



LINKS

Strengthening links between technologies and society
for European disaster resilience

D9.6 FINAL REPORT ON THE DEVELOPMENT AND DISTRIBUTION OF DISSEMINATION MATERIAL AND ON THE EXECUTION OF THE LINKS FRAMEWORK SUSTAINABILITY STRATEGY STATUS 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, due to 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)

The project aims to develop a framework through an iterative process. It brings together 15 partners and two associated partners across Europe (Belgium, Denmark, Germany, Italy, Luxembourg, Netherlands, Bosnia & Herzegovina) and beyond (Japan) to understand, measure and govern SMCS for disasters. The LINKS Framework consolidates knowledge and experiences on the uses of SMCS into useful products for relevant stakeholders. It is developed and evaluated through five practitioner-driven European cases representing different disaster scenarios (earthquakes, flooding, industrial hazards, terrorism, drought), cutting across disaster management phases and diverse socioeconomic and cultural settings in four countries (Denmark, Germany, Italy, the Netherlands). Furthermore, LINKS sets out to create the LINKS Community, which brings together a wide variety of stakeholders, including first-responders, public authorities, civil society organisations, business communities, citizens, and researchers across Europe, dedicated to improving European disaster resilience through the use of SMCS.

About this deliverable

This deliverable provides the final report about the communication and dissemination activities performed for the distribution of the LINKS project from June 2023 to the end of the project. It also contains an analysis about the key performance indicators for the DEC activities during the entire project.

The communication activities towards a general audience are reported on in a separate section than dissemination activities, intended to selected targets, even if they often tend to overlap. In each section, channels, materials and events are taken in consideration as the main tools to discuss. Channels include websites, social media, newsletters, repositories and other means to share the

information. Among the materials there are visuals, infographics, publications and videos, anything that can help spread the message. Events, that can be informative or scientific, are occasions to make the LINKS project known and discuss about its results.

Moreover, the deliverable provides updates on the exploitation and sustainability roadmaps for the LINKS results, together with the definition of the impact of those results. For each LINKS Key Exploitable Result (KER) a table shows an update of the anticipated exploitation actions and milestones; since exploitation and sustainability are closely related, the table also integrates a Sustainability Roadmap, which include details on the product owner roles, the costs for maintaining the result, specific target audiences/users, and the impact foreseen from the use of the result in the next 3 years.

Overall, LINKS achieved positive outcomes for implementing communication and dissemination activities, establishing meaningful interactions with many stakeholders.

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LIST OF ACRONYMS

Acronym / Abbreviation	Description
DEC	Dissemination, Exploitation, Communication
LCC	LINKS Community Center
LCW	LINKS Community Workshop
SMCS	Social Media and Crowdsourcing
TG	Target Group

LIST OF LINKS PARTNERS ACRONYMS

Acronym	Description
VU	VRIJE UNIVERSITEIT AMSTERDAM
UCPH	KØBENHAVNS UNIVERSITET
UNIFI	UNIVERSITÀ DEGLI STUDI DI FIRENZE
SIC	SAFETY INNOVATION CENTER GGMBH
UCC	KØBENHAVNS PROFESSIONSHØJSKOLE
FRB	FREDERIKSBERG KOMMUNE
HBR	HOVEDSTADENS BEREDSKAB
SCIT	SAVE THE CHILDREN ITALIA ONLUS
DPPI SEE	DISASTER PREPAREDNESS AND PREVENTION INITIATIVE FOR SOUTH EASTERN EUROPE
FEU	FEDERATION OF THE EUROPEAN UNION FIRE OFFICER ASSOCIATIONS A.S.B.L.
DHPOL	DEUTSCHE HOCHSCHULE DER POLIZEI
ST	SITECH SERVICES OF CHEMELOT
EOS	EUROPEAN ORGANISATION FOR SECURITY
LCU	LINK CAMPUS UNIVERSITY
PDT	PROVINCIA DI TERNI – SERVIZIO PROTEZIONE CIVILE
VRZL	VEILIGHEIDSREGIO ZUID-LIMBURG
CRESO	KOBE UNIVERSITY CENTER FOR RESILIENT DESIGN

DEFINITION OF KEY TERMS

Term	Definition ¹
Communication	Taking strategic and targeted measures for promoting the project and its results to a multitude of audiences, including the media and the public, and possibly engaging in a two-way exchange. ²
Dissemination	The public disclosure of results by any appropriate means, including by scientific publications in any medium. ²
Exploitation	The utilisation of results in further research activities other than those covered by the project, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities. ²
Impact	Scientific, social, and economic changes over a longer period. ³
Outcome	Changes in behaviour, relationships and activities, resulting from results. This includes the uptake or use of the project's results by different target groups. ³
Result	What is produced within the project, usually in the form of results within deliverables. ³

¹ LINKS Glossary: <https://links-project.eu/glossary/>

² Ala Mutka K. (2020). Dissemination and Exploitation in Horizon 2020. Retrieved December 16, 2020 from: https://ec.europa.eu/research/participants/data/ref/h2020/other/events/2017-03-01/8_result-dissemination-exploitation.pdf

³ Our elaboration on the basis of: European Commission (2021). Horizon Europe Programme Guide. Retrieved December 16, 2021, from https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/programme-guide_horizon_en.pdf

1. INTRODUCTION

This deliverable provides the final report about the communication and dissemination activities carried out for the distribution of the LINKS project from June 2023 to the end of the project. The deliverable also provides considerations for the projects overall achievements for activities done throughout its entire duration under WP9. Moreover, it provides an overview about the exploitation and impact of the results and the strategy for the sustainability of the LINKS Framework and other LINKS key exploitable results (KER).

The main purpose of the document is to assess the achievement of the goals set in D9.3 (Updated LINKS Dissemination, Exploitation and Communication Strategy 2 - Opromolla, A. Sposato, M. & Sciarretta, E. 2023) and its previous versions, that defined the plans for the dissemination, exploitation, and communication (DEC) activities of the project, by setting objectives, target groups, modes of implementation and expected impacts.

Since it is published only a few months after the previous report (M36), this deliverable is closely connected to D9.5 (Second Status Report on the Development and Distribution of Dissemination Material - Opromolla, A. & Sposato, M. 2023). Therefore, many of the activities already presented in D9.5 are not repeated, and this document only considers updates from the last few months (M36-42) and final achievements. The document proceeds as follows:

- In section 2, an overview of the quantitative and qualitative achievements about the LINKS results is provided.
- Section 3 describes updates and final activities related to the communication of LINKS results towards a general audience.
- Section 4 describes updates and final activities related to the dissemination of LINKS results towards relevant target groups.
- Section 5 describes and updates the exploitation and sustainability roadmaps for the LINKS results, building from the strategy defined in D9.3.
- In section 6, finally, the impact of the LINKS results is defined.

Many important achievements can be reported for this period. Among them:

- A social media campaign to share the results has been redesigned and launched and will continue after the conclusion of the project.
- The LINKS final conference gathered together stakeholders from academia, practitioners, and policy domains to discuss about the project's results.
- Communication materials, such as videos and infographics, have been produced and disseminated to show the project's results applied to different case scenario.
- The last newsletter, containing updated information about the developed products, has helped share the project's results among the key target audiences.

Throughout the entire project, the communication and dissemination activities have achieved the main targets set, such as:

- The results of the communication and dissemination activities are in line with the expected KPIs, as compared to the quantitative and qualitative indicators (see Section 2).
- In particular, the engagement achieved through the LINKS website and the social media channels has been beyond expectations (see Section 3).
- The number of scientific publications based on the LINKS results and the number of reads and downloads is consistent with expected indicators (see Section 4).
- LINKS has established a strong collaboration with the projects of the Social Resilience Cluster, feeding into different joined activities, events and outputs.

2. FINAL LINKS RESULTS AND KEY INDICATORS

In this section we provide an overview about the accomplishments for the DEC activities, comparing them to the key indicators set over the duration of the project. The indicators in this section are then further elaborated on in Sections 3-6 of this deliverable, as well as in past WP9 reports.

Table 1 provides the final update on the status for all the communication and dissemination activities developed through the entire project, comparing them to the main indicators defined in previous deliverables (see D9.3). Overall, all anticipated activities were met and often surpassed. The specific details and examples of communication and dissemination activities which took place between M36-M42 are described in Sections 3 and 4.



: indicator met;









: indicator not met;



: indicator not implemented.

Table 1: Status of Implemented Communication and Dissemination Activities

CHANNELS, MATERIALS, EVENTS	STATE OF THE ACTIVITIES
LINKS AND PARTNERS' WEBSITES	 A continuous update of these channels has been carried out. The contents are particularly focused on the results and products of the project.
LINKS AND PARTNERS' SOCIAL MEDIA	 A continuous update of these channels has been carried out. Contents are focused on the results and products of the project and aim at the LINKS Community objectives. A social media camping has been launched to promote/disseminate the most up to date version of the products.
NEWSLETTER AND PRESS RELEASE	 With the last one published in November 2023, the number of newsletters sent is in line with the relevant indicator. The articles written are also shared through social media channels and provide information for the creation of press releases spread through appropriate magazines.
ONLINE REPOSITORIES	 Research repositories and repositories addressed to experts (sharing useful materials and results) are constantly updated.
LEAFLETS	 Two leaflets have been created and updated, the first describing the overall project (and translated in the 5 languages of the project), the second describing the LINKS Framework.
ARTICLES IN INFORMATIVE/	 LINKS results are appropriately published in informative and specialised magazines.

SPECIALISED MAGAZINES	
INFOGRAPHICS/VIDEOS	✓ Visual communication of the project, with the implementation of infographics and videos illustrating the main results of the project and their benefits for the target groups, has become particularly important during the project.
SCIENTIFIC PUBLICATIONS	✓ Scientific papers on the main topics of the project have been written and published following the Open Access format.
POLICY OUTPUTS	✓ Two project policy outputs on 'Targeting Communication' and 'Making Information Accessible' have been produced. A joined brief with the cluster projects is also in production.
INFORMATIVE EVENTS	✓ LINKS partners have been participating in and organizing informative events, including a joint meeting with the ENGAGE project in Rotterdam and the final LINKS event in Rome, to demonstrate/understand the impacts of the results on the civil society and local communities.
SPECIALISED EVENTS AND EXHIBITIONS	✓ LINKS has been presented during the main specialised events and exhibitions, both organised by European Commission, UNDRR, and experts' fields events. A joint participation with the other EU projects has been established.
SCIENTIFIC CONFERENCES	✓ LINKS has been presented during the main scientific conferences, especially in the field of social sciences.
EXISTING NETWORKS EVENTS	✓ A strong collaboration with the other EU projects and networks (e.g. CERIS, CMINE) has been established.
LECTURES AND TRAININGS	✓ LINKS has been presented during many lessons and training programs, especially by the academic partners of the project.
INTERACTIVE WORKSHOPS	✓ The organisation of interactive workshops (LCWs) is compliant to the indicator.

After the first project review period, and based on suggestions from the project expert reviewers, LINKS reorientated the DEC reporting around project results and target groups.

In LINKS we define "results" as the outputs and knowledge which has been produced within the project. In this report, results is best understood in two ways, 1) as results towards planned KPIs and 2) as our key exploitable results (KER) usually in the form of specific products.

The main list of LINKS KER mapped towards relevant target groups for each result was specified in D9.5: The Second Status Report on DEC activities (see Section 2). That list included the following KER:

- LINKS Community Center
- LINKS Framework
- Including Citizens Handbook
- Feel Safe

- SMCS Technologies Library
- SMCS Guidelines Library
- SMCS Use Cases Library
- Resilience Wheel

Since that time one additional KER has been developed, the SMSC Crisis Communication Library. Details on the new library can be found in deliverables 4.5 (Report on the monitoring of DCT- related broader context application) and 7.6 (Final report about the online community management and quality assurance). Table 2 provides a brief description of the new product and the relevant target groups.

Table 2: Description of SMCS Crisis Communication Library as part of the LINKS Results

RESULTS	TARGET GROUPS
<p>SMCS Crisis Communication Library: Launched by FEU in August 2023, the SMCS Crisis Communication Library, a new addition to the LINKS Libraries, in effective risk communication strategies for disasters through a curated collection of websites and apps focused on crisis communication. This library gathers expert recommendations for enhancing public engagement via social media during all disaster phases, emphasizing risk awareness, preparedness, and appropriate responses to mitigate impact. Its primary goal is to facilitate public communication through trusted social media text messages. Equipping practitioners with essential digital tools, the library allows users to tailor their searches with specific filters for types and scenarios, enabling efficient use and dissemination of crucial information via social media platforms.</p>	<p>Practitioners, Policy and Decision Makers, Researchers, Businesses</p>

All DEC activities in LINKS, including work on Impact, are reported at quantitative and qualitative levels. First, LINKS reports towards the achievement of the (numerical) KPI targets both over the lifetime of the project, and toward targets within the specific period of this report (M36-42), depending on the activity being measured. That reporting is now updated and can be found in Table 3 below.

Table 3: KPIs, Targets and results

DEC CHANNELS AND EVENTS	KPIs	TARGETS (M42)			RESULTS M1-42	RESULTS M36-42
		Poor	Good	Excellent		
LINKS and Partners Websites	LINKS website visitors per month	<120	120-170	>170	N/A	>500 (Nov. 2023)
	LINKS website page views per month	<120	120-170	>170	N/A	>1500 (Nov. 2023)
	LINKS website posts published per month	<2	2-3	>3	N/	2
	Partners website posts published	<3	3-4	>4	>4	N/A
LINKS and Partners Social Media and Professional Social Media	Total LINKS FB followers	<260	260-280	>280	274	N/A
	LINKS FB reactions per post	<4	4-5	>5	N/A	4
	LINKS FB posts per month	<2	2-3	>3	N/A	6
	Total LINKS TW followers	<850	850-900	>900	902	N/A
	LINKS TW reactions per post	<6	6-10	>10	N/A	11
	LINKS TW posts per month	<3	3-4	>4	N/A	12
	Total LINKS Lin followers	<500	500-510	>510	568	N/A
	LINKS Lin reactions per post	<6	6-10	>10	N/A	20
	LINKS Lin posts per month	<2	2-3	>3	N/A	7
	Total LINKS Instagram followers	<50	50-100	<100	61	N/A
	LINKS Instagram posts per month	<1	1	>1	N/A	1
	Partners posts shared on social media	<5	5-10	>10	>10	N/A

Newsletter	Total n° of newsletter published	<4	4-5	>5	4 newsletters (9 including other types ⁴)	N/A
	Total n° of subscribers	<70	70-120	>120	108	N/A
Press Releases	Total n° of press releases	<3	3-4	>4	4	N/A
Articles in Informative and Sector Magazines and Blogs	Total n° of articles published	<25	25-35	>35	>100	N/A
	Articles per partners	<1	1-2	>2	N/A	1
Events	Total participations in external (informative and sector) events	<12	12-23	>23	>30	N/A
	N° of participants involved (per event)	<10	10-20	>20	>40	N/A
	Total participation in scientific conferences	<4	4-5	>5	>5	N/A
	Total n° of events organized by the partners	<1	1-5	>5	>10	N/A
	Total n° of LINKS Conferences organized	<1	1-2	>2	2	N/A
	N° of participants involved in LINKS Conference	<20	20-40	>40	>100	N/A
	Total participations in EC events	<4	4-5	>5	>5	N/A
	Total participation in UNDRR events	<4	4-5	>5	5	1
Online Repositories and LINKS Community Center	Total n° of online repositories involved	<5	5-6	>6	5	N/A
	Updating of online repositories (monthly)	<1	1	>1	1	N/A
	LCC members	<10	10-20	>20	76	N/A
Infographics	Total n° of infographics	<4	4-5	>5	>5	5
Video	Total n° of videos (and shared on YouTube)	<3	3-4	>4	>15	N/A
	Total views on YouTube	<50	50-100	>100	60 (>1000 total views)	N/A

⁴ As defined in Section 3.1.3

Leaflets	Total n° of leaflets produced	<1	1-2	>2	>2	N/A
Scientific Publications	Total n° of scientific papers	<2	2-3	>3	13	N/A
	Total citations per publication	<2	2-3	>3	Years 2021/22: 6 Year 2023: 0	N/A
Policy recommendations	Total n° of policy recommendations planned	<1	1-2	>2	2	N/A
Projects and Networks connected	Total n° of related projects connected	<5	5-7	>7	7	N/A
	Total n° of external networks involved	<5	5-6	>6	150	N/A
Training and Lectures	Total n° of lectures/trainings	<6	6-7	>7	>10	N/A
	Total n° of students involved	<45	45-55	>55	>200	N/A
Interactive workshops	Total n° of interactive workshops organized	<3	3-5	>5	>5	N/A
	LINKS Community Workshop organized	<2	2-3	>3	>20	N/A
	N° of participants per workshop	<10	10-20	>20	>20	N/A

By analysing the results obtained compared to the numerical targets set, all the KPIs have shown good to excellent results throughout the entire lifespan of the project. Importantly, the numerical targets are also qualified in LINKS reporting by qualitative examples of the projects DEC and impact activities. Indeed this second level of reporting is towards the process of achieving qualitative outcomes and impacts of the project. Here we began by reporting 1) towards scientific, societal and economic impacts set earlier in the project, and thereafter 2) towards the specific outcomes from the project results on defined target groups. Table 4 provides an overview of the high-level targets for monitoring impact of the results in the project at the scientific, societal and economic levels.

