CATs and especially the practitioner organisations can be addressed by the Technology Library, then the interested partners will test the current structure of the Technology Library in the LCC. This means that they will try to find a potential suitable technology through the filter system and content of the Library. Within that selection process, they will provide feedback on the filters, the usability, the understandability, and the quality of information. Feedback can be provided in the activity diaries. Moreover, missing (sub-)categories should be identified to better support a successful searching process.
- Based on the search for a suitable technology, the implementation and application of one or more technologies is planned. That means that the organisations will apply the technologies within their working processes to support the fulfilment of their needs. This step is designed to validate and improve the quality of the profile page of the selected technologies. Since the information from the technology providers varies and is sometimes not comprehensive, the high quality of information provided in the Library can be achieved through the application of the technology itself. Especially the validation and extension of the detailed scope of functions are foreseen.

For an efficient feedback process, both approaches will be accompanied by Safety Innovation Center (SIC) (as product owner). This includes bilateral discussions with the organisation in the CATs working with the libraries.

3.2.3 Step 3 – Evaluation

What: Evaluation of expected vs actual outcomes and impacts of the Framework application in the cases.

Who: CATs, WP6 and WP9 WPL.

When: November-March.

How: Reporting in diaries, surveys and workshops.

Evaluation takes place from November to March 2023. It includes:

- Evaluations of the Framework, i.e., outcomes of the Framework and its selected products by the organisation in the cases.
- Evaluations on the societal and economic impact of the Framework based

on the means of the evaluation, the activity type (see section 3.2.2), feedback from the target group of participants and their roles.

- c) Reporting by CATS in the D6.5 deliverable on the second consolidated case report in March 2023.

Product Outcomes: For each planned activity the CATs are requested to fill under the 'Activities_GuidedApp' tab in the diary for the actual outcomes (see Table 2). This information should measure against the expected outcomes, and gauge the actual outcome of the product in the activity on the organisation's plans using SMCS. *i.e. What were actually the solutions provided from the Framework and if / how they have been adopted.* This should be updated bi-monthly.

Activity Impact: For each activity, the expected impact is also needed in the Excel file tab 'Activity Impact'. Each activity serves as means of evaluation for the societal or economic impact of the activities and applied products in the cases, and is part of an overall Framework evaluation. Specifically, this information should be provided by the CATs as a means of evaluating the impact of the Framework application locally at the end of the assessment period in January 2023. This reporting also feeds directly into the evaluations planned under D1.5 (Bonati & Morelli, 2020) and D9.2 (Opromolla, 2021) as part the societal impact strategy and overall impact strategy of the project.

Information required for the 'Societal Impact' of each activity (see Table 4) entails the activity type marked in orange (*i.e., Meetings and workshops oriented to the realisation of the results*), number of practitioners, specific target groups, *i.e.* the organisations/roles of specific Practitioners, Policy makers, Civil society, Businesses, Researchers, their feedback, and the impact. As described in D9.2, societal impact concerns the shortening of the divide between researchers, practitioners, policy makers and communities, by sharing the knowledge related to SMCS in disasters. This means improving disaster resilience at the local level through SMCS by enabling practitioners and policy makers to take more informed decisions about the use of SMCS in all the phases of DRM; and improving information and communication for citizens and the inclusion of diverse people and groups (*e.g.* for languages, cultures, abilities, etc.) in all the phases of DRM.

Table 4: Excel File Tab 'Activity Impact' – The Societal Impact

SOCIETAL IMPACTS																										
Activity Type	Activity Description/Information	Practitioners					Policy makers					Target groups Civil society					Businesses					Researchers				
		N. practitioners	Which practitioners	practitioners role	practitioners feedback	Impact	N. policy makers	Which policy makers	policy makers role	policy makers feedback	Impact	N. civil society	Which civil society	civil society role	civil society feedback	Impact	N. businesses	Which businesses	businesses role	businesses feedback	Impact	N. developers	Which developers	developers role	developers feedback	Impact
e.g Meetings/workshops																										
e.g. site visit																										
e.g LCW																										
e.g. Other methods																										
e.g. Communication and dissemination events																										

CATs should also reflect if the activity has had an economic impact, under *Market Knowledge* or *Development of Market Opportunities* categories (see Table 5). For each activity add the names of the stakeholders involved. For policy makers also the level (e.g.: national, local, international) and for civil society additional characteristics that allow us to better understand the stakeholder. Feedback refers to existing knowledge/insights gained from stakeholders, including how the activities and the target groups knowledges about the market, have already, and may generated future, opportunities for market developments around LINKS outputs/products. For instance, by helping to increase local knowledge about the benefits of disaster community technologies in improving efficiency in disaster management processes, this will contribute to strengthening its attractiveness both for technology providers and disaster management organisations (see D9.2 for further information).

Table 5: Excel File Tab 'Activity Impact'– Economic Impact

ECONOMIC IMPACTS			
Means of evaluations	Market Knowledge and Opportunities		
	Target involved	Feedback	Impact
e.g. Meeting /workshop			
e.g. Site Visit			
e.g. LINKS Community Workshop			
e.g. Other methods			

e.g. Communication and dissemination events			
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In parallel, to these impact evaluations, a survey and a series of workshops will be held in December-January to evaluate the overall impact and outcome of the Framework (and associated learning paths and products) with the CATS, including the societal impact (based on the project societal impact strategy) of the work in the different case locations. The entries from the activity diaries will support the latter (see section 3.2.2.1). The activities also being conducted in parallel by researchers under WP2-4 will be included in this evaluation (see D2.7).

The diary entries and the final evaluations will feed into reporting by CATS in the D6.5 deliverable on the second consolidated case report. CATs will be provided with a template for the reporting in January 2023. The deadline for draft reports will be mid-February and the final submission of the deliverable March 2023.

Alongside the case activities, an external evaluation of the Framework will be conducted with entities working at the EU level through the LINKS Advisory Committee and other activities. Those activities are not covered in this deliverable in detail.

4 OVERVIEW OF ACTIVITIES PER CASE

This section provides an overview of activities per case and the timeline for these activities. Table 6 provides a high-level overview of the products, activities and stakeholders involved in each case. It is important to note that while different activities have different focuses per the case contexts, they all contribute to developing and evaluating the LINKS Framework. Moreover, Table 6 provides an overview of the case activities and product focus at the deepest development level. For instance, whereas all cases will contribute to the evaluation of three SCMS Libraries, only specific teams will go deeper into the development of those Libraries, as noted in the table. After that, Figure 5 provides a timeline for the work plan displaying the activities and dates in the cases in chronological order.