Table 4: LINKS impacts, impact-based indicators and means of evaluation

IMPACTS	IMPACT-BASED INDICATORS	MEANS OF EVALUATIONS
<p>SCIENTIFIC: Fostering multidisciplinary knowledge on the application of SMCS in disaster risk management, to improve the impacts of SMCS in the management of disasters. This includes a novel way of study SMCS by the research community</p> <p><i>Results that contribute:</i></p> <ul style="list-style-type: none"> • Including citizens Handbook, Resilience Wheel (high) • Educational Toolkit, SMCS Technology and Use Cases Library, Guidelines about the usage of SMCS technologies, LINKS Framework, LINKS Community Center (medium) 	<ul style="list-style-type: none"> • Number of researchers (coming from different fields) declared their scientific knowledge on the LINKS topics increased • Use of LINKS scientific contributions in external academic contributions • Use of LINKS scientific contributions in multidisciplinary fields • Number of external researchers involved in LINKS activities • Number of LINKS spin-off research projects approved • Number and typology of course/curriculum implemented on LINKS topics • Number of students working on LINKS-related topics 	<ul style="list-style-type: none"> • Publication monitoring procedures • Citations of the academic contributions written • Engagement of students on the LINKS topics • Implementation of LINKS outputs into courses and curriculum • Analysis of the types/numbers of LINKS Community members engaging in LINKS activities • Project proposals submitted and approved • Feedback received during the scientific events • Feedback received during lectures/training sessions on the LINKS topics
<p>SOCIETAL: Shortening the divide between researchers, practitioners, policy makers and communities, by sharing the knowledge related to SMCS in disasters</p>	<ul style="list-style-type: none"> • Number of practitioners and policy makers declared their knowledge on the LINKS topics increased • Number of local communities' members and civil society declared their knowledge on the LINKS topics increased 	<ul style="list-style-type: none"> • Feedback collected during the meetings with children • Feedback collected during the LINKS Community Workshops • Feedback collected during the LINKS Advisory Committee meetings

<p>Improving the 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</p> <p>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</p> <p><i>Results that contribute:</i> Including citizens Handbook, Feel Safe, Resilience Wheel, SMCS Technology, Use Cases and Communications Libraries, Guidelines about the usage of SMCS technologies, LINKS Framework, LINKS Community Center (high)</p>	<ul style="list-style-type: none"> • Number of practitioners and policy makers become familiar with the LINKS products • Effective application of the LINKS products in the local communities • Number of practitioners, policy makers and local communities declared the LINKS products useful in their practices/in their local contexts • Number of practitioners, policy makers and local communities available in the future to apply LINKS products in their practices/in their local contexts • Actual/Future application (/integration in already available practices) of the LINKS products to improve communication on disaster topics (including vulnerable groups and children) • Actual/Future application of the LINKS products (/integration in already available practices) to increase citizens and volunteers engagement in disasters • Number of stakeholders who have decided to become part of the LINKS Community 	<ul style="list-style-type: none"> • Feedback collected during the LINKS Cases assessments • Analysis of the types/numbers of LINKS Community members engaging in LINKS activities • Analysis of communication/dissemination activities: • engagement through LINKS social media (e.g.: followers, reactions, sharing) • engagement through the newsletter (typology of subscribers) • engagement through events (number and typology of participants, feedback received, activated collaborations, etc.) • interaction with similar projects (e.g.: joint participation in events, joint exploitation activities, etc.)
<p>ECONOMIC: Increasing the knowledge about the benefits of disaster community technologies in improving efficiency in disaster management processes. This will contribute to</p>	<ul style="list-style-type: none"> • Number of businesses and disaster organisation declared their knowledge about disaster technologies increased 	<ul style="list-style-type: none"> • Feedback collected during the LINKS Community Workshops, LINKS Advisory Committee, and other activities

<p>strengthening its attractiveness both for technology providers and disaster management organisations.</p> <p><i>Results that contribute:</i></p> <ul style="list-style-type: none"> • Including citizens Handbook, SMCS Technology Library, Guidelines about the usage of SMCS technologies, LINKS Community Center (high) • LINKS Framework (medium) • Feel Safe, Resilience Wheel (low) 	<ul style="list-style-type: none"> • Number of organisations declared useful the Technology/Guidelines Library • Number of organisations declared they are using Technology/Guidelines Library • Number of organisation/businesses represented in the Technology Library 	<ul style="list-style-type: none"> • Analysis of the types/numbers of LINKS Community members engaging in LINKS activities
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The indicators in Tables 3 and 4 are qualified through different concrete examples of communication, dissemination, and exploitation activities in the following sections of this report (and in past WP9 reports). Those examples are also seen in greater detail in specific activity reports produced by the project under WP2-8.

Moreover, the projects work with the Horizon Results Booster initiative resulted in redefining the impact indicators and objectives in the above tables towards the specific outcomes and impacts of results in relation to defined target groups. The first detailed reporting of that was done in D9.5 where the impacts were reported on target groups at the level of the five LINKS cases under WP6. In this final report, we report on the overall impact and outcomes on target groups from the broader application of the LINKS results during the project. That report is captured in Section 6 of this document.

Some key achievements can be reported for the project throughout its entire duration:

- All the communication and dissemination activities have been completed (Table 1).
- The final key results of the project have been updated (Table 2).
- Communication and dissemination activities have met the qualitative and quantitative indicators (Table 3 and Table 4).

3. COMMUNICATION OF LINKS RESULTS

This section focuses on the communication activities implemented through channels, materials and events carried out by the LINKS Consortium and the individual partners, to inform general audience and different target groups about the project's results. Table 5 shows the communication activities implemented through channels, materials, and events. The activities carried out in the last months (M36-42) are described in the remaining part of the section. For previous activities, please see D9.5 (Second Status Report on the Development and Distribution of Dissemination Material).

Table 5: LINKS Results: Communication Channels, Materials, and Events

RESULTS	CHANNELS	MATERIALS	EVENTS
LINKS RESULTS	LINKS and Partners' Websites, LINKS and Partners' Social Media, Newsletters and Press Releases	Leaflets and visuals, Articles in Magazines and Blogs	Informative events, Final event

3.1 Communication Channels

This section reports on the communication activities carried out through the following channels:

- LINKS Website (and Partners' websites)
- LINKS Social Media Channels (and Partners' Social Media Channels)
- Newsletters and Press Releases

3.1.1 LINKS and Partners Websites

The LINKS website is the main touchpoint to share information. It is kept updated with the latest news about the project and it plays a central role as it gives access to the results of the project. In the last months (M36-42), it was useful to provide all the relevant news about the final event (Figure 1) and the last steps and outputs of the project.

Figure 1: LINKS final event on the LINKS Website



LINKS PROJECT PRESENTS

16 October
Integrating Social Media and Crowdsourcing into Disaster Risk Management

17 October
Feel Safe: a Child-Centred Approach to Disaster Risk Reduction

16 - 17 October 2023 Save The Children, Piazza di S. Francesco Di Paola 9, Rome

Follow the live streaming on
LINKS YouTube Channel 

LINKS PRESENTS...

16 OCTOBER – INTEGRATING SOCIAL MEDIA AND CROWDSOURCING INTO DISASTER RISK MANAGEMENT

9:00 – 9:30: REGISTRATION AND COFFEE


9:30 – 9:45: INTRODUCTION AND WELCOME
Kees Boersma and Nathan Clark (Vrije University Amsterdam)

9:45 – 10:00: DGHOME
Philippe Quevauviller

10:00 – 10:30: KEYNOTE
Christian Reuter – Technische Universität Darmstadt

The results have been updated according to the latest achievements and are now in their final version. The website contains information about the main materials used in the project, such as presentations, publications and deliverables. In the “news & events” section, a large number of posts have been added to explain the outcomes and the results of the project (Figure 2). These posts were then used in the final newsletter (see below).

Figure 2: LINKS Website – News and events section



NEWS & EVENTS

LINKS EU Project Follow

LINKS aims to strengthen links between technologies and society for improved European disaster resilience.

LINKS EU Project 17 Nov

As a researcher the LCC provides you resources for social media and crowdsourcing in disaster management. Access to:

- Libraries for Technologies, Guidelines, Use Cases
- Including Citizens Handbook
- Resilience Wheel
- Educational toolkit for children

<https://links.communitycenter.eu>

1 3 Twitter

LINKS EU Project 17 Nov

LCC provides you access to:

- Libraries for Technologies, Guidelines, Use Cases
- Including Citizens Handbook
- Resilience Wheel
- Educational toolkit

@Gemeente_Stein
@GemBeek
@sittardgeleen

#SMEM #disasterresponse #OSINT
#DisasterTech #EmergencyServices
#DigitalVolunteers

LINKS EU Project @LINKS_EUProject

As a policy maker you need access to structured information about recommendations, policies and guidelines on how social media and crowdsourcing can support disaster management processes. The LINKS Community Center helps you link

<https://links.communitycenter.eu>

2 3 Twitter

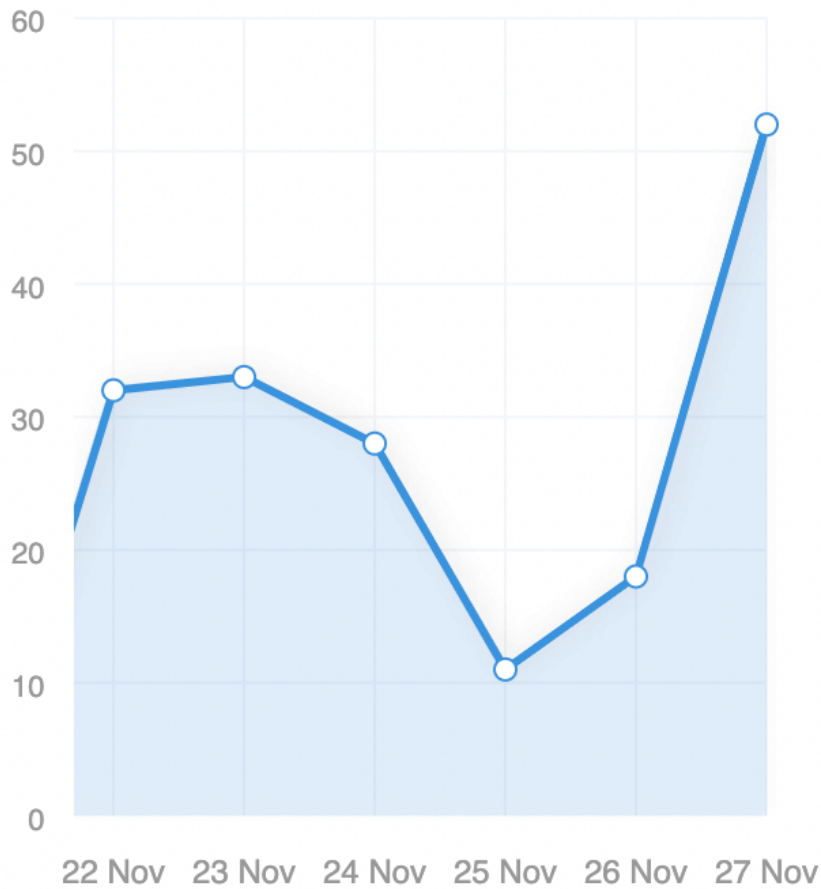
LINKS EU Project 17 Nov

As a policy maker you need access to structured information about recommendations, policies and guidelines on how social media and crowdsourcing can

During November 2023, LINKS website was visited by more than 500 different people, and the total pageviews were above 1500. These results are above expectations, which were set as high as 170 visitors and 170 pageviews each month. Figure 3 shows the number of visiting sessions on the website during the last week of November 2023.

Figure 3: LINKS Website – Number of visiting sessions during the last week of November 2023

 **Sessions**



LINKS partners used also their own websites to explain the project and provide updates on the results (Figure 4).

Figure 4: Partners websites – Pages about LINKS project in Save the Children Italy website and in Vrije Universiteit website

IL PROGETTO LINKS

Il progetto LINKS: "Rafforzare i legami tra tecnologie e società civile con l'obiettivo di migliorare la resilienza europea nel contesto delle catastrofi" **finanziato dalla Commissione Europea nell'ambito del programma di ricerca e innovazione Horizon 2020.**

Lo scopo del progetto è condurre uno studio completo sugli usi e gli impatti dei social media e del crowdsourcing per la gestione dei disastri e comprendere meglio i modi in cui i diversi stakeholders possono collaborare in questi processi.

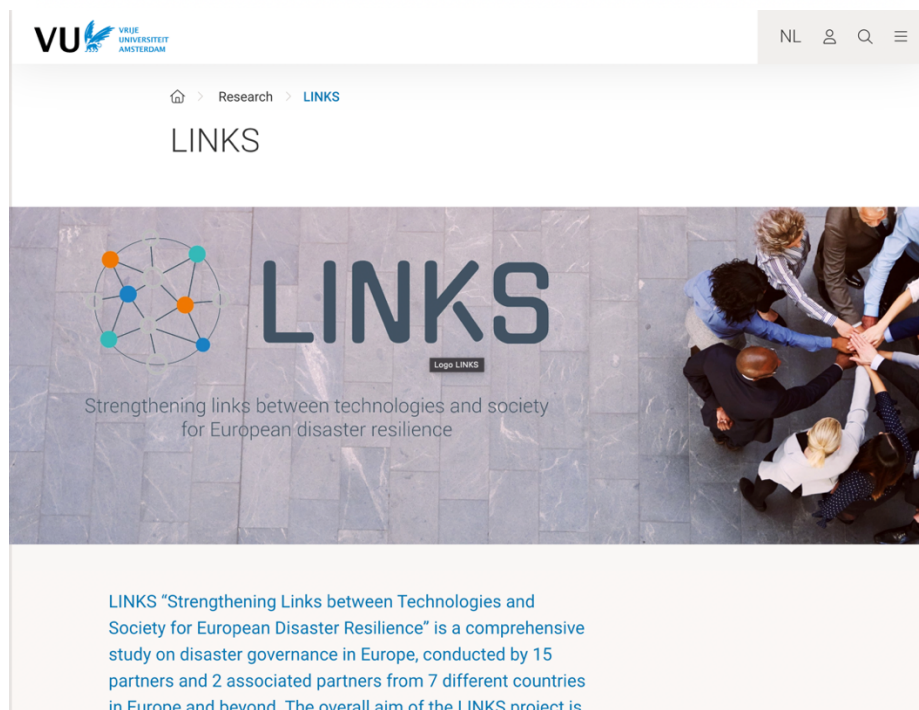
Gli strumenti e le linee guida prodotte dal progetto saranno testati in 4 paesi europei attraverso 5 casistiche di rischio: terremoti in Italia, inondazioni in Danimarca, rischi industriali nei Paesi Bassi e rischio siccità e terrorismo in Germania. Inoltre il Giappone parteciperà al progetto con un caso studio dedicato al rischio tsunami.

- Per saperne di più potete consultare il [sito web LINKS](#).
- Puoi seguire le ultime novità di LINKS anche su [Facebook](#), [Twitter](#), [LinkedIn](#).



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"Responsibility of this publication lies entirely with the author(s). The European Commission (EC) is not responsible for any use that may be made of the information contained therein"





VU VRIJE UNIVERSITEIT AMSTERDAM

NL 👤 🔍 ☰

Home > Research > LINKS

LINKS



LINKS

Logo LINKS

Strengthening links between technologies and society
for European disaster resilience

LINKS "Strengthening Links between Technologies and Society for European Disaster Resilience" is a comprehensive study on disaster governance in Europe, conducted by 15 partners and 2 associated partners from 7 different countries in Europe and beyond. The overall aim of the LINKS project is

3.1.2 LINKS and Partners Social Media Channels

During the project, profiles on the main social media platforms have been created and updated to communicate about LINKS products and LINKS results, through several posts that follow a structured plan. Social media channels have proven to be a valuable resource to engage people and to maximize the visibility of the results presented on the LINKS website and the events related to the project.

The main social media platforms used to achieve these purposes are Facebook, Twitter (now X) and Instagram, as well as YouTube which was used to give visibility to the videos produced.

On Facebook, a total of 274 people follow the LINKS profile, where in the last period about 6 posts were published each month, on average. For a comparison, KPIs (see Table 3) indicated a number of followers between 260 and 280 as a good result, while more than 3 posts published each month is considered an excellent result.

On Twitter (now X), 902 individuals follow the LINKS profile, where in the last period about 12 tweets were published each month, on average. Both these numbers are above expectations, as KPIs indicated 900 followers and more than 4 tweets each month as excellent results. Moreover, the number of likes and reposts is very good (see Table 6): the main goal was to get 10 reactions, on average.

Table 6: Engagement on Twitter

RESULTS	LIKES	REPOSTS
Posts about LINKS results	6 likes	0 reposts
Posts about LINKS final event	12 likes	5 reposts
Posts about webinars	11 likes	4 reposts
Posts about meetings	11 likes	4 reposts
Other posts	10 likes	5 reposts

On Instagram, the latest social media profile activated, in November 2022, as explained in D9.5, 61 people follow the LINKS profile. Compared to KPIs, the result can be considered good, as it stays within the range 50 to 100.

A social media campaign was planned to increase awareness, spread information and improve civil engagement about LINKS results and products, providing information such as characteristics, functionalities and how to use them, addressed to specific target groups. Some of the main messages published in the social media campaign are included in Table 7 as a reference.

Table 7: Social media campaign

TARGET GROUP	PRODUCT	MESSAGE
Practitioners	Including Citizens Handbook	<p>Are you a qualified practitioner in the field of disaster management, but you would like to communicate better with citizens? The LINKS Frameworks consolidates all the relevant knowledge in the “Including Citizens Handbook,” accessible through the LINKS Community Center, which will help you gather information through crowd sourcing and communicate via social media in a more accessible and inclusive way. This gives (almost) everyone the opportunity to receive credible information and do what is needed during an emergency.</p> <p>Learn more via: https://links-project.eu/including-citizens-handbook/</p>
Policy makers	LINKS Community Center	<p>As a policy maker you need access to structured information about recommendations, policies and guidelines on how social media and crowdsourcing can support disaster management processes. The LINKS Community Center is an online platform providing access to:</p> <ul style="list-style-type: none"> • User navigation guidance • Libraries for Technologies, Guidelines, Use Cases, and Crisis Communication • Handbook for including citizens • Strategic planning (Resilience Wheel) • Educational toolkit for children (Feel Safe) • A place to exchange knowledge and experiences <p>You can access through the following link: https://links.communitycenter.eu/index.php/Welcome!</p>
Researchers	LINKS Framework	<p>The LINKS Framework is a catalogue of knowledge, tools, guidelines and use cases for applying Social Media and Crowdsourcing in disaster risk management. It includes the libraries and guidance on how Social Media and Crowdsourcing can be used to strengthen disaster resilience, with knowledge on key thematic areas including:</p> <ul style="list-style-type: none"> • How to mobilize citizens and volunteers • How to target communication • How to ensure the credibility of information • How to make information accessible to all • And how to collect and analyze information <p>The Framework can be accessed through the LINKS Community Center at: https://links.communitycenter.eu/index.php/User_Guidance</p>

Civil Society	Feel Safe	<p>As a citizen, you play an important role during emergencies, supporting disaster management organizations. Feel Safe, for example, consists of an educational platform which promotes inclusiveness and participation to educate people to be active actors in disaster risk management processes. If you work with children, it provides you with educational materials, guided by the LINKS Framework, which will allow you to introduce your students to a culture of safety and resilience on how to:</p> <ul style="list-style-type: none"> • Reduce vulnerability; • Be prepared for the emergencies; • Increase your awareness; • Improve communication; • Face the emergencies. <p>It is supported by fun images of animals</p> <p>To know more, visit the following link: https://feelsafe.savethechildren.it/en</p>
Businesses	SMCS Technologies Libraries	<p>The Technologies Library provides a market overview of the latest technologies and solutions for using Social Media and Crowdsourcing in disaster risk management. Through our Technologies Library, solution providers and emergency management professionals can easily find products based on their needs, and also introduce and promote new solutions. These solutions can also be linked to use cases based on the experience of practitioners in the field.</p> <p>Find out more by accessing the Framework through the LINKS Community Center at: https://links.communitycenter.eu/index.php/List_of_Disaster_Community_Technologies</p>

In the social media campaign, different partners have collaborated to publish messages and encourage interaction. In particular, the shared contents are about key events and dates for LINKS, such as webinars, meetings and the final event, in order to maximize the communication of certain products to relevant target groups.

Partners used their own social media profiles to communicate LINKS results such as the products, following individual strategies according to the activities described in Table 6 of D9.2 (Updated LINKS Dissemination, Exploitation and Communication Strategy 1 - Opromolla, A. 2021), then updated in D9.3. From the DEC Activity Report, a tool where LINKS partners can report their dissemination and communication activities, it emerges that especially the product owners and the LINKS partners involved in the LINKS cases made intensive use of the social media channels. For example, the Federation of European Fire Officers, one of the LINKS partners, used its Facebook and Twitter

profiles to keep the public informed about the status of the project and its results, especially in October and November 2023 (Figure 5).

Figure 5: Federation of European Fire Officers Twitter profile



3.1.3 Newsletters and Press Releases

At M42, 9 newsletters have been sent. They are included in Figure 6 and Figure 7.

Figure 6: LINKS Newsletter Engagement 1/2





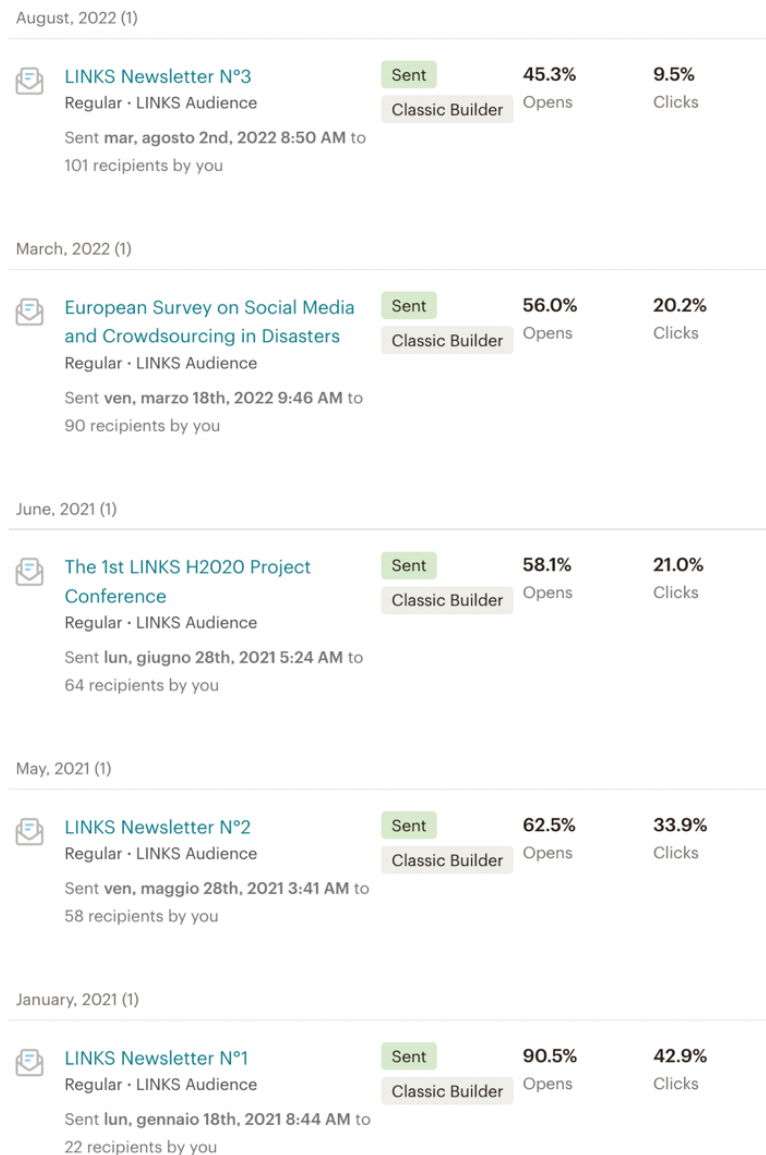
November, 2023 (1)			
	LINKS Newsletter N°4 Regular · LINKS Audience Sent mar, novembre 14th 2:02 AM to 108 recipients by you	Sent Classic Builder	46.1% Opens 8.8% Clicks
August, 2023 (1)			
	LINKS Third Webinar: Integration of Social Media Information with Legacy Platforms Regular · LINKS Audience Sent gio, agosto 31st 6:27 AM to 108 recipients by you	Sent Classic Builder	43.7% Opens 10.7% Clicks
June, 2023 (1)			
	LINKS Second Webinar Regular · LINKS Audience Sent ven, giugno 16th 10:28 AM to 113 recipients by you	Sent Classic Builder	53.4% Opens 11.7% Clicks
April, 2023 (1)			
	LINKS EU Project - First Online Webinar Regular · LINKS Audience Sent lun, aprile 24th 10:29 AM to 113 recipients by you	Sent Classic Builder	44.8% Opens 14.3% Clicks

Figure 7: LINKS Newsletter Engagement 2/2



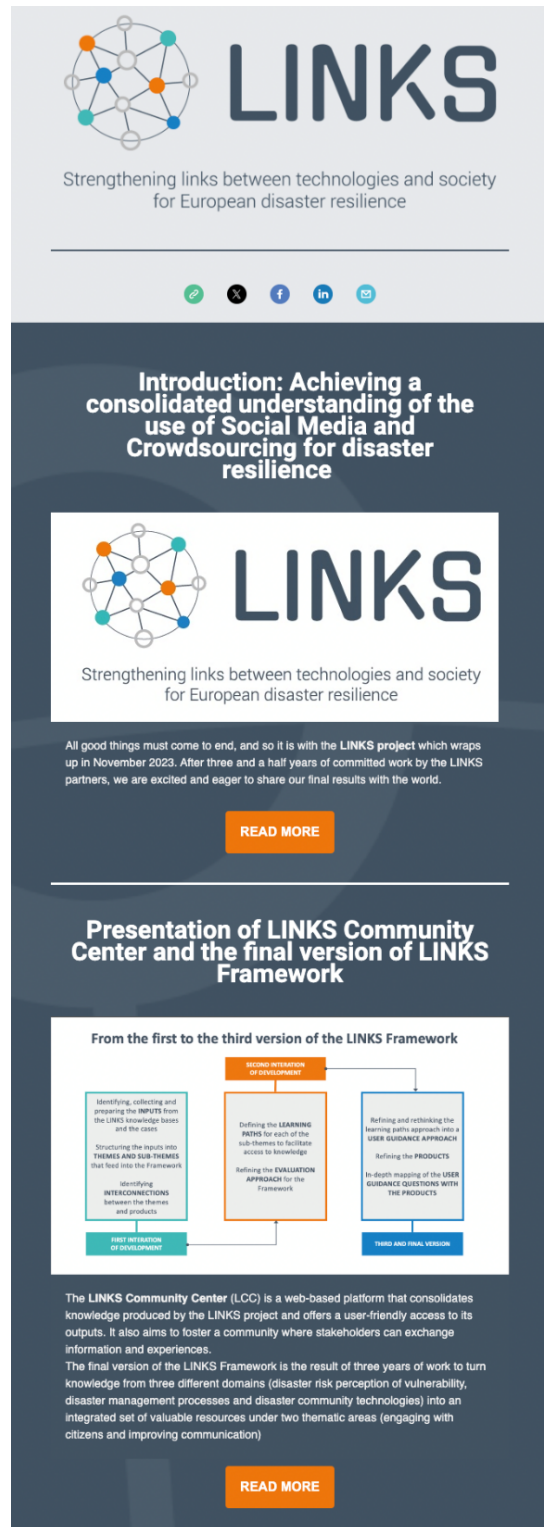
Different types of newsletters have been produced:

- The traditional newsletter, with an average of 7-8 articles structured to make different results visible and link them to the specific products and/or to other communication materials;
- promotion of key events organised by the LINKS Consortium to present the results;
- promotion of the LINKS Community, following WP8.

At M42 LINKS has 108 subscribers to the newsletter, on track with the numbers expected in the KPIs, where a number between 70 and 120 subscribers is considered a good result (see Table 3). Moreover, Figure 6 and Figure 7 show a good engagement of the subscribers, due to the percentage of users who opened the email.

The last newsletter (Figure 8) was sent during November 2023 and can be reached at [this link](#)⁵.

Figure 8: Last LINKS Newsletter



LINKS
Strengthening links between technologies and society
for European disaster resilience

Introduction: Achieving a consolidated understanding of the use of Social Media and Crowdsourcing for disaster resilience

LINKS
Strengthening links between technologies and society
for European disaster resilience

All good things must come to end, and so it is with the LINKS project which wraps up in November 2023. After three and a half years of committed work by the LINKS partners, we are excited and eager to share our final results with the world.

READ MORE

Presentation of LINKS Community Center and the final version of LINKS Framework

From the first to the third version of the LINKS Framework

FIRST ITERATION OF DEVELOPMENT
Identifying, collecting and preparing the **INPUTS** from the LINKS knowledge bases and the cases
Structuring the inputs into **THEMES AND SUB-THEMES** that feed into the Framework
Identifying **INTERCONNECTIONS** between the themes and products

SECOND ITERATION OF DEVELOPMENT
Defining the **LEARNING PATHS** for each of the sub-themes to facilitate access to knowledge
Refining the **CHALLENGE APPROACH** for the Framework

THIRD AND FINAL VERSION
Refining and retickling the learning paths approach into a **USER GUIDANCE APPROACH**
Refining the **PRODUCTS**
In-depth mapping of the **USER GUIDANCE QUESTIONS WITH THE PRODUCTS**

The LINKS Community Center (LCC) is a web-based platform that consolidates knowledge produced by the LINKS project and offers a user-friendly access to its outputs. It also aims to foster a community where stakeholders can exchange information and experiences.

The final version of the LINKS Framework is the result of three years of work to turn knowledge from three different domains (disaster risk perception of vulnerability, disaster management processes and disaster community technologies) into an integrated set of valuable resources under two thematic areas (engaging with citizens and improving communication)

READ MORE

⁵ Last LINKS newsletter: <https://mailchi.mp/ada4d151df00/links-eu-project-newsletter-n4-5943392>

Other visuals have been produced for the different LINKS products, such as the one related to the Including Citizens Handbook that is shown in Figure 10 and the one created for the Resilience Wheel (Figure 11).

Figure 10: Including Citizens Handbook visual





LINKS INCLUDING CITIZENS HANDBOOK

Communicating risk



- How to use different social media to raise awareness
- How to use social media to keep people informed
- How to include individual knowledge and experience to motivate actions



- How to use digital hubs to integrate spontaneous volunteers
- How to mobilize unaffiliated volunteers
- How to efficiently communicate with unaffiliated volunteers

Mobilize volunteers



Mobility

- How to create an emergency supply checklist and craft an evacuation plan
- How to mobilize citizens after a disaster
- How to coordinate spontaneous aids



- How to identify target groups
- How to set up communication channels avoiding accessibility problems
- How to connect problems to practical solutions

Accessibility



Accessibility

Two sections of the Including Citizens Handbook are available online. Frame the QR codes if you want to try them



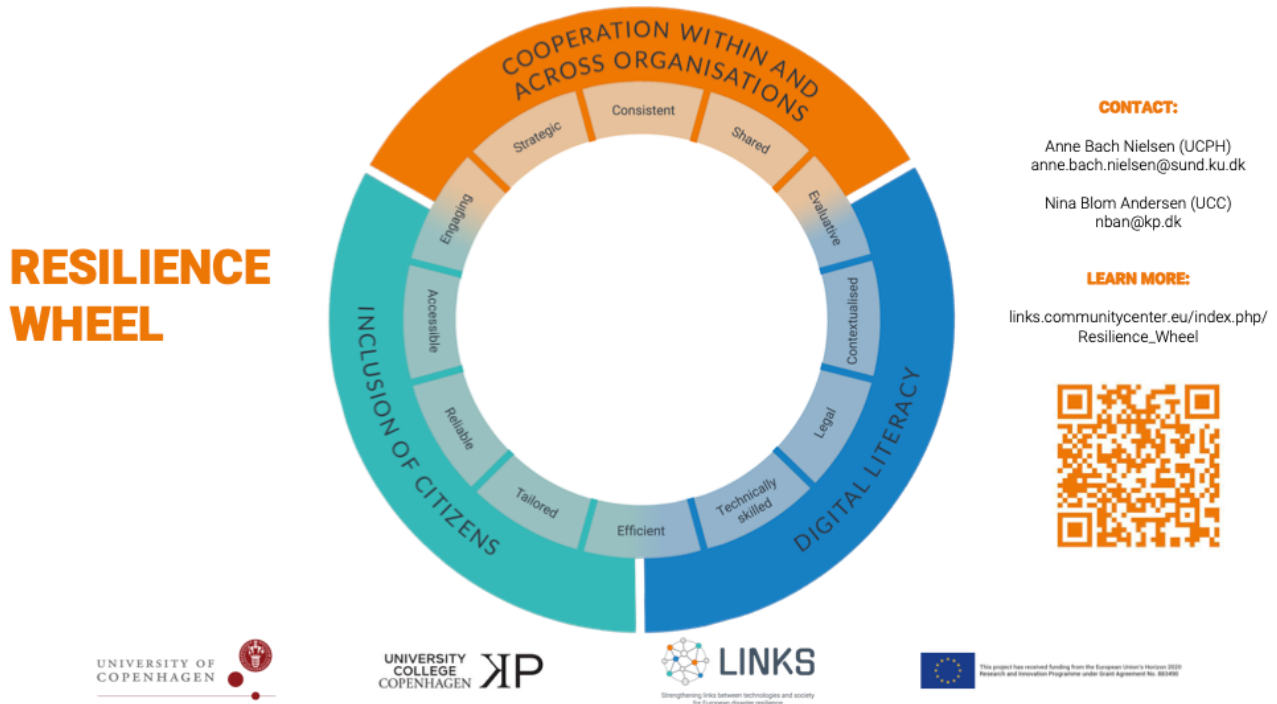
Mobility

Do you have experience in disaster management? Are you a technician or an expert in DRM?