Table 6: Overview of the Case Activities and Product Focus

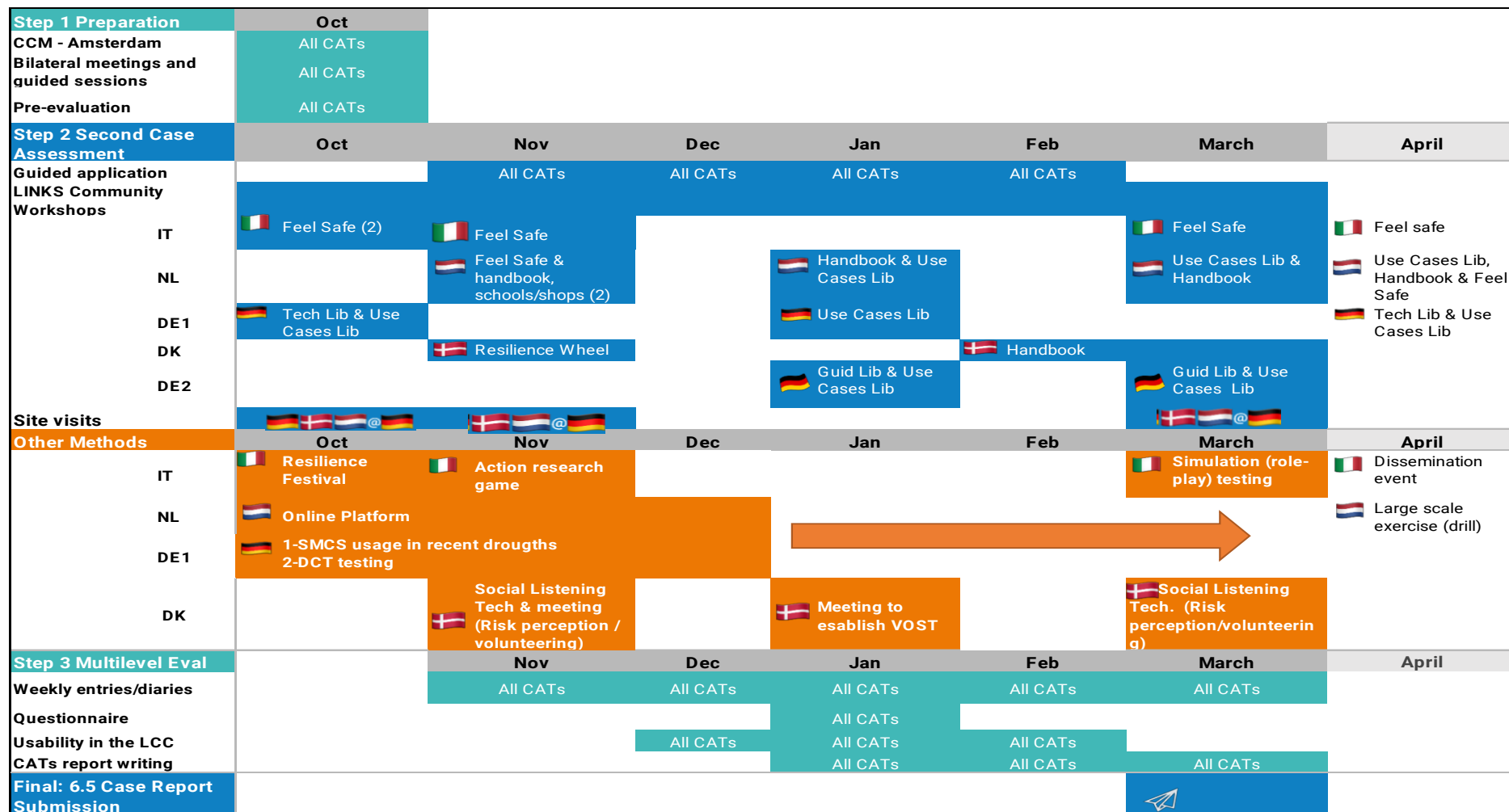
Case 1	Product	Activity Focus	Stakeholders
Italy	<ul style="list-style-type: none"> • Feel Safe • Including Citizens Handbook • Technologies Library 	<ul style="list-style-type: none"> • Workshop (for specific target audience, not LCW) • LCW • Action Research Game • Simulation Game • Resilience Festival • Site visits 	<ul style="list-style-type: none"> • LINKS partners • Schools, students & their families, and teachers • University, geography teachers • Local authorities & experts • RESILOC- LINKS- Italian Civil Protection
Netherlands	<ul style="list-style-type: none"> • Feel Safe • Including Citizens Handbook • Use Cases Library • Technologies Library 	<ul style="list-style-type: none"> • LCW • Site visits • Workshop (for specific target audience, not LCW) • Online platform (Together Safe Around Chemelot) 	<ul style="list-style-type: none"> • LINKS partners • Representatives from hospitals and other healthcare organisations within the municipalities of Beek, Stein and Sittard-Geleen • Shop owners • Schools

			<ul style="list-style-type: none"> • Dutch case team & German case team collective visit • Citizens living close Chemelot
Case 3	Product	Activity Focus	Stakeholders
Germany	<ul style="list-style-type: none"> • Technologies Library • Use Cases Library • Guidelines Library 	<ul style="list-style-type: none"> • LCW • Workshop (for specific target audience, not LCW) • DCT testing • Deep dives • Online surveys • Site visits 	<ul style="list-style-type: none"> • LINKS partners • Various Disaster Management Organisations – DMO • Provider of SMCS technologies (Businesses) • Practitioners (e.g. strategical leadership positions of fire departments and law enforcement at local, state and federal) • Policy makers, Researchers, Software Provider of DCT. • Members of VOST organisations

Case 4	Product	Activity Focus	Stakeholders
Denmark	<ul style="list-style-type: none"> • Resilience Wheel • Technologies Library • Including Citizens Handbook 	<ul style="list-style-type: none"> • LCW • Site visits • Focus group • Meetings with citizens • Social Listening Technology³ 	<ul style="list-style-type: none"> • LINKS partners • RESILOC partners • Danish practitioners, Danish LINKS partners and RESILOC partners • Danish Red Cross • Emergency managers • Citizens
Case 5	Product	Activity Focus	Stakeholders
Germany	<ul style="list-style-type: none"> • Including Citizens Handbook • Guidelines Library • Use Cases Library • Technologies Library 	<ul style="list-style-type: none"> • LCW • Survey • Interviews • Training session (provided by DMO) 	<ul style="list-style-type: none"> • LINKS partners • Practitioners (law enforcement across all three levels – local, state and federal) • Primarily practitioners (law enforcement from Germany and Sweden), potentially also researchers. • Practitioners & citizens (law enforcement, prevention council members, media) • Practitioners & decision makers (law enforcement, ministries, DAs)

³ This case uses the Tech Library to choose a technology that can survey 'sentiments' on social media and issues that engage groups of people/citizens.

Figure 5: Timeline for the Work Plan



4.1 Detailed Case Activities

This section offers a comprehensive status update on the activities at the case level. Each case first provides a short update of the activities since the last updates (D6.2 and D6.4). Each case provides a short summary of the outcomes of their activities, and how the outcomes feed into their future activities. After the summaries, tables provide details on the current and future activities developed by each case. The tables also indicate which product (s) each activity focuses on, the concrete emphasis of the activity (e.g., identification of risk affecting communities, discussion on citizen participation in emergency preparedness, assessing the needs of local stakeholders) and who the participants are. The further indicate the status of the activities (on track, delayed or to be confirmed-TBC). A Table of past completed activities for the cases can be found in Annex II.

4.2 Case Activities and Product Focus per Case

4.2.1 Case 1 Italy



Stakeholders



Institutional



Secondary Education
Schools



Associations

Focus: Development of effective multi-age communication strategies to enhance resilience



- ➡ Raise awareness on the uses of SMCS during earthquakes
- ➡ Promote inclusive communication strategies
- ➡ Engage with minors and senior citizens

In 2021 and 2022, the Italian CAT conducted two LCWs and nine workshops (with Save the Children and UNIFI) with the partner school Fanciulli.