Frame the QR code on the right and give us a feedback!



Figure 11: Resilience Wheel visual



Thanks to the press releases and other pieces of information shared, several online magazines and blogs have published LINKS related articles. Most of all, publishers revolve around disasters, security, digital technologies, social transformation and smart territories.

Considering institutional media, professional magazines, local media, research blogs and other relevant projects blogs, more than 100 articles focused on LINKS have been published by, among the others, PreventionWeb.net, Reliefweb.int, SmartWaterMagazine.com, SistemaProtezioneCivile.it, SecurityMagazine.com, FloodList.com (addressed to practitioners), GeoSmartMagazine.it and Energy-Up.it (for policy makers, local communities and businesses), Cordis.Europa.eu (for policy makers).

3.3 Communication Events

Communication events include informative events addressed to a broader audience, specifically the civil society. For example, some LINKS Community Workshops are used more for communication purposes of results. For example, in June 2023, the Dutch case assessment team, took part of the “Day of Safety in the Netherlands”. In this activity they could communicate and disseminate LINKS and its products to the general population and members of disaster management-related organizations. In September and November 2023, University College Copenhagen organized two

workshops to introduce the LINKS project and the Resilience Wheel product, in front of more than 50 people, in total.

In October 2023 partners from VRZL and VU participated in the EENA-webinar 'The Role of Local Communities in Emergency Preparedness', discussing the citizen ambassador network around Chemelot, which was established with the aim of facilitating information sharing related to actions that can be taken in the event of a chemical spill.

Throughout the entire project, particular attention has been paid to engaging minors in disaster prevention and demonstrating the use and capabilities of digital technologies in disaster management.⁶ Some of the most significant are listed below:

- During the LINKS final event, in addition to the main activities involving policymakers and practitioners, students from a Roman school were invited to the Feel Safe Challenge. The challenge focused on vulnerability, preparedness, awareness and communication in earthquake risk.
- In September 2023, Save the Children Italia organized an event about Feel Safe in Senigallia, Italy, involving girls and boys in volunteering activities and a conference.

Finally. In this period we also consider the websites of other projects and networks as important communication channels. LINKS has reached out to various projects and networks including all SRC cluster projects and asked them to include the following promotional text on their websites and platforms, and offered to also promote their projects/materials on LINKS website and LCC:

*“LINKS ‘Strengthening links between technologies and society for European disaster resilience’ is a project funded by the European Commission under the Horizon 2020 Research and Innovation Programme. The aim of LINKS is to consolidate knowledge on how **Social Media and Crowdsourcing can be used to strengthen disaster resilience**. The results of the project feed into a strategic **LINKS Framework** with useful resources for creating more disaster resilient communities, and to help stakeholders working in disaster risk management to focus on what’s important when considering the application of Social Media and Crowdsourcing in disasters. The LINKS Framework is presented in the **LINKS Community Center (LCC)**, the online platform providing a user-friendly access to the LINKS results and a means to exchange knowledge and experiences. You can access the LCC and join our LINKS Community at: <https://links.communitycenter.eu/>”*

Some key achievements can be reported for the project throughout its entire duration:

- The LINKS website plays a central role in informing the audience about project’s results and activities; its indicators are above expectations.

⁶ For a detailed overview of activities with minors up to November 2023, please refer to Deliverable 6.6 (Final report on the LINKS Framework application in a broader context).

- Social media platforms have been exploited throughout the entire project thanks to profiles either created for the occasion or already existing. Audience engagement through these platforms is in line with expectations.
- The connection between the project newsletters, the press releases, the LINKS social media, and the articles and blogs has increased the impact of the communication activities on the LINKS results.
- Visual communication products, such as the leaflets, have been consolidated and distributed during the last months.
- A good number of informative events have been carried out.

4. DISSEMINATION OF LINKS RESULTS

This section focuses on the activities implemented to make the results available to the different target groups in LINKS. Table 8 shows the dissemination activities implemented through channels, materials, and events. The activities carried out in the last months (M36-42) are described in the remaining part of the section. For activities before M36, please see D9.5 (Second Status Report on the Development and Distribution of Dissemination Material).

Table 8: LINKS Results: Dissemination Channels, Materials, and Events

RESULTS	CHANNELS	MATERIALS	EVENTS
LINKS products	Professional Social Media Channels, LCC, Zenodo, CMINE, CORDIS.	Infographics and videos, Scientific Publications, Policy Output	LINKS annual meeting, LINKS final event, NEEDS2023

4.1 Dissemination Channels

This section reports on the dissemination activities carried out through the following channels:

- Professional Social Media Channels.
- Online repositories and the LINKS Community Center.

4.1.1 Professional Social Media Channels

Activities carried out on general audience social media are reported in section 3.1.2. This section, instead, reports about dissemination activities on professional social media channels both by the project itself and by the partners of the project.

Main attention was focused on LinkedIn, where a total of 568 people follow the LINKS profile; in the last period, about 7 posts were published each month, on average.

These numbers are above the expectations, compared to the KPIs provided (see Table 3, where the thresholds for excellent results are considered 510 followers, 3 posts per month with at least 10 reactions each).

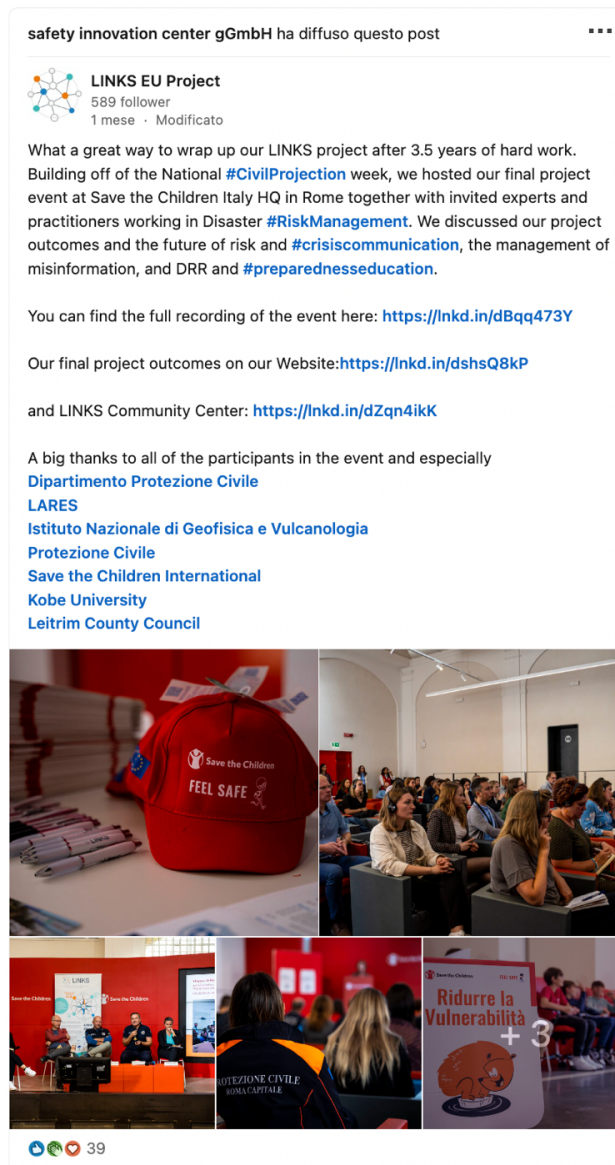
Table 9: Engagement on LinkedIn

RESULTS	LIKES	SHARES
Posts about LINKS results	9 likes (22 Resilience Wheel)	0 shares
Posts about LINKS final event	16 likes for the agenda, 39 for the event	6 shares for the agenda, 19 for the event
Posts about webinars	46 likes for the last webinar	19 shares for the last webinar

RESULTS	LIKES	SHARES
Posts about meetings	35 likes	7 shares
Other posts	15 likes	3 shares

The partners of the project used their profiles on professional social media channels to promote and disseminate the results. The Safety Innovation Center, for example, used its LinkedIn profile to keep the public informed about the LINKS Community Center, the SMCS libraries and the final event (Figure 12). The University of Copenhagen did the same to promote the LINKS final event and the policy brief. Partners from Vrije Universiteit Amsterdam used their personal profiles to report news and activities related to the project.

Figure 12: a post about LINKS on Safety Innovation Center LinkedIn profile



4.1.2 Online repositories and LINKS Community Center

Online repositories contain materials presenting the results available to different communities. Table 10 lists the repositories used within LINKS.

Table 10: Online Platforms and Repositories used in LINKS Dissemination

PLATFORM/REPOSITORY	ACTIVITIES
CMINE - Crisis Management Innovation Network ⁷	<ul style="list-style-type: none"> • Continuous interaction with the Societal Resilience Cluster • Presentation of the LINKS results to the interested community of 2000 members • Discussion about LINKS updates and results through the specific LINKS group such as the cluster policy working group • Promotion of the events presenting LINKS results
UNDRR – United Nations Sendai Framework Voluntary Commitments ⁸	<ul style="list-style-type: none"> • A voluntary commitment page for LINKS describing the general objectives of the project as well as presenting the way all the LINKS products are contributing to the SENDAI Framework priorities
CORDIS - Community Research and Development Information Service ⁹	<ul style="list-style-type: none"> • Presentation of one factsheet illustrating the project description, objectives, and participants • Publication of materials (27 deliverables, 4 publications, 2 news, 1 video)
DRMKC - Disaster Risk Management Knowledge Centre ¹⁰	<ul style="list-style-type: none"> • Publication of the completed deliverables, news and events • Space of discussion and interaction for the policy outputs implementation
Zenodo ¹¹	<ul style="list-style-type: none"> • The main storage place for scientific publications and LINKS updates

Indeed LINKS continues to build relationships with key networks to share LINKS results on their platforms. The UNDRR voluntary commitment is one example of a wide reaching platform with policy level dissemination opportunities for LINKS (see Figure 13).

⁷ CMINE: <https://www.cmine.eu/topics/21875/feed>.

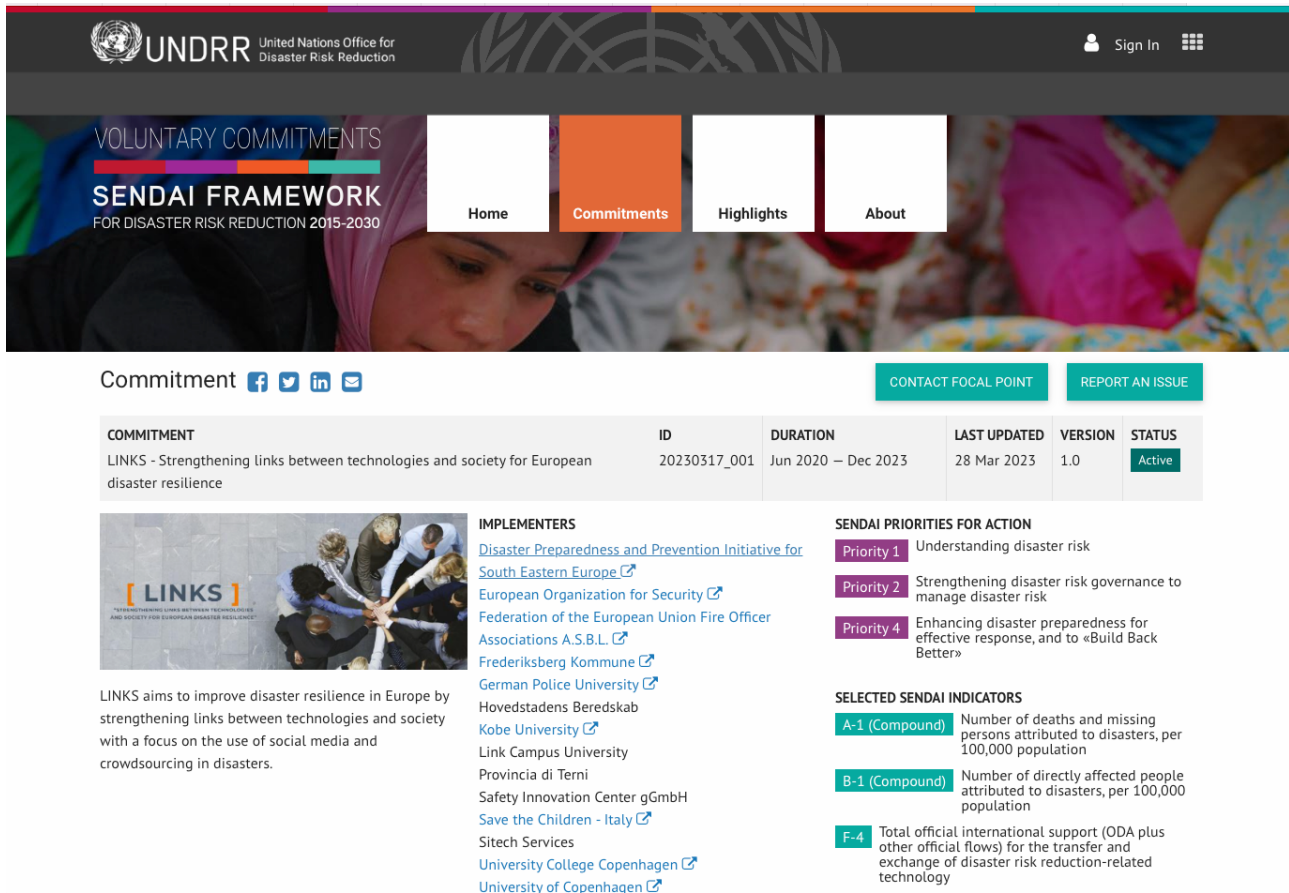
⁸ UNDRR: https://sendaicommitments-training.undrr.org/commitments/20230317_001

⁹ CORDIS: <https://cordis.europa.eu/project/id/883490>.

¹⁰ DRMKC: <https://drmkc.jrc.ec.europa.eu/>.

¹¹ Zenodo: <https://zenodo.org/>.

Figure 13: LINKS UNDRR Voluntary Commitment Page



Commitment [f] [t] [in] [e]

CONTACT FOCAL POINT **REPORT AN ISSUE**

COMMITMENT	ID	DURATION	LAST UPDATED	VERSION	STATUS
LINKS - Strengthening links between technologies and society for European disaster resilience	20230317_001	Jun 2020 – Dec 2023	28 Mar 2023	1.0	Active

IMPLEMENTERS

- [Disaster Preparedness and Prevention Initiative for South Eastern Europe](#)
- [European Organization for Security](#)
- [Federation of the European Union Fire Officer Associations A.S.B.L.](#)
- [Frederiksberg Kommune](#)
- [German Police University](#)
- [Hovedstadens Beredskab](#)
- [Kobe University](#)
- [Link Campus University](#)
- [Provincia di Terni](#)
- [Safety Innovation Center gGmbH](#)
- [Save the Children - Italy](#)
- [Sitech Services](#)
- [University College Copenhagen](#)
- [University of Copenhagen](#)

SENDAI PRIORITIES FOR ACTION

- Priority 1** Understanding disaster risk
- Priority 2** Strengthening disaster risk governance to manage disaster risk
- Priority 4** Enhancing disaster preparedness for effective response, and to «Build Back Better»

SELECTED SENDAI INDICATORS

- A-1 (Compound)** Number of deaths and missing persons attributed to disasters, per 100,000 population
- B-1 (Compound)** Number of directly affected people attributed to disasters, per 100,000 population
- F-4** Total official international support (ODA plus other official flows) for the transfer and exchange of disaster risk reduction-related technology

LINKS aims to improve disaster resilience in Europe by strengthening links between technologies and society with a focus on the use of social media and crowdsourcing in disasters.

Furthermore, LCC – LINKS Community Center¹², one of the project’s results, is used to make the products available to stakeholders. Playing a central role in creating a community relying on the LINKS results, special attention is paid to its promotion through all the different LINKS channels. An extensive overview of how the LCC is being used for these purposes and connects with other networks/repositories can be found in D7.6.

4.2 Dissemination Materials

In addition to materials already produced and reported in previous deliverables, in the last months 5 infographics about the case scenarios, and 5 videos have been produced.

The infographics aim at explaining the main features of each scenario and above all how the results achieved by LINKS can help manage the crisis cases. An example of the infographics, related to the Italian case, can be found in Figure 14.

¹² LCC: <https://links.communitycenter.eu/>.

Figure 14: Infographics about the Italian case


CASE 1: ITALY

EARTHQUAKES

WHAT ARE THE CHARACTERISTICS OF THE CONTEXT?

Italy is a country with a long history of disasters. In this context, the **Umbria Region** is among the areas recording the **highest risk level for earthquakes**.


The Italian Case Assessment Team involved in the LINKS project, has been focusing its activities on studying **risk perception, vulnerability, and societal resilience**.



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 school children


HOW DO THE RESULTS CONTRIBUTE IN THIS LINKS CASE?




Explore how **mobilizing citizens** through technologies and social media use

Including Citizens Handbook


- Explore the use of **SMCS** among children
- Test** the resources with schools
- Promote workshops, events on children's participation in **emergency preparedness**
- Explore how **mobilizing citizens** through technologies and social media use



Feel Safe




SMCS Technologies Libraries




SMCS Guidelines Libraries

Collect **feedback** on the material included in the libraries


WHO ARE THE INVOLVED STAKEHOLDERS?



Institutional



Secondary Educational Schools




Associations

The **Including Citizens Handbook** is a product developed through collaboration with the Civil Protection Office of the **Province of Terni**. It can be used to find: **guidelines** on how to communicate with **vulnerable people**; suggestions on how to disseminate **good practices**; on how to **mobilize aid** in the aftermath of an event.


Camilla Friso - Università degli studi di Firenze


The Italian Case Assessment Team gives special attention to **children's risk awareness**. **Feel Safe** is a product that promotes the use of technology and digital education as a way to **strengthen the communities' resilience**. It offers educational resources in line with school subjects and curricula to help children gain knowledge, experience and be proactive.


Francesco Grimaldi - Save the Children Italia





<http://links-project.eu/>


 @LINKS EU Project


 @LINKS_EUProject


 @LINKS EU Project


 @links_eu_project



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

The videos about the cases share the same purpose as the infographics, but they involve interviews with experts coming from partners or stakeholders. The videos are available on the [LINKS YouTube channel](#).

Among the dissemination materials, an important role is played by scientific publications, as they are one of the main tools to spread knowledge among the scientific community. A list of the main scientific papers published by the LINKS partners about the project, throughout its entire duration is available in Table 11.

Table 11: Scientific Publications on LINKS

PUBLICATION	DESCRIPTION	DATA (SOURCE)
Clark N. et al., <i>Exploring the impacts of social media and crowdsourcing on disaster resilience</i> . Open Research Europe 2021, 1:60 ¹³ <i>PAPER IN SCIENTIFIC JOURNAL</i>	Overview of the LINKS research. Key gaps, needs, best practices, and themes cross the knowledge domains of Disaster Risk Perception and Vulnerability, Disaster Management Processes and Disaster Community Technologies are identified	157 views, 48 downloads, 4 citations (Open Research Europe)
Clark N. et al., <i>Strengthening Disaster Resilience through Social Media and Crowdsourcing</i> . ISCRAM - Information Systems for Crisis Response and Management 2021 Poster Presentation (2021) <i>ACADEMIC POSTER</i>	Overview of the LINKS research. Key gaps, needs, best practices, and themes cross the knowledge domains of Disaster Risk Perception and Vulnerability, Disaster Management Processes and Disaster Community Technologies are identified	105 views (LINKS Website)
Habig T. et al., <i>A Consolidated Understanding of Disaster Community Technologies</i> , 18th ISCRAM - Information Systems for Crisis Response and Management 2021 Conference Proceedings ¹⁴ <i>PAPER IN CONFERENCE PROCEEDINGS</i>	Overview of technologies for SMCS within disasters to improve community resilience (Disaster Community Technologies)	24 views, 22 downloads, 6 citations (Zenodo)
Morelli S. et al., <i>Framing Disaster Risk Perception and Vulnerability in Social Media Communication: A Literature Review</i> . Sustainability. 2022; 14(15):9148 ¹⁵ <i>PAPER IN SCIENTIFIC JOURNAL</i>	Overview of the results of the literature review on how social media can impact on disaster risk perception and vulnerability and how these two aspects are interconnected	2591 views, 5 citations (MDPI)

¹³ Open Research Europe publication: <https://open-research-europe.ec.europa.eu/articles/1-60>

¹⁴ ISCRAM publication: <https://idl.iscram.org>

¹⁵ Sustainability publication: <https://www.mdpi.com/2071-1050/14/15/9148>

<p>Baron N., & Andersen, N. B. <i>Citizen-to-Citizen Risk Communication in a Context of Low-Level Risk Awareness</i>. Abstract from NEEDS 2022 Conference¹⁶ <i>ABSTRACT FOR ACADEMIC CONFERENCE</i></p>	<p>Focus on the problems regarding risk awareness.</p>	<p>No information available at the moment of writing this report</p>
<p>Boersma K. et al., <i>Exploring the potential of local stakeholders' involvement in crisis management. The living lab approach in a case study from Amsterdam</i>. International Journal of Disaster Risk Reduction. 2022; 79:103179¹⁷</p>	<p>Overview of the outcome of research into the potential of local stakeholders' involvement in crisis management in two Amsterdam neighbourhoods</p>	<p>3 citations, 43 readers (ScienceDirect)</p>
<p>Bonati S. et al., <i>Unravelling Dynamics of Vulnerability and Social Media Use on Displaced Minors in the aftermath of Italian Earthquakes</i>. International Journal of Disaster Risk Reduction. 2023; 89:103632¹⁸ <i>PAPER IN SCIENTIFIC JOURNAL</i></p>	<p>Overview of the challenges to which displaced minors must deal with in post-disaster settings, following a series of large earthquakes which struck central Italy in 2016 and 2017</p>	<p>13 readers (ScienceDirect)</p>
<p>Nardini O. et al., <i>Social Media, Vulnerability, and Risk Perception: Three Main Points for Geological Disaster Management</i>. EGU General Assembly 2023 Poster Presentation (2023) <i>ACADEMIC POSTER</i></p>	<p>Overview of the project, with a particular reference to the risk perception and vulnerability according to the LINKS approach</p>	<p>No information available at the moment of writing this report</p>
<p>Wolbers J., et al. <i>A Decade of Netcentric Crisis Management: Challenges and Future Development</i>. Disaster Management and Information Technology. Public Administration and Information Technology, vol. 40 (2023)¹⁹ <i>PAPER IN SCIENTIFIC JOURNAL</i></p>	<p>Focus on the problems regarding the distribution of information across organisational and professional boundaries with a specific focus on the Netherlands</p>	<p>221 accesses (Springer)</p>
<p>Nielsen A. et al., <i>Discover the dynamics: An intersectional analysis of overt and hidden vulnerabilities to flood risk in urban Denmark</i>,</p>	<p>Presentation of the analytical framework for understanding and assessing vulnerabilities in societies like Frederiksberg</p>	<p>32 readers (ScienceDirect)</p>

¹⁶ <https://www.ucviden.dk/da/publications/citizen-to-citizen-risk-communication-in-a-context-of-low-level-r>

¹⁷ IJRRR publication: <https://www.sciencedirect.com/science/article/pii/S2212420922003983>

¹⁸ IJDRR publication: <https://www.sciencedirect.com/science/article/abs/pii/S2212420923001127>

¹⁹ DMIT publication: https://link.springer.com/chapter/10.1007/978-3-031-20939-0_5#citeas

Landscape and Urban Planning, vol. 237 (2023) ²⁰ <i>PAPER IN SCIENTIFIC JOURNAL</i>		
Hingmann N. et al., <i>Social Media und Crowdsourcing – Neue Wege der Einsatz- und Krisenkommunikation</i> , <i>SIAK-Journal-Zeitschrift für Polizeiwissenschaft und polizeiliche Praxis</i> <i>PAPER IN SCIENTIFIC JOURNAL</i>	Social Media and Crowdsourcing in law enforcement.	No information available at the moment of writing this report
Blom Andersen N. et al., <i>Prerequisites for community resilience: consequences of low risk awareness and lack of flood risk governance in an affluent urban context</i> , <i>NEEDS conference proceedings</i> ABSTRACT FOR ACADEMIC CONFERENCE	NEEDS conference presentation on community resilience issues in flood prone areas.	No information available at the moment of writing this report
Lüke R. et al., <i>Information collections for the use of social media in crisis situations</i> , <i>Journal for research and technology in fire protection</i> <i>PAPER IN SCIENTIFIC JOURNAL</i>	Provides a practical guide on the utilization and contribution of knowledge within the SMCS libraries, detailing their applications and the ways in which the community can engage with and enhance this knowledge	Scientific journal for over 3000 organisations from the emergency response sector

Thirteen publications during the project are considered a solid result compared to the KPIs included in the strategy, which set the bar to more than 3 scientific publications (see Table 3). As regards the number of citations, instead, the target, set to at least 3, has been reached by the older publications, while the newer ones are still under the threshold, but this is understandable as a longer adoption time is typical for scientific papers.

In February 2023 LINKS launched a call for papers for a special issue on 'Governing the uses of Social Media and Crowdsourcing in Crisis Management' in the 'Risk Hazards & Crisis in Public Policy Journal'²¹. The aim is to link the work of the LINKS Consortium with what other researchers are conducting at the international level. At the moment of writing, 8 articles are under peer review, including 1 from LINKS partner UCPH. The publication of the special issues is expected for early 2024.

²⁰ Landscape and Urban Planning, publication:

<https://www.sciencedirect.com/science/article/pii/S0169204623001184?via%3Dihub>

²¹ RHCPP Call for Papers: <https://onlinelibrary.wiley.com/page/journal/19444079/homepage/call-for-papers/socmed-crowdsourcing>

The LINKS project proposed two different policy briefs addressed to decision-makers. The first brief focuses on the need for integrating [targeted communication strategies](#) by organizations working in DRM. In disasters, communities are often considered homogenous. However, in order for communication to be truly effective and inclusive, it must be done with consideration for the different needs and capacities of diverse groups and individuals within a community. The second brief builds from the first, and dives deeper into issues of [accessibility to information shared through social media](#) and other digital media, based on the diverse needs and makeup of communities, including vulnerable groups. See Figures 15 below.

Figure 15: Policy Briefs on Targeting Communication and Accessibility

STRENGTHENING LINKS BETWEEN TECHNOLOGIES AND SOCIETY FOR EUROPEAN DISASTER RESILIENCE (LINKS)
MAY 2023

POLICY BRIEF



Targeting Communication in Disasters

Populations in disasters are often assumed to be homogenous. However, targeting communication for different groups of citizens based on their individual needs and capacities allow for efficient disaster risk management. Targeted communication is also important in the context of increased use of digital technologies such as social media and crowdsourcing to manage disasters. In order to be effective, communication should be inclusive and consider specifically vulnerable populations.

Context

The primary goal of communication with citizens before, during and after a disaster is to provide information and advice that potentially reduces disaster impacts and ensures citizen safety. This serves a dual purpose: first, it helps to prepare and protect citizens from harmful impacts of disasters and second, it facilitates efficient operations for the organisations working with disaster risk management by encouraging cooperation with their advice. It is crucial to acknowledge that citizens possess valuable skills, resources, and they are more likely to act on advice from the organisations working with disaster risk management when they are sufficiently targeted and informed. Communication is a two way street and citizens can play an active role in this process. However, citizen's skills are ignored and it is commonly assumed that large populations at risk of disasters have uniform information needs. This assumption fails to take into consideration the inherent diversity and vulnerability of large populations and in turn their differential needs, capacity, and resources. This exacerbates peoples' vulnerabilities during different disasters. Therefore, effective communication requires targeting different groups who are most susceptible to a specific hazard followed by targeted messaging that meets the varying needs of different groups.

Targeted communication meets the dual purpose of citizen's needs and the goals of organisations working with disaster risk management.



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POLICY BRIEF

Accessibility for all: Fostering inclusive uses of social media in disaster communication

In recent decades, many organizations working in the field of disaster risk management have adapted to using social media in their communication processes. This allows organizations to improve their collaboration with many different parts of society, including the increased opportunity to engage with people with different abilities and vulnerabilities. As a widespread communication system, social media has become an indispensable resource to analyse the needs of different groups, to craft tailored communication messages, and to mobilize communities in times of disasters.

However, disaster management organisations and policy makers continue to deal with several challenges when it comes to inclusive communication through social media with diverse groups, including the most vulnerable and disadvantaged. They face difficulties ensuring that the information they share on digital channels is accessible to all parts of the population, that it is understandable and actionable (meaning that people can take the necessary actions based on the information), and that information and knowledge sharing is multi-directional.

These challenges can be overcome by targeting accessibility issues in all phases of the disaster cycle (i.e. before, during, and after). In this case, the concept of accessibility refers to ensuring inclusive, reliable approaches for making social media channels and information accessible, which has a potential to address and reduce vulnerability and to strengthen resilience within local communities.

This policy brief provides evidence-informed recommendations for more accessible and inclusive uses of social media to improve disaster communication. The recommendations are based on the outcomes from the LINKS project, an extensive study across Europe on the uses of social media in disaster risk management under the EU Horizon 2020 Framework. The recommendations are designed to address disaster risk management stakeholders working at three levels: operational, strategic, and policy. This is done to show the interdependencies and conditions needed across the three different levels for the effective implementation of the recommendations.

Key Actions Points:

Disaster management organisations:

- ✓ Tailor your communication platforms, channels, and information to be accessible to all members of society, which means considering the needs of people with different vulnerability profiles, cultural backgrounds, and socio-economic conditions.

Strategists:

- ✓ Create a digital accessibility strategy for your organization, that will provide updated guidelines with clear actions for 1) acknowledging and assessing the specific accessibility needs of different groups of people and 2) incorporating that knowledge into your organization's information and communication processes.
- ✓ The accessibility strategy should incorporate an iterative roadmap, used to identify, and manage risks, gaps in policies, and needed technologies and resources; it should define priorities and milestones in terms of users' needs and digital accessibility validation, e.g. to measure if the different information and channels are accessible and useable to different users in different circumstances.

Policy makers:

- ✓ Promote and allocate resources to disaster management organisations for investments in inclusive disaster communication practices, digital applications, and expertise (e.g. trained digital mediators who are specifically trained to help people needing different accessibility needs).
- ✓ Implement policies and regulations which ensure the accessibility to disaster communication and information for all parts of the society.

How can we define accessibility?