The first LCW presented the project to the community and collected data from the main stakeholders' gaps and needs. A focus group was conducted with local authorities, civil protection disaster managers and CSOs to discuss more in depth about the use of social media and technologies in earthquake prevention activities and response; the main gaps identified pointed to the lack of guidelines for the social media communication management during the first phases of a disaster. Therefore, UNIFI started developing the structure and main content of the 'Including Citizens' Handbook'. The Handbook thematic areas are increasing awareness, making accessible information, mobilising people and engaging volunteers.

The second LCW was meant as an intergenerational activity to bring together children and practitioners to discuss disaster management, more inclusive preparedness and the use of technologies in risk management. The disaster managers were able to showcase how technologies can be used concerning earthquakes to promote a culture of safety, and children had the opportunity to conduct a live video conference with crisis officers conducting an urban search and rescue simulation in earthquake with trained dogs using an action camera. Furthermore, children had the opportunity to use a Virtual Reality tool to experience an earthquake's effect and learn how to mitigate the impact in their own house. Moreover, the series of workshops conducted with the Fanciulli school involved approximately 90 children. This activity represents a strong example of a participatory process for creating and testing preparedness activities and the development of Feel Safe. Earthquake risk remains the main focus of the Italian case, with a specific dedicated section on Feel Safe (Mission Earthquake). However, the aim of the activities conducted and to be reflected on the products would be to shift from the specific risk to working more on a culture of safety and resilience (especially looking at new environmental and climate risks).

The activities mentioned above provided some key results from first-hand observation and sharing:

1. 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.

2. SMCS guidelines are much needed for the public administrations at the local level, whereas they are more difficult to promote among practitioners.
3. There is a gap in the use of civic education with children in school; often, teachers do not know how to maximise this opportunity and which kind of activities to propose to students. 2- Civil protection culture is not appealing to children. Moreover, volunteers are often from older generations (communication gap).
4. There is a generational gap between schools' management and children in terms of understanding the use of social media and other technologies to promote a culture of safety and resilience.

In the upcoming case assessments' activities that are mentioned below, we plan to test, validate and promote three main LINKS products: 1. Feel Safe, 2. Including Citizen's Handbook, and 3. Technologies Library. Among the activities, we propose to conduct two LCWs. The first one will focus on the memories of disasters, with an intergenerational approach, bringing together elders and children to talk about how earthquakes, and other risk events, turned into disasters and how traditional knowledge and innovations can come together to minimise those risks in the future. The second LCW will consist of the presentation of Feel Safe and Including Citizen Handbook to local authorities by children from Fanciulli school.

Table 7: Case 1 – Overview of Activities

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
Workshops with children, testing "Feel Safe"	October 2022	Feel Safe	Exploring the use of SMCS among children and designing a multimedia tool for the awareness campaign	Approximately 45 students from 3 different classes (School: Istituto Fanciulli)	On track
Links Event in Florence testing "Feel Safe" during AIIG, UNIFI and StC	October 2022	Feel Safe	Testing and validating resources with school and university geography teachers	School and university geography teachers	On track

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
Feel Safe workshop with LINKS partners	October 2022	Feel Safe	Online workshop. Update on the product, testing resources, sharing ideas and promoting ownership	LINKS partners	On Track
Resilience festival in Gorizia	October 2022	Feel Safe	Round table discussion on children's participation in emergency preparedness	RESILOC – LINKS – CIVIL PROTECTION	On Track
Action Research Game with children on 'Mobility' (UNIFI)	November 2022	Feel Safe/ Including Citizens Handbook	Explore how mobilising citizens through technologies and social media use	Approximately 45 students from 3 different classes (School: Istituto Fanciulli)	On track
Site Visit, Twente	November 2022	Feel Safe	Showcase the risk factory project	Video shooting	TBC
Feedback collection from key stakeholders	January 2023	Technologies Library (and Guidelines Library)	Collect feedback on the material included in the libraries	At least three experts interviewed	TBC
Site Visit, Iserlohn Municipality	March 2023	Feel Safe	Showcase Iserlohn fire fighters education project	Video shooting	TBC
Simulation (role-play) testing the multimedia product	March 2023	Feel Safe	First test of the multimedia product with civil protection volunteers	Approximately 45 students from 3 different classes (School: Istituto Fanciulli)	On track

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
Inter-generational dialogue LINKS Community Workshop (StC)	March 2023	Feel Safe	Children meet their grandparents. They discuss memories of disasters. Analog meets new technologies. Sharing strategies for risk management	Approximately 45 students from 3 different classes (School: Istituto Fanciulli)	On track
LINKS Community Workshop (PDT)	April 2023	Feel Safe/ Including Citizens Handbook	Final project event	Children from Fanciulli school present to local project's stakeholders the achievements and Feel Safe	On Track
Dissemination event (with other StC partner schools? - webinar? - or video campaign)	April 2023	Feel Safe	Dissemination event on the Feel Safe	Methodology to be discussed. It could be a video (motion graphics?)	On track

4.2.2 Case 2 The Netherlands



Stakeholders



Police



Local
authorities



Regional health
service



Schools



Health care



Business owners

Focus: Improving crisis and risk communication



➡ Identify specific information needs

➡ Enrich the risk communication plan

➡ Community building
(public and private organizations, local communities)

The Dutch case has made great lengths in aligning the different parties working on the risk communication surrounding the Chemelot Industrial Site, in light of the ongoing risks of industrial hazards in the region. Now that different parties are interested in working alongside the Dutch partners, the case activities are moving forward faster. The case conducted the first LINKS Community Workshop (LCWs) with healthcare professionals in 2022. This information will continue to be useful to transform the findings in the field into practical applications for the LINKS products.

The case will be organising LCWs for other key target groups (shopkeepers and schools) in the region. After those workshops are completed, a final workshop will be held in 2023 to present and discuss the main learnings with the attendees from the previous workshops and key figures from the neighbouring communities (mayors, ambassadors, and key government figures). The LCWs are designed to identify the unique information needs of each target group. Identifying the specific needs of each group be used to enrich the current risk communication strategy for the region, and simultaneously improve the relations with the community, by involving the community in creating solutions. Additionally, by working closely with partners from Chemelot, the GGD, and the government, the Dutch case aims to focus different regional efforts on one front. This approach should provide more clarity for the community but also local practitioners.

The ultimate goal of the case will be to establish communication channels with the community and local partners on a strong and trusting foundation, so that after the LINKS project is over they can continue to reap the benefits of LINKS. The case also aims to use the data gathered from the workshops to transform this information into a contextualised version of the Including Citizens Handbook. The case will also focus on the application of Feel Safe and explore this idea further with the Italian case. The long-term goal for the local partners is to create a platform (preferably an app) that practitioners (at the fire brigade), ambassadors (key figures in communities), and the youth (from the target group schools) can all utilise for their own needs. The LINKS results are crucial to the development and considerations for the app's design.