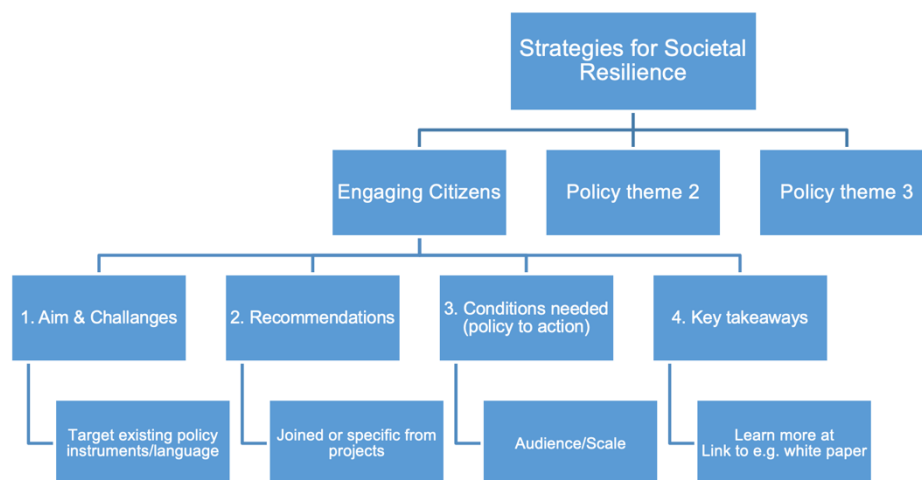
In LINKS, we define accessibility as the quality of being able to be reached by everyone, including people with diverse needs. Accessibility needs to be inclusive, as society cannot be considered as a single homogeneous group made up of individuals with the same needs. Indeed, a society includes communities and individuals differentiated by cultures, values, beliefs and by diverse physical and intellectual skills. Therefore, the access to information and means of communication in disasters, through social media or other channels, needs to be tailored according to different needs. Evidence shows that the exclusion of different parts of the population from the digital world can exacerbate their exposure to risks. On the other hand, the outcomes from the research undertaken in the LINKS project confirms that the inclusion of these groups through increased access to relevant digital applications and information can bring diverse skills and knowledge into to disaster management planning and actions and strengthen the overall resilience of society. Below we define four core areas of accessibility, along with key recommendations at operational, strategy, and policy levels.



3

LINKS, with support from the Horizon Booster Service, has also led a policy working group for the projects under the Societal Resilience Cluster (SRC) to align joined policy outputs among the projects. The output was a draft structure (Figure 16) for future joined policy briefs among the SRC projects, under the shared heading of Strategies for Strengthening Societal Resilience to Disasters.

Figure 16: SRC policy brief structuring



4.3 Dissemination Events

LINKS partners presented the project and its findings at several events and conferences to professional and scientific audiences. As already defined in D9.2, five types of events can be distinguished:

- specialised events and exhibitions, which are the ones organised by third parties and especially oriented to practitioners and policy makers;
- events directly organised by LINKS;
- scientific conferences;
- lectures and trainings;
- interactive workshops.

This deliverable only reports some of the main events that took place from June 2023 to the end of the project.

Within the series of webinars launched by the Societal Resilience Cluster of Horizon Projects, LINKS organized a session about “Leveraging the Crowd: How Social Media and Crowdsourcing are supporting Disaster Risk Management for compound Disasters” in June 2023 and a session about “Integration of social media information with legacy problems” in September 2023 (Figure 17).

Figure 17: Poster for the third SRC webinar about “integration of Social Media Information with Legacy Platforms”



SRC
Societal Resilience Cluster
Disaster Resilience for communities

Hosted by:



LINKS
Strengthening links between technologies and society
for European disaster resilience

Webinar:

"Integration of Social Media Information with Legacy Platforms"

Date :



September 7, 2023



16.30 - 17.30 CEST

Moderator



Kees Boersma
Full Professor,
Faculty of Social Sciences, Organization Sciences
Vrije Universiteit Amsterdam

Speakers



Valerio Lorini
Scientific Researcher,
European Commission
Joint Research Centre



Chiara Proietti
External Consultant,
European Commission
Joint Research Centre



Jorge Gomes
Chief Operations Manager,
VOST Europe
National Coordinator, VOST Portugal







In June 2023, LINKS organized its annual meeting in Osnabruck (Figure 18), where products and results were presented, tested, evaluated and further developed in lectures and workshops, which also included the participation of external stakeholders.

Figure 18: LINKS annual meeting in Osnabruck



In September 2023, Deutsche Hochschule der Polizei participated in the conference of empirical police research, held in Germany, with a poster presentation focusing on the themes related to the LINKS project. LINKS also opened and took part in the CORE project policy event in Brussels in September.

In October 2023, the Federation of European Fire Officers took part in the European Fire Academy roundtable in Bruxelles and in the EMRIC+ working group meeting in Aachen, presenting the project's activities to the participants. During the same month, Hovedstadens Beredskab participated in the Safe Harbour event, introducing the project, its main result related to the Links Community Center and its potential tools. In November 2023, the main findings of the Danish case were presented in the operational management forum at Hovedstadens Beredskab.

In October/November 2023, University College Copenhagen participated in the Northern European Emergency and Disaster Studies (NEEDS) conference, presenting the results from the case study in a paper entitled “Prerequisites for community resilience: consequences of low-risk awareness and lack of flood risk governance in an affluent urban context”. In the same conference, LINKS partners from Vrije Universiteit Amsterdam, together with members of the sister project ENGAGE22, organized and chaired a panel on the role of social media in disaster risk governance. The panel aimed to create exchanges and discussions at two levels. On the one hand, the role of social media as a channel of information, supporting crisis and emergency communication. On the other hand, the role of social media as a network to amplify formal and information resources in disaster response management. VU and UCPH also took part in the workshops organized by the DRMKC Annual meeting in November, and the ENGAGE final event, both in Brussels.

The final event of the LINKS project (Figure 19) was held in Rome on 16 and 17 October 2023 at the headquarters of Save the Children Italia. In addition to all the project partners, more than 100 people participated in the event across the two days, demonstrating the interest in the topic. The two days event was broadcast live on the LINKS YouTube Channel.

Speakers from LINKS as well as external guests alternated on stage. The two-days event includes keynotes by Philippe Quevauviller (European Commission – DG Home) and Christian Reuter (Associate Dean of the Department of Computer Science – Technische Universität Darmstadt) and speeches by Raffaella Milano (Italy-Europe Programmes and Advocacy Director – Save the Children Italy) and Immacolata Postiglione (Deputy Head – Italian Civil Protection Department). Our sister projects ENGAGE, CORE, and RISKPACC also took part in the panels.

²² [Home Page - Engage Project - Risk management for society resilience \(project-engage.eu\)](https://project-engage.eu)

Figure 19: LINKS final event in Rome



Also in October 2023, LINKS project participated in the International Day of Disaster Risk Reduction, organized by the United Nations Office for Disaster Risk Reduction to spread the word about how to fight inequalities for a more resilient future, by creating specific posts on its social media channels (Figure 20).

Figure 20: Social media posts for the International Day of Disaster Risk Reduction 2023



Some key achievements can be reported for the project throughout its entire duration:




- The successful use of professional social media (e.g. LinkedIn) has been fundamental to disseminate the LINKS results to practitioners and researchers.
- Online platforms and repositories constitute excellent channels to make the results directly available to the target groups.
- Infographics and videos are useful to summarize key aspects of the LINKS results.
- The number of scientific publications on the LINKS results and the number of reads and downloads is in line with expectations.
- Two policy outputs, addressed to policy makers, have been produced. A draft structure for future joined policy briefs emerged from a policy working group for the projects under the Societal Resilience Cluster (SRC) led by LINKS.
- During the initiative launched by the Societal Resilience Cluster of Horizon Projects, LINKS has disseminated the results through a cycle of webinars.
- LINKS has been presented in key specialised events and exhibitions.
- LINKS final event was the ideal moment to present all the results of the project to a target of policy makers and practitioners.

5. EXPLOITATION AND SUSTAINABILITY OF THE LINKS RESULTS

This section reports on the status for the exploitation and sustainability of the LINKS Key Exploitable Results (KER). A full list of KER is in Section 2.

This section follows as a final update to D9.3 the Updated DEC Strategy, where the exploitation strategy of the project was revised and detailed, with support by the Horizon Results Booster 'Portfolio Dissemination & Exploitation Strategy' service - 'Module C: Assisting projects to improve their existing exploitation strategy'.¹⁷

In the tables below, the product owners have provided an update to the relevant sections in the Exploitation Roadmaps previously defined for each KER in D9.3. This includes the status update of the anticipated exploitation actions and milestones, indicated by the following icons:

-  : Action/Milestone achieved
-  : Action/Milestone in progress
-  : Action/Milestone not achieved

Exploitation and sustainability are closely related; therefore, each table also integrates a Sustainability Roadmap, which include details on the product owner roles, the costs for maintaining the result, specific target audiences/users,²³ and the impact foreseen from the use of the result in the next 3 years. The risk matrix has also been updated for KER which identified risks needing action in D9.3. That update can be found in Annex 1. Lastly, details are provided for the sustainability of the LINKS project website, and for the final considerations on innovation management in the project.

²³ These are indicated in the tables under Market Adopters, and include entities which have already used or have indicated interest in using the products.

5.1 LINKS Community Center

Table 12: LINKS Community Center – Exploitation and Sustainability Roadmap Table

EXPLOITATION ROADMAP	
Actions	<ul style="list-style-type: none"> ✓ Continue developing and operating the LCC. ✓ Build and foster a live community. ✓ Look for opportunities to promote the LCC. ✓ Look for opportunities to use and build upon the LCC and LINKS results in follow-up research projects.
Milestones	<ul style="list-style-type: none"> ✓ Securing a follow-up research project that builds upon the LCC (see e.g SYNERGISE). ✓ Continuous non-negative trend in user numbers ✓ Regular updates, at least 3 times a year. ✓ LCC is used by at least three stakeholder organisations. ✓ Reaching over 500 unique visits. ✓ Reaching over 50 registered users. ✓ Reaching over 100 content edits by the end.
SUSTAINABILITY ROADMAP	

Product Owners and Roles	Safety Innovation Center gGmbH (SIC) will keep the LCC for at least 1 year after the project ends alive.
Financial Costs	Cost estimations for 1 year : <ul style="list-style-type: none"> Operational costs (server, backup, domain) = 10.000 EUR Personnel costs for tech support, maintenance and continued technical development (no content updates) = 65.000 EUR
Revenues	LCC is free/open access – no revenue expected.
Other sources of coverage	Not applicable.
Market adopters	Since the LCC is the host platform for the Framework including the SMCS Libraries, the market adopters of Framework and the Libraries cumulatively form the market adopters of the LCC itself. See further details in product tables below.
Impact in 3-years time	Since the LCC is not directly a product per se, but rather a platform to make the products/results accessible, all potential impacts in both short and long term are dependent on the products/results themselves. For these impacts, see the respective product's tables. Additionally, the LCC will strive to build and foster a community of practitioners, researchers and policy makers in order to mutually augment their knowledge and experiences through exchange and communication.

5.2 LINKS Framework

Table 13: LINKS Framework – Exploitation and Sustainability Roadmap Table


EXPLOITATION ROADMAP	
Actions	<ul style="list-style-type: none"> ✓ Continued developing the last connections between user guidance and the products in the LCC. ✓ Evaluation of Framework in final activities including validation by selected externals in the five cases, and the LAC. ✓ Promotion of the Framework via flyers and the LCC at events in the last period including the LINKS Final Event (Oct 2023). ✓ Online social media and communication campaigns, at project and local case levels. Scientific partners may uptake some results within the Framework into their publications and courses.

	<ul style="list-style-type: none"> ✓ Continued discussions with other networks/projects on potential joint promotion and exploitation of results within the Framework. ✓ Look for opportunities to use and build upon the Framework in follow-up research projects (e.g. SYNERGISE).
Milestones	<p>The milestones are linked the use of the Framework (including products) and are therefore related the LINKS Community Strategy (D8.3.):</p> <ul style="list-style-type: none"> ✓ At least 50% of the LINKS Community members in the countries where the cases take place, representing all target groups that are included in the LINKS Community, have assessed and contributed to the LINKS Framework by month 42. ✓ At least 25% of the members from the different target groups in the LINKS Community are using the Framework by M42.
SUSTAINABILITY ROADMAP	
Product Owners and Roles	VU is the conceptual product owner, but as the Framework user guidance is integrated in the LCC and as the Framework encompasses all LINKS products, the ownership and roles are distributed among those maintaining and further developing the specific elements of the Framework.
Financial Costs	See under LCC and under the Libraries. Costs are linked to the further contributions/development of products which need to be linked the Framework user guidance and are therefore under SIC.
Revenues	The Frameworks free/open access – no revenue expected.
Other sources of coverage	Not applicable.
Market adopters	Similar to the LCC, the Framework encompasses the users of all products defined below.
Impact in 3-years time	Since the Framework includes all products/results accessible in the LCC, the potential impacts in both short and long term are dependent on the products/results themselves. For these impacts, see the respective product's tables. Nevertheless, the User Guidance which the Framework offers may create an impact on all stakeholders accessing it, and especially those developing specific strategies for using SMCS in DRM. It may also continue to evolve through the ongoing contributions to products, as the most important and prominent space and resource for knowledge in this domain.

5.3 Including Citizens Handbook

Table 14: Including Citizens Handbook – Exploitation and Sustainability Roadmap Table

EXPLOITATION ROADMAP	
Actions	<p>The protection of the intellectual protection of the product will be possible through a licensing/open source “RISE/Articulate”. The most optimal action to get wider use of the Citizen handbook is that the LINKS partners in general continue to discuss the product with other DMOs in European countries (practitioners, students, researchers, civil society organisations). The actions involve activities such as:</p> <ul style="list-style-type: none"> ✔ Presentation activities both in Italy and Denmark that involve the respective universities on the outcome of the product and on the further development of its design and overall improvements. ✔ Presentation activities both in Italy and Denmark that involve a selected group of practitioners from both countries: including workshops and training sessions. ✔ Preparation of additional training materials (by UNIFI/UCC and UCPH) that will reflect the further development of the product as a form of updated to the Handbook. = LINKS practitioner partners should inform colleague institutions about the products. These activities should be executed within 3 months after the end of the project.
Milestones	<ul style="list-style-type: none"> ✔ Workshops with Italian civil protection offices (November 2023). - Lecture at the University of Florence on the product (October 2023). Action not completed because the team decided to strengthen the dissemination of the product within practitioners' area instead of academics. = Presentation to students at the Emergency and Risk Management program, UCC (February 2024).

	 Presentation to Danish national course for incident commanders (March 2024).
SUSTAINABILITY ROADMAP	
Product Owners and Roles	UCC is responsible for the admin/maintenance when the project ends.
Financial Costs	None.
Revenues	We don't expect revenues since we plan licensing/open source as a use option.
Other sources of coverage	Any costs will come from UCCS own budget.
Market adopters	Civil Protection office of Province of Terni (PDT) Civil Protection Regione Umbria ANCI Umbria University of Florence (Italy) University College Copenhagen – Emergency and Risk Management Program HBR – Greater Copenhagen Fire Department FRB- Frederiksberg Municipality VRLZ - Safety Region of South Limburg Danish Emergency Management Agency (DEMA), educational unit
Impact in 3-years time	<ul style="list-style-type: none"> • Shortening the divide between researchers, practitioners, policy makers and communities, by sharing the knowledge related to SMCS in disasters. • Improving the 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. • 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.

5.4 Feel Safe

Table 15: Feel Safe – Exploitation and Sustainability Roadmap Table

EXPLOITATION ROADMAP	
Actions	<ul style="list-style-type: none"> ✔ Feel Safe is launched (a presentation webinar for teachers on its use and functionality is held) ✔ A social media campaign was launched in early November and reached approximately 2,000 people ✔ Feel Safe is enriched with new features and topics related to DRR, improving accessibility and quality ✔ Webinars and ad-hoc workshops targeting school institutions and emergency management institutions = New thematic destinations on Fires and Climate Change are being developed to broaden the target of the product = Regular updates and Italian/English translations are made available = Feel Safe is constantly improved through feedback mechanism (# feedback received monthly and managed)
Milestones	<ul style="list-style-type: none"> ✔ Feel Safe is launched a webinar and social media campaign in October ✔ Feel Safe website is online ✔ Feel Safe wins the “European Fire Safety Award 2023”

	<ul style="list-style-type: none"> ✔ Feel Safe is further developed through new funding and partnerships (# projects centred on Feel Safe funded) = Continuous non-negative trend in user numbers = Feel Safe is successfully disseminated (#5 elementary and middle schools in Faenza, Emilia Romagna engaged in Feel Safe Workshops for over 1,200 students)
SUSTAINABILITY ROADMAP	
Product Owners and Roles	Save the Children Italy is and will remain the product owner and maintain the Feel Safe platform, including the moderation and management of new content, after the end of the LINKS project.
Financial Costs	The minimum cost estimated for the implementation of Feel Safe is represented by coordination for the general management and update of the platform, social media campaign, webinars and workshops for schools and emergency managers, training for educators and teachers. Additional costs are represented by graphics and content improvement as well as new partnerships. SCIT will ensure the funding of the product. New funding opportunities and project development is already underway. SCIT will ensure approximately an annual budget of 15 thousand Euros for the basic management and fundraising for further development and promotion if needed.
Revenues	The website is meant to be open source, no revenues expected.
Other sources of coverage	SCIT will ensure the funding of the product. New funding opportunities and project development is also underway which can support and further develop the platform.
Market adopters	Teachers and educators, Italian primary and secondary schools' students, SCIT educational community centers (such as "Punti Luce"), civil protection associations, other NGOs working on emergency services, educational centers (e.g. summer camps).
Impact in 3-years time	<ul style="list-style-type: none"> • Child centred DRR is successfully integrated in school curriculum with support from national Civil Protections and Ministry of Education • Child centred DRR is promoted further through visibility of projects and strong network

5.5 SMCS Technologies Library


Table 16: SMCS Technologies Library – Exploitation and Sustainability Roadmap Table

EXPLOITATION ROADMAP	
Actions	<ul style="list-style-type: none"> ✓ Fill the SMCS Technologies Library continuously by monitoring the technology market. ✓ Connect the SMCS Libraries further by expanding their interactions. ✓ Adjust the library structure moderately to enhance usability. ✓ Continuously cultivate the growing community. ✓ Scout for additional funding opportunities to enhance the results of the SMCS Technologies Library.
Milestones	<ul style="list-style-type: none"> ✓ The final validation and proof of practical relevance of the SMCS Technologies Library have been achieved. ✓ TRL 7 has been accomplished. ✓ The quality assurance process has been deployed. ✓ Additional funding opportunities to enhance the SMCS Technologies Library have been obtained.
SUSTAINABILITY ROADMAP	
Product Owners and Roles	Safety Innovation Center gGmbH (SIC) will keep the LCC incl. SMCS Libraries for at least 1 year after the project ends alive.
Financial Costs	Estimated costs for 1 year of further development: Costs for the continued maintenance. The costs of completing, optimising and extending the Libraries (Technologies, Guidelines, Use Cases and Crisis Communication) is approximately 100.000 Euros (incl. overhead), in addition to the server costs for the LCC (approximately 10.000 Euro).
Revenues	We don't expect revenues since we plan licensing/open source as use option.