Table 8: Case 2 – Overview of Activities

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
Site visit (and workshop) from the Danish and Dutch case team to Paderborn	October 2022	Technologies Library & Use Cases Library	Potential mutual support from the Dutch case on SMCS Libraries. This also includes planning for the second case assessment.	LINKS practitioner and researcher partners	Completed
Site Visit Italy	Tbd *Suggestion: End Nov/ Early Dec 2022	Feel Safe	Learn more about Feel Safe and how the Italian case team approaches the target group of children. The information will be used for a workshop directed specifically at schools/children.	The Dutch case team & the Italian case team.	TBC
LCW/Focus group: Schools (directors & upper-management)	November 2022	Including Citizens Handbook & Feel Safe	Investigating the information needs of school directors and students in case of an emergency at Chemelot, or long before such an emergency occurs.	The workshop will focus on upper management (directors and those in organising functions) from the municipalities of Beek, Stein and Sittard-Geleen.	On track
LCW/ Focus Group: Shop Owners	November 2022	Including Citizens Handbook	Investigating the information needs of shop owners in case of an emergency at Chemelot, or long before such an emergency occurs.	Shop owners within the municipalities of Beek, Stein and Sittard-Geleen.	On track

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
LCW/Focus Group: Schools (teachers & children)	Tbd	Including Citizens Handbook	This may be scheduled if it is revealed during the workshop with schools that there is a desire for a second workshop (this time specifically catered towards teachers and children).	A potential second workshop would specifically focus on the students and teachers from the municipalities of Beek, Stein and Sittard-Geleen.	TBC
LCW Citizens & Community Ambassadors	Jan/Feb 2023	Including Citizens Handbook & Use Cases Library	Investigating the information for those living in the general surroundings of Chemelot. This workshop is to explore gaps left unexplored during the previous workshops.	Citizens living in the surroundings of Chemelot and ambassadors (for example, sports clubs).	TBC

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
(5)LCW Final (with mayors & members from the previous workshops)	Mar/April 2023	Technologies Library	This workshop has as its main focus to reflect on the learnings from the previous workshops and to direct our focus to what we can practically do to improve risk communication.	Citizens living next to the industrial park, especially the people living in the Lindenheuvel area (part of municipality Sittard-Geleen). Ideally, involvement of the mayors from the municipalities Beek, Stein and Sittard-Geleen and other key figures from the government.	TBC
Large Scale Exercise	April Onwards *at least till after all the workshops are completed.	Including Citizens Handbook & Feel Safe	Potential exercises with civilians in preparation for an incident on the Chemelot grounds. The goal will be to organise a largescale exercise with the municipalities in the surroundings of Chemelot.	Preferably all parties (scale will be determined further down the line).	TBC

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
Online Platform Slogan: 'Together Safe Around Chemelot'	ongoing	Use Cases Library, Including Citizens Handbook & Feel Safe	A long-term ambition of Case 2 is that the case outputs can support the development of a local app/platform for practitioners to learn from each other and find information geared to specific needs. The platform for local ambassadors to use to navigate their social networks quickly (think neighbourhood WhatsApp groups or traditional chain calls but more sophisticated). In combination with an app, for two-way communication, a kind of 'Toolkit library' in one place.	The Dutch Case team will need to work closely with established partners in the field to support the development.	This is an initiative of Chemelot, the three municipalities surrounding Chemelot, and the South Limburg Safety Region and the Province of Limburg.

4.2.3 Case 3 Germany (Drought)



Stakeholders



Police organisations



Industries



Fire brigades



Civil protections



Scientific communities



Digital volunteers

Focus: How SMCS are used in droughts



- ➔ Assess needs and potentials of several stakeholders
- ➔ Mitigate the negative consequences
- ➔ Increase the positive impacts of SMCS

The year 2022 has clearly shown the devastating global impact that drought can have in Europe and worldwide. In the drought case, different sources (e.g. scientific reports, news articles, social media posts, etc.) are continuously collected and analysed concerning the usage of SMCS. In this way, helpful examples are collected and potentials identified and prepared on how SMCS can be used in upcoming droughts.

In three LINKS Community Workshops (LCW) that have been carried out in the German drought case, important insights were gained regarding the usage of SMCS technologies in droughts and especially in heat waves (results can be found in D8.5). In addition, this case will primarily advance the Technologies Library and Use Cases Library as these products are developed in close cooperation with WP4. For this purpose, SMCS Technologies will be applied, tested and tried out more and in-depth, wherever possible in the drought scenario. This also provides a potential to generate more input to the Use Cases Library. To expand the knowledge and evaluate the Technologies- and Use Cases Libraries, guided interviews will be conducted with selected experts (mainly providers of the technologies and already interviewed partners from the first case assessment) to evaluate the application of SMCS functions in drought - and in general.

Further workshops, especially LCWs, will be conducted to improve the libraries in specific contexts. A LINKS workshop with the Danish and Dutch partner organisations will be held as part of a site visit in Paderborn. The main aim is to identify and implement measures of how the LINKS products can support the CATs in their case and vice versa, and how the CATs can optimally support the further development of the products. Also, one LCW is planned with participants from Virtual Operations Support Team (VOST) organisations, which are very experienced in applying SMCS technologies and utilising information from social media.

Table 9: Case 3 – Overview of Activities

Research activities	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
Site visit (and workshop) from the Danish and Dutch case team to Paderborn	October 2022	Technologies Library & Use Cases Library	Potential mutual support between the Danish case and the Technologies and Use Cases Libraries (LINKS products). This also includes possible planning for the second case assessment.	LINKS practitioner and researcher partners	Completed
Observation and analysis of SMCS usage in recent droughts	Ongoing	Technologies Library & Use Cases Library	Investigation of SMCS-related activities in drought scenarios.	Various Disaster Management Organisations – DMO - (e.g. authorities of cities and districts, fire brigades, police, relevant NGOs (e.g. Red Cross)).	On track
DCT Testing	Ongoing	Technologies Library & Use Cases Library	Investigation, application and testing of selected DCT	Project partners, providers of SMCS technologies (Businesses)	On track
Workshop – Internal workshop for the development of the Use Cases Library	January-February 2023	Use Cases Library	The basis for the newest product – the Use Cases Library – is already developed. For further improvement and assessment of contributions of use cases so far, a discussion is needed.	LINKS consortium	On track

Research activities	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
LCW with members of VOST organisations	May 2022	Technologies Library & Use Cases Library	To assess and evaluate the current status of the SMCS (e.g. discussion of selected functions in detail). Also the current structure and potential of the Use Cases Library will be focussed.	Members of VOST organisations (mainly practitioner)	Planned

4.2.4 Case 4 Denmark



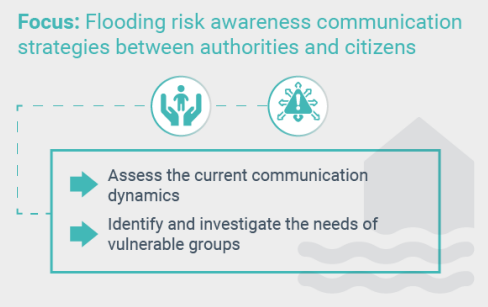
Stakeholders



Residents of
Frederiksberg



Local
authorities



The overall focus of the Danish case is to investigate the potential for strengthening the communication between professional actors, NGOs and citizens concerning both matters related to preparedness activities before crises occur and in the response phase during actual incidents. There is a distinct focus on the citizens' risk awareness of flooding (but also on other incidents), the practices for communicating among the actors involved and the underlying conditions for taking better care of vulnerable groups (e.g., elderly people) The case of cloudburst is a point of departure in the Danish case,

but other incidents (either experienced or object of concerns) are brought into the assessment of the case both by practitioners interviewed to the cross-case interviews and by citizens who have participated in the focus groups related to the deep dive analysis