Other sources of coverage	After the end of the project, the SMCS Technologies Library will be brought into the Horizon Europe DRS research project SYNERGIES (start December 2023).
Market adopters	<p>SYNERGIES project</p> <p>Local Practitioners in Paderborn (Fire Departments, Police, Authorities)</p> <p>FRB - Frederiksberg Municipality</p> <p>Ubermetrics Technologies and PublicSonar</p> <p>VOST Germany</p> <p>VOST EU</p> <p>Engage</p> <p>EENA</p> <p>Vfdb e.V. (Association for the Promotion of German Fire Protection eV)</p> <p>DPPI SEE</p> <p>German Society for the Promotion of Social Media and Technology in Civil Protection DGSMTech e.V.</p> <p>Special forces of the police (DHPol)</p>
Impact in 3-years time	<p>In the short and medium term after the end of the project, the expected positive impact on the DRM community will continue to be to provide an up-to-date and structured overview about the overwhelming market of SMCS technologies. Especially disaster management organisations could recognize more likely the potentials and benefits of using SMCS technologies in disaster situations and will be able to get a better understanding of the market and therefore better select a suitable SMCS technology.</p> <p>After the end of the project, the SMCS Technologies Library will be brought into the Horizon Europe DRS research project SYNERGIES (start December 2023).</p>

5.6 SMCS Guidelines Library

Table 17: SMCS Guidelines Library – Exploitation and Sustainability Roadmap Table

EXPLOITATION ROADMAP	
Actions	 Connect the SMCS Libraries further by expanding their interactions.

	<ul style="list-style-type: none"> ✓ Adjust the library structure moderately to enhance usability. ✓ Continuously cultivate the growing community. ✓ Scout for additional funding opportunities to enhance the results of the SMCS Guidelines Library.
Milestones	<ul style="list-style-type: none"> ✓ The final validation and proof of practical relevance of the SMCS Guidelines Library have been achieved. ✓ TRL 7 has been accomplished. ✓ The quality assurance process has been deployed. ✓ Additional funding opportunities to enhance the SMCS Guidelines Library have been obtained.
SUSTAINABILITY ROADMAP	
Product Owners and Roles	Safety Innovation Center gGmbH (SIC) will keep the LCC incl. SMCS Libraries for at least 1 year after the project ends alive.
Financial Costs	Estimated costs for 1 year of further development: Costs for the continued maintenance. The costs of completing, optimising and extending the Libraries (Technologies, Guidelines, Use Cases and Crisis Communication) is approximately 100.000 Euros (incl. overhead), in addition to the server costs for the LCC (approximately 10.000 Euro).
Revenues	We don't expect revenues since we plan licensing/open source as use option.
Other sources of coverage	After the end of the project, the SMCS Technologies Library will be brought into the Horizon Europe DRS research project SYNERGIES (start December 2023).
Market adopters	SYNERGIES project Local Practitioners in Paderborn (Fire Departments, Police, Authorities) FRB - Frederiksberg Municipality VOST EU Engage EENA Vfdb e.V. (Association for the Promotion of German Fire Protection eV) Special forces of the police (DHPol)

Impact in 3-years time	<p>Bridging the gap between researchers, practitioners, policy makers and communities, by promoting sharing of information and best practices in relation to the use of SMCS in disasters, and thereby improving local disaster resilience and the inclusion of vulnerable groups in all phases of DRM.</p> <p>After the end of the project, the SMCS Technologies Library will be brought into the Horizon Europe DRS research project SYNERGIES (start December 2023).</p>
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5.7 SMCS Use Cases Library

Table 18: SMCS Use Cases Library – Exploitation and Sustainability Roadmap Table

EXPLOITATION ROADMAP	
Actions	<ul style="list-style-type: none"> ✓ Fill the SMCS Use Cases Library by engaging with the LINKS Community and external stakeholders. ✓ Connect the SMCS Libraries further by expanding their interactions. ✓ Adjust the library structure moderately to enhance usability. ✓ Continuously cultivate the growing community. ✓ Scout for additional funding opportunities to enhance the results of the SMCS Use Cases Library.
Milestones	<ul style="list-style-type: none"> ✓ The final validation and proof of practical relevance of the SMCS Use Cases Library have been achieved. ✓ TRL 7 has been accomplished. ✓ The quality assurance process has been deployed. ✓ Additional funding opportunities to enhance the SMCS Use Cases Library have been obtained.
SUSTAINABILITY ROADMAP	

Product Owners and Roles	Safety Innovation Center gGmbH (SIC) will keep the LCC incl. SMCS Libraries for at least 1 year after the project ends alive.
Financial Costs	Estimated costs for 1 year further development: Costs for the continued maintenance. The costs of completing, optimising and extending the Libraries (Technologies, Guidelines, Use Cases and Crisis Communication) is approximately 100.000 Euros (incl. overhead), in addition to the server costs for the LCC (approximately 10.000 Euro).
Revenues	We don't expect revenues since we plan licensing/open source as use option.
Other sources of coverage	After the end of the project, the SMCS Technologies Library will be brought into the Horizon Europe DRS research project SYNERGIES (start December 2023).
Market adopters	<p>SYNERGIES</p> <p>Local Practitioners in Paderborn (Fire Departments, Police, Authorities)</p> <p>FRB - Frederiksberg Municipality</p> <p>Ubermetrics Technologies and PublicSonar</p> <p>VOST Germany</p> <p>VOST EU</p> <p>Engage</p> <p>EENA</p> <p>Vfdb e.V. (Association for the Promotion of German Fire Protection eV)</p> <p>DPPI SEE</p> <p>German Society for the Promotion of Social Media and Technology in Civil Protection DGSMTech e.V.</p> <p>Special forces of the police (DHPol)</p>
Impact in 3-years time	In the short and medium term after the end of the project, the expected positive impact on the DRM community will continue to be to provide a structured overview about the practical examples. Especially disaster management organisations could more likely recognize the potentials and benefits of using SMCS in disaster situations and will be able to get a better understanding of a concrete application.

5.8 SMCS Crisis Communication Library

*Additional info: Launched by FEU in August 2023, the SMCS Crisis Communication Library, a new addition to the LINKS Libraries, specializes in offering effective risk communication strategies for disasters through a curated collection of websites and apps focused on crisis communication. This library gathers expert recommendations for enhancing public engagement via social media during all disaster phases, emphasizing risk awareness, preparedness, and appropriate responses to mitigate impact. Its primary goal is to facilitate public communication through trusted social media text messages. Equipping practitioners with essential digital tools, the library allows users to tailor their searches with specific filters for types and scenarios, enabling efficient use and dissemination of crucial information via social media platforms.

Link: https://links.communitycenter.eu/index.php/List_of_Crisis_Communication




Table 19: SMCS Crisis Communication Library – Exploitation and Sustainability Roadmap Table

EXPLOITATION ROADMAP	
Actions	<ul style="list-style-type: none"> ✓ Establish the structure and gather the content. ✓ Receive and validate input from the consortium partners. ✓ Connect the SMCS Libraries further by expanding their interactions. ✓ Adjust the library structure to enhance usability. ✓ Cultivate the growing community continuously.
Milestones	<ul style="list-style-type: none"> ✓ Structure of the categories and filter has been finalised. ✓ TRL 4 has been accomplished. ✓ The quality assurance process has been deployed.
SUSTAINABILITY ROADMAP	

Product Owners and Roles	FEU owner, Safety Innovation Center gGmbH (SIC) will keep the LCC incl. SMCS Libraries for at least 1 year after the project ends alive.
Financial Costs	Estimated costs for 1 year further development: Costs for the continued maintenance. The costs of completing, optimising and extending the Libraries (Technologies, Guidelines, Use Cases and Crisis Communication) is approximately 100.000 Euros (incl. overhead), in addition to the server costs for the LCC (approximately 10.000 Euro).
Revenues	We don't expect revenues since we plan licensing/open source as use option.
Other sources of coverage	Not applicable at this point.
Market adopters	Since the Crisis Communication Library was developed shortly before the end of the project, no market adopters can be identified for it yet. However, the SMCS Libraries are generally promoted and established in practice together. As a result, a cross-section of the market adopters of the other libraries and the networks of the project partners can be assumed to be future market adopters.
Impact in 3-years time	In the short and medium term after the end of the project, the expected positive impact on the DRM community will continue to be to provide a structured overview about predefined crisis communication advices. Especially disaster management organisations could more likely recognize the potentials and benefits of using SMCS, emphasizing risk awareness and preparedness.

5.9 Resilience Wheel (UCPH)

Table 20: Resilience Wheel – Exploitation and Sustainability Roadmap Table



EXPLOITATION ROADMAP	
Actions	<ul style="list-style-type: none">  Publish report (targeting Disaster management organisations) on the results carried out in WP3 – this includes the Resilience Wheel and how to use it.  Disseminate it at various conferences and presentations for local disaster management organisations.  Continue the support of implementing the RW among local partners (the Copenhagen fire department and the municipality of Frederiksberg)



	<ul style="list-style-type: none"> ⊖ Academic publications on the how to strategically plan for SMCS in disaster management with a focus on the RW expected for Spring 2024
Milestones	<ul style="list-style-type: none"> ✔ Publishing the report – fall 2023 ✔ Dissemination at conferences and among local partners – continuous throughout 2023 and 2024 ⊖ One academic publication on the RW was planned to be submitted to a journal in December 2023 the latest. Currently under development – will be submitted in the Spring of 2024. ✔ Inclusion in teaching on courses at the University of Copenhagen
SUSTAINABILITY ROADMAP	
Product Owners and Roles	University of Copenhagen (UCPH) and University College Copenhagen (UCC). Joint ownership following the end of the LINKS project. Both organisations will continue to work on its use and implementation within the Danish context and will publish a joint paper on the Resilience Wheel
Financial Costs	No costs involved in implementation except a sometime allocated from partners in terms of human resources.
Revenues	Open/free access – no revenues expected
Other sources of coverage	No costs involved in implementation except a some time allocated from partners at University College Copenhagen and University of Copenhagen in terms of human resources
Market adopters	<p>Roskilde Festival Experience Danish Immigration Service Copenhagen Utility Company HBR – Greater Copenhagen Fire Dept. FRB - Frederiksberg Municipality DHPOL Danish Railroads</p>

	<p>Danish Energy Service Hospitals in the regions of Greater Copenhagen and Zealand Danish Lutheran Church DEMA – Danish Emergency Management Agency Danish Traffic Service North Jutland Fire and Rescue Service Danish Utility Companies</p>
Impact in 3-years time	<p>The resilience wheel serves as the basis for a strategic conversation and assessment on the use of social media and crowdsourcing in an organisation. It does so by providing a set of steps that may support organisations in strategically strengthening the use of social media and crowdsourcing in disasters.</p> <p>The impact is an increased strategic and integrated approach to SMCS in disaster management organisations across Europe. The product owners have been particularly successful in implementing the Resilience Wheel in the Danish context and will continue these efforts in 2024. In Denmark, the early adaptors of the resilience wheel are now ambassadors of the wheel, since they encourage and inspire partner organisations to apply the method. This will secure that even more organisations get acquainted with the method alongside UCPHs and UCCs activities to introduce the wheel. All stakeholders, that have tested and applied the wheel report, that the method is very well suited for recurring use: meaning that it is likely to be applied on a yearly or half-yearly basis. DHPol has adopted the Resilience Wheel for the German Police Education and will continue with the implementation when the LINKS project has ended.</p>

5.10 Website

Table 21: LINKS website – Exploitation and Sustainability Roadmap Table

EXPLOITATION ROADMAP	
Actions	<ul style="list-style-type: none">  Updated the results and target groups sections of the website to match the final versions of results  Added the ethics outputs section with free resources on ethics generated by the project.

	 Upload all the deliverables. To be completed after all are approved.
Milestones	 The website is active and used at the end of the project.
SUSTAINABILITY ROADMAP	
Product Owners and Roles	LCU will keep the website active and updated for a duration of 5 years.
Financial Costs	No costs involved except the web hosting service and time allocated from LCU in terms of human resources to keep the website working.
Revenues	Free access. No revenues expected.
Other sources of coverage	Not applicable at this point.
Market adopters	All the practitioners, policy makers, researchers and individuals who want to know more about the project.
Impact in 3-years time	The website will keep inform people about the project and provide them access to deliverables and results. The impact is expected to decrease in the mid-term, as less activities and news will be shared.

5.11 Innovation Management

Innovation management was last updated and tracked in D5.5 Final version of the LINKS Framework (section 3.2) and D9.3 (section 6.2). using the Technology Readiness Level (TRL) Scale as described in the Horizon Booster (HRB) Module A programme (see Figure 21).

Figure 21: Technology Readiness Levels (TRL)



Source: HRB & CloudWATCH2 Project²⁴

²⁴ The visual is in the Horizon Booster pre-assessment questionnaire but originates from *CloudWATCH2*, 'A brief refresher on Technology Readiness Levels (TRL)': <https://web.archive.org/web/20200126083540/https://www.cloudwatchhub.eu/exploitation/brief-refresher-technology-readiness-levels-trl>



It became a goal of in the project to bring the Key Exploitable Results to the Technology Readiness Level (TRL) of 7, signifying their validation and capability to operate at a pre-commercial scale. In M36 only the Resilience Wheel and the Including Citizen Handbook required further development to achieve this maturity level. Through ongoing assessment and development those products are now at TRL 7. Moreover, a new product was developed starting from M39 based on feedback from LINKS Community Members. The SMCS Crisis Communication Library has been developed as is currently at TRL 4, meaning it has undergone development and first validations and is useable but has not undergone large scale evaluation. The new product will be of added value to the overall Framework and LCC. It follows the same structure as the other libraries allowing it to be further co-developed by LINKS community members.

6. IMPACT

As highlighted in Section 2, impact is reported in LINKS at quantitative and qualitative levels. In this final report, we update and report towards overall impact table from the final DEC strategy (D9.3, Annex I), which was derived from the work with the Horizon Booster Services, and included the anticipated outcomes on target groups based on different results (products). The table was informed and has been updated by the product owners, to include key examples of impact in the cases and within the broader context of applying the results. Table 22 provides the overview below.