The initial analyses of both the cross-case analysis, the focus groups and a social media analysis of open Facebook groups at Frederiksberg show the following outcomes: The practitioners have a strong focus on communicating with citizens, not least in crises. They apply social media to a large extent. They are however much more concerned with transmitting communicating to the public via social media (which they perceive as having identical needs in crises), more than they believe that crowdsourcing is manageable and productive. The accounts from the citizens in the focus groups hold several important insights for the LINKS project: Some of the citizens apply social media in times of crises, but they do, to a large extent, get information by following the news media (news media/legacy media are perceived as very credible in crises in a Danish context), and through non-mediated communication in own network, like talking to family members, neighbours, people on the street, phoning authorities etc. The role of civil society in a Nordic country context has to be taken into account. The public authorities are expected to be responsible for the citizen in times of crises, and the citizens have a high level of trust. The focus groups display that the citizens do not feel responsible for helping vulnerable citizens in their area if they are not related in some way or the other. This is a worrying finding concerning the vulnerable groups. The participants in the focus groups expect the authorities to take care of that. This could be an argument to strengthen the involvement of volunteers during crises. The social media analysis finally shows that there is a potential for social media crowdsourcing for the practitioners in the DMOs to get insights in 'social sentiments', both on an everyday basis (where preparedness activities and campaigns concerning, e.g. cloud bursts are taking place) but definitely in crises. The dominant part of the communication activities does not occur on the authorities' own social media sites but in public Facebook groups administered by citizens.

In the coming periods, the Danish partners have decided to work closely with the following LINKS products: The Technologies Library (technologies to support VOST-teams, social sentiment analyses and apps for dialogue), the Resilience Wheel (to support the integration of new technological methods, that involve intra- and interorganisational coordination, to be applied on workshops with practitioners), the Including Citizens Handbook (to target communication to citizens with diverse needs of information), the Use Cases Library (to get inspiration).

Table 10: Case 4 – Overview of Activities

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
Site visit (and workshop) from the Danish and Dutch case team to Paderborn	October 2022	Technologies Library & Use Cases Library	Learning from LINKS partner concerning LINKS products. Learning about German practitioners' work (observation of crisis management exercise). Also presenting first results from Danish deep dive to LINKS partners.	Danish, German and Dutch partners	Completed
LCW	November 2022		Workshop for Danish practitioners. Presentation of findings from RESILOC and LINKS.	Danish practitioners, Danish LINKS partners and RESILOC partners	On track
Meeting to get insight into citizens risk perception and organising spontaneous volunteers	November 2022	Including Citizens Handbook	Task Force ⁴	Danish LINKS partners, Dutch partners, external partners from Red Cross, Denmark	On track

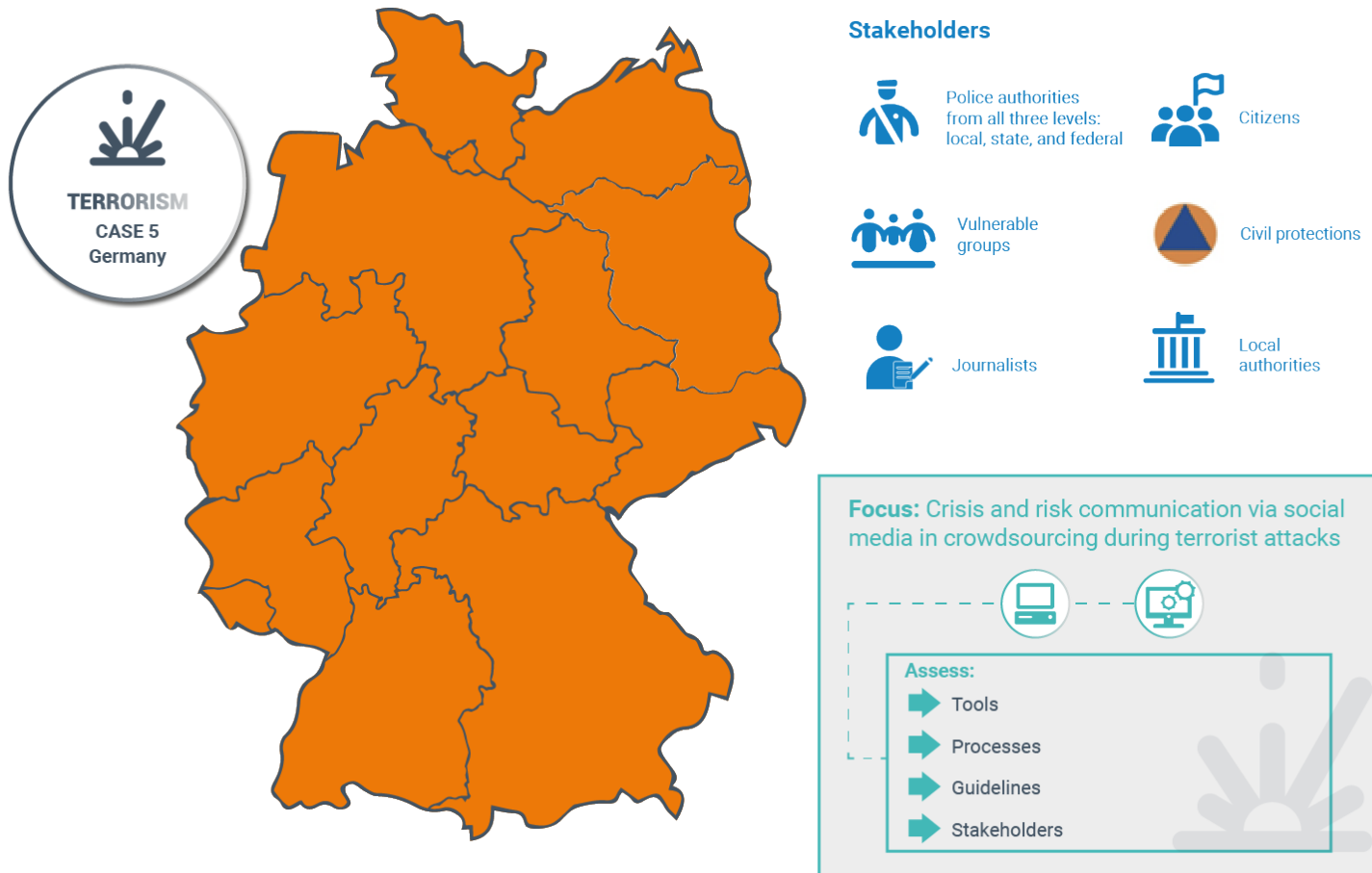
⁴ A working group (task force) for the Including Citizens Handbook sections on volunteering and citizen risk perception. The purpose is to have a close dialogue with both LINKS partners applying these sections on the Handbook and to get insights from external stakeholders, e.g. Red Cross Denmark and others who have distinct insights into the matters.