Table 22: LINKS Outcomes and Impacts

TARGET GROUPS	OUTCOMES & RESULTS	INDICATORS & IMPACTS
Practitioners	Practitioners apply tools/practices to make information/communication via SMCS more accessible to diverse communities and vulnerable groups (Including Citizens Handbook).	<ul style="list-style-type: none"> On 28th of November, a LINKS Community Workshop took place in the Province of Terni (Umbria region): the Handbook was used as a tool to revise the emergency action plans of civil protection offices in the nearby municipalities. In this occasion, raising awareness on the importance of accessibility of information through SMCS played a pivotal role.
	Practitioners are more informed on the potential key role that children can play for better DRM strategies and how to involve and communicate with them, and they could be more willing to promote intergenerational participatory actions (Feel Safe).	<ul style="list-style-type: none"> On the 24th of November, Feel Safe was awarded as the best fire safety education community project in Europe. This was an important acknowledgement and a great opportunity to present and further disseminate the product.
	They have an overview of the drivers that an organization can work with to support their disaster management processes using social media and crowdsourcing. As part of this, pushing	<ul style="list-style-type: none"> LINKS Partners, HBR, FRB and DHPol, have adopted the Resilience Wheel in their organisations. The Resilience Wheel has been introduced and applied in workshops with the following organisations: Roskilde Festival Experience, Danish Immigration Service, Copenhagen Utility Company, Danish Railroads,

	<p>organizations to think holistically about the use of social media and crowdsourcing in disaster management processes and to support the relationship between the technologies themselves and the context they are implemented in (Resilience Wheel).</p>	<p>Danish Energy Service, Hospitals in the regions of Greater Copenhagen and Zealand, Danish Lutheran Church, Danish Emergency Management Agency, Danish Traffic Service, North Jutland Fire and Rescue Service. Potential users are Danish Municipalities, Danish Utility Companies, Danish Rescue and Fire Service</p>
	<p>Practitioners can leverage the SMCS Technologies Library to gain a better understanding of the market, enabling them to select and apply suitable SMCS technologies effectively according to their needs, while the SMCS Guidelines Library provides an overview of existing guidelines, formal practices and regulatory frameworks. With the help of the SMCS Use Cases Library, practitioners can have a look at concrete examples of SMCS applications from other practitioners and be inspired for their own use. Additionally, the SMCS Crisis Communication Library facilitates easy communication with the public via trusted social media text messages, websites and apps, enhancing overall disaster response efficiency.</p>	<ul style="list-style-type: none"> • Through presentations and discussions at practitioner-focused conferences like the EENA Conference 2023 (April 2023) and the Annual Conference of the Association for the Promotion of German Fire Protection (May 2023), the SMCS Technologies and Use Cases Libraries augmented and reinforced disaster management organizations' understanding of the practical utilization of technologies to process information from social media more efficiently. • The SMCS Technologies Library engaged local emergency responders from the fire department, police, and Paderborn's city and district authorities in workshops and demonstrations, highlighting the valuable insights SMCS can offer in disaster management. • The Municipality of Frederiksberg (FRB) exploited the SMCS Technologies Library in order to set up a social media monitoring in their municipality to grasp the public mood and thoughts with regard to risk awareness and preparedness actions for floodings. • The SMCS Libraries initiated dialogues and investigated opportunities with numerous entities, such as the German Society for the Promotion of Social Media and Technology in Civil Protection (DGSMTech e.V.), the Federal Office of Civil Protection and Disaster Assistance (BBK), and several Virtual Operation Support Teams (VOSTs), regarding the incorporation of SMCS in disaster management. • The VOST EU is technologically adept and has contributed to the development of the Technologies Library and written its experiences into practical examples for the Use Cases Library. VOST EU also contributed guidelines to the Guidelines

		<p>Library. This reinforces the aim of VOST EU to support potential VOST start-ups in other countries in Europe and to contribute with structured knowledge from the SMCS Libraries.</p> <ul style="list-style-type: none"> The SMCS Libraries played an active role in the Disaster Prevention Day 2023 of the State of North Rhine-Westphalia, which was an opportunity for deepening collaboration with a diverse array of local and regional stakeholders and for promoting the SMCS Libraries. This event included engagement with citizens and numerous local aid organizations, such as the Fire Department of Paderborn, Municipality of Paderborn, Federal Office for Civil Protection and Disaster Assistance (BBK), German Weather Services (DWD), State Government of North Rhine-Westphalia, Federal Agency for Technical Relief (THW), German Red Cross (DRK), Johanniter Accident Assistance (JUH), Maltese Relief Service (MHD), German Life Saving Society (DLRG), and the Workers' Samaritan Association (ASB).
<p>Developers (Researchers)</p>	<p>Researchers share updates on the knowledge about how to involve children in DRM processes (Feel Safe).</p>	<ul style="list-style-type: none"> Local and international researchers, as well as technicians involved in disaster management, shared updates on the knowledge on how to involve minors in DRM process in the conference of the LINKS final event in Rome (16th-17th of October, 2023). Their updates were based on the recent hazards that occurred in Italy and how to enhance children's resilience through school activities, i.e. participatory activities that involve playing as well as sharing experiences. A few activities designed for children included in Feel Safe have been translated in Japanese as part of the collaboration with Kobe University (CRESD).
	<p>Researchers study more on social vulnerability and DRP in relation to the use of SMCS in disasters adopting a dynamic perspective (Including Citizens Handbook, Feel Safe).</p>	<ul style="list-style-type: none"> Researchers, specifically PhD candidates from Università del Piemonte Orientale and Università delle Marche (both located in Italy) doing research in the field of vulnerability and use of social media in disaster management, shared updates on the knowledge on how to use of SMCS in relation to vulnerability and DRP based on most recent events (earthquakes and floodings) that took place in Italy in the last months, in the conference of the LINKS final event in Rome (16th-17th

		of October, 2023). The inputs coming from researchers had been particularly valuable for both products developed under WP2.
	Researchers apply a systematic approach to assess the use of social media and crowdsourcing in disaster risk management through qualitative interviews (the interview protocol) (Resilience Wheel).	<ul style="list-style-type: none"> LINKS researchers have been using the Resilience Wheel to systematically collect and interpret data as part of the LINKS project (first case assessment). Moreover, the Resilience Wheel is communicated to researchers through conferences and reports. This includes the Earth System Governance Conference in 2021 and the report “Leveraging Social Media and Crowdsourcing in Disaster Management Processes in Europe” (forthcoming).
	The development of the structures and categories for the SMCS Technologies, Use Cases, and Guidelines Library , grounded in a scientifically derived gap analysis involving various stakeholders, incorporates a practical-oriented approach to capturing and structuring complex information. Throughout the project, this foundational work was iteratively enhanced and evolved using diverse scientific methods (e.g., surveys, interviews, workshops), thus providing a robust basis (deliverables, papers, presentations) for various scientific applications and inspirations.	<ul style="list-style-type: none"> The SMCS Libraries have led to a deeper collaboration with the sister project ENGAGE. The Catalogue of Solutions from ENGAGE and the SMCS Libraries have the same methodological approaches and provide the DRM community with structured knowledge with different focal points. Recognising the similarities and different strengths, the joint follow-up project SYNERGIES was pursued and approved. Furthermore, the scientific approach for the SMCS Technologies Library has already led to a paper and presentation at the ISCRAM 2021 Conference after one year in the project and has thus attracted the attention of the target group of researchers and formed the basis for further collaboration (publications, research projects, targeted knowledge exchange). The ongoing development and expansion of the SMCS Libraries have led to further publications (e.g. scientific journal of the Association for the Promotion of German Fire Protection (vfd e.V.)) and presentations at scientific conferences (e.g. Civil Protection Congress 2023 by the Federal Office for Civil Protection and Disaster Assistance (BBK)).
Policy Makers	Decision makers are more informed on the potential key role that children can play for better DRM strategies and how to involve and	<ul style="list-style-type: none"> The LINKS Community Workshop (Province of Terni - Umbria region, Italy – 28th of November, 2023) provided the occasion to disseminate knowledge and

	<p>communicate with them, and they could be more willing to promote intergenerational participatory actions (Feel Safe).</p>	<p>practice in Italian on how to engage with kids in disaster management processes through more active participatory practices.</p>
	<p>Guides for decision makers in using existing tools in a more effective way and to promote more inclusive apps/platforms that could potentially result in better management of the resources and of communication campaigns (Including Citizens Handbook).</p>	<ul style="list-style-type: none"> • The workshop and presentation of the Handbook that took place in Rome on October 16th, 2023 in occasion of the LINKS Final event, provided the opportunity to disseminate knowledge and good practices on how to better engage with citizens through digital communication campaigns. The workshop in Terni Province (Umbria, Italy, 28th of November, 2023) gave the opportunity to do so in Italian with Italian practitioners as well as mayors and authorities selected by the Civil Protection Office of Terni. • A policy briefs about inclusivity of information in disasters have been produced with the aim of providing recommendations at three levels: policy, strategic and operational. The document is available in the Guidelines Library and it will be linked inside the Handbook.
	<p>Policy makers access to a common language/vocabulary for discussion and approaching technology and institutions in DRM efforts. They attempt to use the pathways provided towards good governance mechanisms for SMCS use in DRM. And Innovative policies are embedded into government decision making (Resilience Wheel).</p>	<ul style="list-style-type: none"> • The Resilience Wheel has been introduced and applied in workshops with the following national and sub-national organisations (state agencies, municipalities, emergency services): Danish Immigration Service, Copenhagen Utility Company, Danish Railroads, Danish Energy Service, Hospitals in the regions of Greater Copenhagen and Zealand, Danish Emergency Management Agency, Danish Traffic Service, North Jutland Fire and Rescue Service. Potential users are Danish Municipalities, Danish Utility Companies, Danish Rescue and Fire Services. Moreover, we have developed a policy brief on communication and two reports targeting policy-makers building on the broader results of the knowledge base (including the Resilience Wheel).
	<p>Policy makers utilize the LINKS results as a foundational resource for developing national and local policies on SMCS, ensuring alignment with existing guidelines, policies, and legal frameworks,</p>	<ul style="list-style-type: none"> • The SMCS Guidelines Library, showcased by SIC at events such as the Annual Conference 2023 of the Association for the Promotion of German Fire Protection (vfdb), European Emergency Number Association Conference (EENA 2022+2023), and the Disaster Prevention Day 2023 in the State of North Rhine-

	as provided by the SMCS Guidelines Library . This library serves as a comprehensive repository, offering an extensive mapping of pertinent documents that aid in policy analysis and identifying potential gaps.	Westphalia, were suitable for reaching policy and decision makers and presenting the benefits of the Guidelines Library.. In addition, a survey was conducted with key German stakeholders like the Federal Office for Civil Protection and Disaster Assistance (BBK), Federal Environment Agency (UBA), German Weather Service (DWD), and Helmholtz Institute for Environmental Research (UFZ), focusing on their social media usage during drought and heat wave scenarios. The survey also served the purpose of informing the organizations operating at the national level about the project outcomes, of which the strategic guidelines and policies are of particular interest.
Civil Society and Local Communities	Citizens are more informed on the potential of children in DRM strategies and how to stay informed (Feel Safe).	<ul style="list-style-type: none"> In November, SCIT launched a Feel Safe social media campaign that so far has approximately reached 2,000 people on Facebook to inform them on the potential of children in DRM.
	Citizens are more informed (higher awareness/risk perception) and willing to react in an efficient way (Feel Safe).	<ul style="list-style-type: none"> In November, SCIT launched a Feel Safe program in partnership with 5 schools in Faenza (city that was harshly hit by the floods in May 2023). It will ultimately lead to partnership with the local administration (6 municipalities) with the aim of revising the local emergency plans and including a full chapter dedicated to children's rights in emergency, here included their participation to DRM in time of peace.
	Communities are more informed on the potential of children in DRM strategies and how to stay informed (Feel Safe).	<ul style="list-style-type: none"> In November, SCIT launched a Feel Safe program in partnership with 5 schools in Faenza (city that was harshly hit by the floods in May 2023) consisting of 10 hours of workshop with 70 different classes of primary and secondary school (approximately 1500 students) based on the themes and activities of the product. Moreover, on November 28th Feel Safe was presented to the local community of the Province of Terni that supported the co-creation of the tool.

	<p>Communities are more informed (higher awareness/risk perception) and willing to react in an efficient way (Feel Safe).</p>	<ul style="list-style-type: none"> • PDT and SCIT developed a child friendly family emergency plan that will be rolled out next year in the province under the supervision of PDT.
	<p>Businesses increase their awareness on features that can be used in an event of a disaster and can adapt these into their own developments, helping to increase safety (Resilience Wheel).</p>	<ul style="list-style-type: none"> • Local utility companies (primarily focused on water and energy) have partaken in the LCWs carried out in the fall of 2023 within the Danish case and have shown interest in applying the Resilience Wheel further. • As Sitech has provided valuable input to the development of the Resilience Wheel and its categories, we see the potential of businesses using the wheel to strategically assess their strength and weaknesses in the context of the three drivers included in the the Resilience Wheel.
	<p>Businesses gain access to a comprehensive market overview and the opportunity to highlight their own technologies, such as through regular updates, via the SMCS Technologies Library. Furthermore, the SMCS Use Cases Library allows businesses to elaborate on the specific application of their technologies and present in greater detail.</p>	<ul style="list-style-type: none"> • Technology developers are encouraged to become members of the LINKS community, contributing their technical solutions to the libraries. By regularly updating their entries with current information and supplementing them with compelling use cases, they can demonstrate the significance of their technologies. • This approach, enabled through the publicly accessible LINKS Community Center, not only enhances the visibility of their technology within the Disaster Risk Reduction (DRR) field but also facilitates connections with new stakeholders from both the application and research sectors. • Throughout the project, partnerships with Ubermetrics Technologies and PublicSonar were significantly strengthened. By aligning the practical needs with the capabilities of these technology providers, the collaboration positively impacted the advancement of technologies for disaster management.

The overall work on impact has been guided by the 'LINKS Impact Task Force' (including EOS, FEU, SIC, UNIFI and VU), which held bi-weekly meetings on exploitation and impacted related activities. The work towards impact in the project is also closely connected with the activities conducted by partners in

different Work Packages. Those WP deliverables also provide more rich details of impact on specific target groups in relation to the case assessments (D6.5 and D6.6), the knowledge bases and associated products (D2.6, D3.5, D4.5), the use of the LCC (D7.6) and involvement of LINKS Community in for instance workshops (D8.6), and the overall societal impact strategy of the project (D1.7).

Overall the project did endeavour to have more time to focus on impact activities (an 6-month budget neutral extension was request for these purposes but was not approved). The COVID-19 pandemic impacted the project in this regard, limiting the projects in-person outreach and activities related to exploitation and impact, such as workshops, conferences, and networking, in the cases and beyond. While the project is proud of its achievements and has established a robust sustainability strategy, it is clear that the early delays cause by the pandemic did affect the project's ability to establish a wider impact.

7. CONCLUSION

This document is the final status report, based on a qualitative and quantitative assessment, on the communication, dissemination and exploitation activities implemented in LINKS between M36-M42. The document also contains reports about key results achieved throughout the entire project.

The main results, that were summarised in Section 2, include the following:

- Overall, results of the communication and dissemination activities are in line with the expectations, as compared to the quantitative and qualitative indicators.
- In particular, the engagement achieved through the LINKS website and the Social Media Channels activated has been beyond expectations.
- The number of scientific publications based on the LINKS results and the number of reads and downloads is excellent.
- LINKS has established a strong collaboration with the projects of the Social Resilience Cluster and other networks.
- LINKS developed a strong exploitation and sustainability plan for the project results.

Overall, the dissemination of LINKS results raises awareness among target audiences of the importance of using social media and crowdsourcing technologies to improve risk perception, perceptions.

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ANNEX I: UPDATED EXPLOITATION RISK MATRIX

The following table provides an update to the risks identified by product owners as requiring ACTION in the exploitation plans in D9.3. All risks are not mitigated and in a status of control.

Table 23: Updated Exploitation Risk Matrix

RESULT	RISK	STATUS M36	STATUS M42: Action/Control/No Action
Including Citizens Handbook	Development of comparable products, possibly more efficient than Including Citizens Handbook.	ACTION: Study the comparable products that have been launched on the market and understand why they are more efficient.	CONTROL: The recent implementation of the product through digital materials (videos) characterizes the product as unique in the present context, as emerged from the confrontation with LINKS partners and the dissemination activities carried so far.
Including Citizens Handbook	Resistance of target groups in adopting the results of the product.	ACTION: Working with practitioners to make the product useful and usable.	CONTROL: The dissemination activities with practitioners, especially workshops, and the target groups' response so far showed that the practitioners would be very eager to use the product as they have taken part in its implementation.
Including Citizens Handbook	Difficulty in sustainability after the closure of the project.	ACTION: Selling the product with licenses from DMOs that will sustain the product after the end of the project.	CONTROL: The product will not be sold but be made freely and openly available. For the time being UCC will maintain and host the product.
SMCS Guidelines Library	Emergence of competitive products.	ACTION: Examine competitive products, understand why and how they are successful and use them as opportunities to keep innovating (inspiration, strategic partnerships, etc).	CONTROL: After the end of the project, a clear distinction from competitive products is guaranteed, as no other collection of guidelines focuses specifically on SMCS in disasters and is equipped with a user-friendly filter system.