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
Implement a social listening technology	November 2022	Technologies Library	Implement a social listening technology at Frederiksberg municipality to monitor social sentiments in open local Facebook groups and investigate the potential for further engagement.	Danish LINKS partners	On track
Meeting to investigate the potential for establishing a Danish VOST	January 2023	Technologies Library & Use Cases Library	Understand if HBR can use the SMCS Technologies Library to establish the first Danish VOST of trained volunteers to apply digital crowdsourcing technology to support authorities in crises	HBR- Hovedstadens Beredskab	On track
LCW	January 2023	Resilience Wheel	Workshop –practitioners with operational crises management responsibility. Collaboration on the use of new methods to integrate crowdsourcing and strengthen the focus on the needs of the citizens in crises.	Danish LINKS partners (potentially extended to other cases)	TBC

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
Meeting to investigate the potential for establishing a Danish VOST	February 2023	Technologies Library & Use Cases Library	Understand if HBR can use the Technologies Library to establish the first Danish VOST of trained volunteers to apply digital crowdsourcing technology to support authorities in crises	HBR- Hovedstadens Beredskab	On Track
Meeting to get insight into citizens risk perception and organising spontaneous volunteers	February 2023	Including Citizens Handbook	Task Force	Danish LINKS partners, Dutch partners, external partners from Red Cross, Denmark	On Track
LCW	February 2023	Including Citizens Handbook	Workshop with citizens to explore their risk perception of cloud bursts. This workshop builds on findings from the Danish deep dive. The aim is to develop campaign material to inform citizens of future cloud bursts and investigate the upcoming dissemination on social media and through related platforms, channels, and forums.	Citizens of Frederiksberg municipality	On Track

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
Implement a social listening technology	February 2023	Technologies Library	Implement a social listening technology at Frederiksberg municipality to monitor social sentiments in open local Facebook groups and investigate the potential for further engagement.	Danish LINKS partners	On track

4.2.5 Case 5 Germany



The case work for the assessment of the German terrorism scenario has been threefold: it consisted of 1) a pilot survey to assess the uses of SMCS technologies within German law enforcement across all federal districts and to identify the most interesting research participants for the following 2) LINKS Community Workshops (LCWs) and 3) in-depth expert interviews. The main outcomes from the German terrorism case so far are that we could tailor a systematic overview of the knowledge, applications, and needs regarding social media (and crowdsourcing) to assist major police operations across law enforcement in all 16 federal states. Particular findings included that the knowledge of, and familiarity with, such tools and/or associated guidelines is distributed quite unevenly. Yet, their potential is generally rated as quite high across the states and different police units (special forces, police spokespeople, intel officers, or police psychologists involved in operation tactics). Strikingly, the units stress different aspects of importance (e.g., using SM to counteract rumours, inform the public, and ask for the public's support for gathering crucial information) but address similar needs and challenges (e.g., restrictions and insecurities due to data protection, police infrastructure – particularly the age structure at the decision-making level and high personnel fluctuation, managing/filtering the extremely high amount of social media information – incoming as well as outgoing – during severe operations such as a terrorist attack).

This case will move forward with two remaining LCWs and a second set of targeted interviews with experts from law enforcement starting from the second case assessments in 2022. These experts are from Germany and likely Austria (because, as detailed in the last LCW, SMCS played an important part during the relatively recent attack in Vienna) but also some of their primary stakeholders regarding applications of SMCS (potentially district attorneys and media representatives). During the last LCWs and interviews, almost all participants mentioned a particular interest in the overview of DCTs. In the next activities, the case will primarily evaluate the SMCS with them and assess which DCT features and sorting criteria are deemed most useful. The case will also broaden the scope and discuss legal aspects of those features and their potential for facilitating police-media and police-public communication during an attack – particularly concerning experiences made in past incidents. Thus, the results will also feed into the Guidelines Library, the Including Citizens Handbook, and (if enough information can be disclosed) the Use Cases Library.

Table 11: Case 5 – Overview of Activities

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
LCW followed by interviews and focus groups discussions	January 2023	Including Citizens Handbook, Use Cases Library	<p>Assess how the police and the media communicate during terrorist incidents.</p> <p>Understand if the public turns to the media instead of the police.</p> <p>Understand how to protect and engage potentially vulnerable groups using SMCS.</p> <p>Assess how the public evaluates the credibility of information shared in SMCS.</p> <p>Reflect upon preventing rumours and the spread of false information in social media. This LCW shall try to evaluate the Including Citizens Handbook and the Pocket Ethics Guidelines made available in the LCC.</p>	Practitioners & citizens (law enforcement, prevention council members, media)	On track

Activity	Date	Product Focus	Activity Focus	Participants	Status (Delayed, On track, Completed, TBC)
LCW followed by interviews and focus groups discussions	March 2023	Guidelines Library, Technologies Library & Use Cases Library	Understand how the guidelines for SMCS use during major terrorist incidents are developed to further evaluate particularly the Guidelines Library as well as the Pocket Ethics Guidelines from the LINKS Framework	Practitioners & decision makers (law enforcement, ministries, DAs)	On track

5 CONCLUSION

This deliverable is based on the five LINKS cases and provides a breakdown of the steps and activities to take place across the second round of case assessments from November 2022 – March 2023. Overall it provides a work plan for the second round of case assessments, and indicates what has changed in terms of activities for the CATs and what will be assessed by whom.

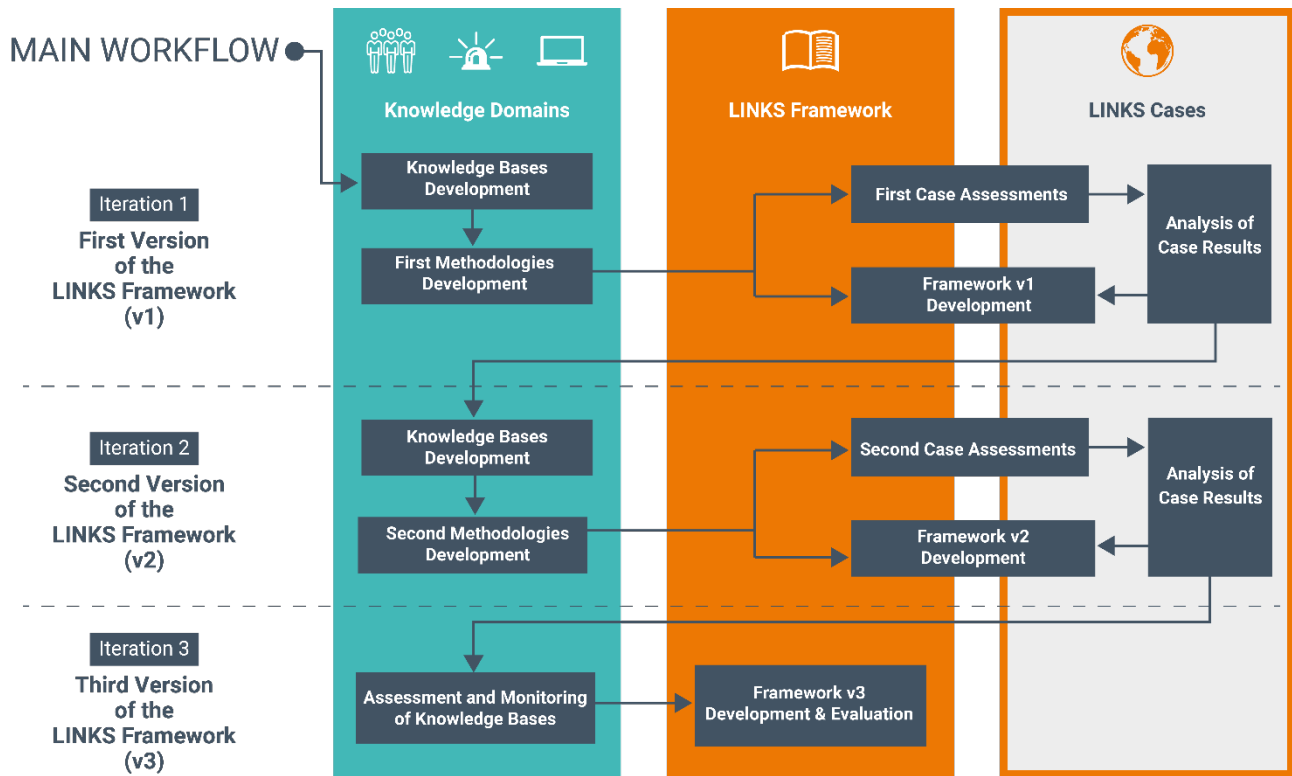
The document describes the three steps to implement the Framework and its products in the cases. This includes the preparatory activities for the second case-based assessment (August to October 2022), the second case-based assessment (November 2022 to February 2023) and the evaluation and presentation of the outcomes from two previous steps (February 2023). Section 3 also presents the instructions that will be used during the second round of case assessment (step 2) and the evaluation and presentation of the outcomes from the preparatory activities (step 3). The instructions will be distributed to LINKS CATs, and contain the guidelines and reporting requirements for the Framework's guided applications via the learning paths.

Finally, section 4 provides an overview of the main activities and timeframe for implementing the LINKS Framework at the case level, focusing on practitioner-driven activities for applying and improving the Framework in practice. For this update, the cases present an update on the case, their activities, and gears towards future activities.

5.1 Next Steps

The project is currently in the second iteration phase for the development of the LINKS Framework. The case teams will apply the second methodology in the second round of case assessments from November 2022 – March 2023. The results from the case assessments will analysed and consolidated into the second case report (D6.5) in March 2023 (see Figure 6).

Figure 6: LINKS Workflow



Source: LINKS

The results from the second round of case assessments will support the further development of three Knowledge Bases, through the application and evaluation of the learning paths and products in the contexts of the local case needs and objectives. The learning paths and products in the Framework will be further refined in a third, “final” (within the project scope) version within the LCC. A final external evaluation will take place in the summer of 2023 of the Framework. Processes for content contributions to the Framework from the case teams and other relevant stakeholders once the project is finished will be include in the sustainability strategy for the Framework in D5.5 (month 38) and D9.6 (month 42).

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7 ANNEX I

Table 12: Product Owners/Main Responsibility

Products/Main responsibility (coordinating working, inputs requests)	Technologies Library	Guidelines Library	Use cases Library	Feel Safe	Including Citizens Handbook				Resilience Wheel
					Increasing awareness	Making information accessible	Mobilising volunteers	Mobilising citizens	
UNIFI						✓		✓	
UCPH		✓					✓		✓
UCC					✓				
SIC	✓		✓						
VU									
SCIT				✓					
TASKFORCE	SIC	UCPH	SIC	SCIT		UNIFI UCPH UCC			UCPH
	VU	FEU	FEU	ST					UCC
		SIC	UNIFI	VRZL					
		VU	VU						

8 ANNEX II (ACTIVITIES COMPLETED BY THE CASE ASSESSMENT TEAMS)

8.1.1 Case 1 Italy

Table 13: Case 1 Completed Activities

Activity	Date	Product Focus	Activity focus	Participants	Status
Workshop with children on “Accessibility of places and information” during emergencies	October 2021	Feel Safe	Identification of the risks affecting ‘our’ community. Debate on how children usually access information, places and resources through social media.	Approximately 45 students from 3 different classes (School: Istituto Fanciulli ^[1]).	Completed
Action Research game with children on “Accessibility”	November 2021	Feel Safe & Including Citizens Handbook	Introduction to crowdsourcing technologies and applying crowd mapping to accessibility analysis.	Approximately 45 students from 3 different classes (School: Istituto Fanciulli ^[2]).	Completed
First Links Community Workshop	November 2021		Introduction of the LINKS project and debate on the potential of SMCS in disaster management and prevention. Focus groups with civil protection volunteers and roundtables with local authorities.	Local authorities and experts.	Completed

Activity	Date	Product Focus	Activity focus	Participants	Status
Workshop with children on "Connectivity: how to connect to people and places during an emergency via social media"	February 2022	Feel Safe	Group work on vulnerability and social media. Role play to implement a social media campaign on the risks present in our community. Exercise our capacity to check the quality of information.	Approximately 45 students from 3 different classes (School: Istituto Fanciulli).	Completed
Action Research game with children on "Connectivity"	April 2022	Feel Safe & Including Citizens Handbook	Exploring connectivity through technologies and SMCS use. Exploring the use of Hashtags during emergencies and on different social media; working on the risks of connectivity, and in particular, on how to identify fake news.	Approximately 45 students from 3 different classes (School: Istituto Fanciulli).	Completed
Workshop with children on risk management	May 2022	Feel Safe	Role play on risk management during an emergency.	Approximately 45 students from 3 different classes (School: Istituto Fanciulli).	Completed

Activity	Date	Product Focus	Activity focus	Participants	Status
Workshop with adults and children (LINKS Community Workshop, LCW)	May 2022	Feel Safe & Including Citizens Handbook	Intergenerational workshop with civil protection operators and children: disaster calendar, memory of the risks of our community. Round Table with school teachers and management	Local authorities, experts, students and their families, teachers.	Completed

8.1.2 Case 2 The Netherlands

Table 14: Case 2 Completed Activities

Activity	Date	Product Focus	Activity focus	Participants	Status
(1) LCW/Focus group Hospitals & Other Healthcare Organizations (pilot)	May 10 th , 2022	Including Citizens Handbook	Investigating the information needs of hospital representatives, and other healthcare workers, in case of an emergency at Chemelot, or long before such an emergency occurs.	Representatives from hospitals and other healthcare organisations within the municipalities of Beek, Stein and Sittard-Geleen.	completed

8.1.3 Case 3 Germany (Drought)

Table 15: Case 3 Completed Activities

Activity	Date	Product Focus	Activity focus	Participants	Status
Feedback, pilot testing and contribution to the online survey from WP4	October 2021-January 2022	No specific product focus, contribution to the survey in general	Contribution to the online survey development from a practitioners' point of view.	WP2-6	Completed
NEW - Identification of research participants for the online survey and distribution of the online survey	November 2021-March 2022	No specific product focus, contribution to the survey in general	Research and compilation of addressees and mailing lists for the survey.	WP6	Completed
Deep dive -Interviews	November 2021-March 2022	Use Cases Library & Guidelines Library	Current usage, potentials and limitations of SMCS and DCT in general and in the context of droughts.	Practitioners (e.g. strategical leadership positions of fire departments). Policy makers, Researchers, Software Provider of DCT.	Completed
LCW with practitioners of the police (together with DHPol)	Winter 2021/22	Technologies Library	Experiences in the uses of SMCS and DCT (which DCT features have proven valuable to facilitate police work?).	Practitioners (law enforcement only but across all three levels – local, state and federal).	Cancelled due to COVID, postponed to 05/2022

Activity	Date	Product Focus	Activity focus	Participants	Status
LCW at the Federal Academy for Civil Protection and Civil Defence (together with DHPol)	February 2022	Technologies Libraries & Presentation of LINKS in general	Evaluating different DCT features for the communication and coordination between DMO in disaster situations.	Practitioners (various DMO).	Delayed (due to Covid, the academy cancelled this workshop). Then the LCW with the special police forces in May was organised which covered the needs the case drought had towards this workshop. If a workshop will be organised at the Federal Academy for Civil Protection and Civil Defence next year, participation of this case will be analysed.
NEW - LCW about a social media strategy in an upcoming drought within the 'safety camp 2022' (New)	April 2022	Use Cases Library & Guidelines Library	The first workshop revolved around the development of a social media strategy in the preparedness phase for an upcoming drought.	Policy/decision makers, practitioners, and researchers.	Completed
NEW - LCW about social media and crowdsourcing technologies within the 'safety camp 2022' (New)	April 2022	Use Cases Library & Guidelines Library	The second workshop revolved around potentials of social media and crowdsourcing technologies in the response phase of a current heatwave.	Practitioners, policy/decision-makers, researchers	Completed

Activity	Date	Product Focus	Activity focus	Participants	Status
NEW - LCW with German special police forces on the applications of social media, organised by DHPol (New)	May 2022	Technologies Library	Get an overview of the features of DCTs that are seen as valuable to facilitate the work of special forces during an acute terrorist attack. Understand which features might hinder them or are superfluous	Primarily practitioners (law enforcement from Germany and Sweden), potentially also researchers (the full program has not yet been circulated) .	Completed

8.1.4 Case 4 Denmark

Table 16: Case 4 Completed Activities

Activity	Date	Product Focus	Activity Focus	Participants	Status
Pilot interviews, qualitative	Spring 2021	Including Citizens Handbook	Insight into risk perception and community communication.	Citizens from French diaspora	Completed Five interviews
Pilot interviews, qualitative	March, April 2021	Including Citizens Handbook, Technologies Libraries & Resilience Wheel	Insight into disaster management processes and stakeholder communication.	Stakeholders from HBR and FRB	Completed Seven interviews
LCW	March 2022	Resilience Wheel, Including Citizens Handbook	Initial workshop for practitioners in FBR and HBR. Presentation of preliminary results of cross-case and dialogue between practitioners.		Completed

Activity	Date	Product Focus	Activity Focus	Participants	Status
LCW	June 2022	Technologies Libraries & Including Citizens Handbook	Workshop for practitioners. Presentation of initial findings from cross-case and deep dive and innovation workshop.	Communication officers from Danish national authorities	Completed
Focus group interviews	June – August 2022	Including Citizens Handbook	In-depth insight in the risk perception and the communication practices (online and non-mediated communication) among citizens with a variety of vulnerability profiles (e.g. citizens who cannot secure their home).	Citizens from Frederiksberg who hold different kinds of resources and who are exposed in different ways	Completed Six focus groups have been carried out
Social Media analysis	November 2021 – June 2022	Technologies Libraries & Including Citizens Handbook	Insight into communication dynamics on selected open Facebook groups in Frederiksberg, as citizens and professionals exchange views with each other or citizens exchange views with other citizens.	Five open Facebook groups and two Facebook sites at Frederiksberg (Facebook sites from the municipality, the utility company, three local/regional news media outlets, one public and citizen-driven group, and one group run by the utility company)	Completed The analysis of the communication and interaction on the sites and in the groups is being processed in the Autumn of 2022

Activity	Date	Product Focus	Activity Focus	Participants	Status
Site visit	May 2022	Including Citizens Handbook & Technologies Libraries	Learning from LINKS partners in Netherlands. Focus on practitioners work and organisations.	Danish and Dutch LINKS partners	Completed
Site visit	July 2022	Technologies Libraries & Including Citizens Handbook	Learning from LINKS partners regarding LINKS products (Technologies Library, Use Cases Library & Including Citizens Handbook) and learning about Danish practitioners' work. Site visit in Copenhagen	Danish, Italian and German LINKS partners	Completed

8.1.5 Case 5 Germany (Terrorism)

Table 17: Case 5 Completed Activities

Activity	Date	Product Focus	Activity focus	Participants	Status
Survey	February-June 2021	Including Citizens Handbook, Guidelines Library & Technologies Library	Assessing which police forces across Germany already employ SMCS during major incidents and to find out basic aspects relating to their particular needs and application areas of SM(CS) in order to assess the institutional drivers for the terrorism case Resilience Wheel.	practitioners (law enforcement only)	Completed
Interviews (New)	November 2021-February 2022	Including Citizens Handbook, Guidelines Library, Technologies Libraries & Use Cases Library	Use, potentials and needs of SMCS generally and in the case of emergencies and specifically in the case of terrorism to further develop the dimensions of the Resilience Wheel.	Practitioners	Completed

Activity	Date	Product Focus	Activity focus	Participants	Status
LCW followed by interviews and focus groups discussions (with SIC)	February 2022	Including Citizens Handbook, Guidelines Library, Technologies Libraries & Use Cases Library	Get a deeper insight into the similarities and differences of the SMCS-use within the German Police and to better understand the practitioners' needs for more effective use of SMCS during emergencies., assess which particular tools and guidelines are already known and applied to add to the Social Media and Crowdsourcing and the Social Media and Crowdsourcing Guidelines Library of the LINKS Framework and to raise awareness of/interest in the LINKS Community Centre (and potential participation therein).	practitioners (law enforcement only but across all three levels – local, state and federal)	Completed

Activity	Date	Product Focus	Activity focus	Participants	Status
Participation at an BABZ training session	March 2022	Guidelines Library, Technologies Libraries & Use Cases Library	Get an overview of the features of particular DCTs that have proven valuable to facilitate BOS coordination during major terrorist attacks and/or to understand which features hindered them --> particularly to evaluate the usefulness of the tools collected in Social Media and Crowdsourcing.	Practitioners (law enforcement and other BOS)	Cancelled (due to Covid, the BABZ was cancelled) and thus replaced by another workshop (see next row)
Participation at a workshop for the leadership of German special forces on the applications of social media (with SIC and UCC)	May 2022	Including Citizens Handbook, Guidelines Library & Technologies Library	Get an overview of the features of particular DCTs that have proven valuable to facilitate BOS coordination during major terrorist attacks and/or to understand which features hindered them -->, particularly with the aim to evaluate the usefulness of the tools collected in Social Media and Crowdsourcing.	Primarily practitioners (law enforcement from Germany and Sweden), potentially also researchers (the full program has not yet been circulated)	Completed