Strengthening links between technologies and society for European disaster resilience

D1.7 REPORT ON SOCIETAL IMPACT AND CONSISTENCY WITH ETHICS AND SOCIETAL IMPACT STRATEGY ACCOMPANYING THE FINAL PROJECT REPORT

Report

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LINKS
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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 will develop a framework through an iterative process and bring together 15 partners and two associated partners across Europe (Belgium, Denmark, Germany, Italy, Luxembourg, the Netherlands) and beyond (Bosnia & Herzegovina, 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 will be developed and evaluated through five practitioner-driven European cases, representing different disaster scenarios (earthquakes, flooding, industrial hazards, terrorism, drought), cutting across disaster management phases and diverse socioeconomic and cultural settings in four countries (Denmark, Germany, Italy, the Netherlands). Furthermore, LINKS sets out to create the LINKS Community, which brings together a wide variety of stakeholders, including first-responders, public authorities, civil society organisations, business communities, citizens, and researchers across Europe, dedicated to improving European disaster resilience through the use of SMCS.

About this deliverable

The deliverable (D1.7) represents the final assessment report of the LINKS Ethics and Societal Impact Strategy. It focuses on the recommendation and the actions identified in the D1.5 (Morelli & Bonati, 2020) and D1.6 (Nardini & Bonati, 2021) providing the last update of the objectives identified. It is subdivided in three main sections: section 2 about the status of the main ethics issues in the project, and contains the last updates related to the Diversity Awareness strategy; section 3 is about the ethics self-assessments in the project and provides an overview of responses to the surveys completed by the partners, and section 4 is about the Societal Impact Strategy, providing a complete overview of the roadmap related to the long term assessment of the strategy and the actions completed by the partners for the short-term assessment.

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LIST OF ACRONYMS

Acronym / Abbreviation	Description
DCT	Disaster Community Technologies
DMP	Disaster Management Process
DRPV	Disaster Risk Perception and Vulnerability
EA	Ethics Advisor
EAB	Ethics Advisory Board
LAC	LINKS Advisory Committee
LCC	LINKS Community Center
LCW	LINKS Community Workshop
SMCS	Social Media and Crowdsourcing
WP	Work Package
WPL	Work Package Leader
TL	Task Leader

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Definition of Key Terms[1]

Term	Definition
Disaster	A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.
Diversity	In LINKS, diversity is characterised by two central aspects. On the one hand diversity in LINKS is understood as an individual aspect, characterized by personal markers, diversity awareness and different cultural belonging. On the other hand, diversity is a range of capabilities, information and data resources, skills and knowledge (scientific and experiential) to which systems can draw upon.
LINKS Framework	The LINKS Framework consolidates knowledge and experiences on the uses of social media and crowdsourcing in disasters, into products for relevant stakeholders. The Framework is accessible online through the LINKS Community Center, and can be used by stakeholders to openly explore knowledge, or as a strategic planning tool for guiding disaster management organisations in their planning for using social media and crowdsourcing in disasters.
Resilience	The ability of individuals, institutions, and systems to recover from disturbance and to develop and adopt alternative strategies in response to changing conditions (definition builds on Tyler & Moench, 2012; see also LINKS Glossary).
Vulnerability	The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards. The LINKS project focuses on social vulnerability, which is interpreted as a function of exposure, susceptibility and resilience. It is a pre-existing and dynamic condition, result of processes built over time (e.g., social power relations at national and international levels) and

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

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Term	Definition
	all the environmental and social circumstances that allow or limit community's capacity to deal with risks.
Vulnerable groups	Those groups that due to physical, social, economic and environmental factors or processes, are more exposed and susceptible to the impacts of hazards.

1. INTRODUCTION

One of the aims of the LINKS project is to guarantee that Ethics and Societal Impact are both adequately addressed and consistently monitored. Since the beginning of the project, a specific ethics strategy was created, D1.5 (Morelli & Bonati, 2020) and then monitored and reported in the D1.6 (Nardini & Bonati, 2021). The present deliverable, D1.7, represents an update of the D1.5 and D1.6 and it provides the final report on the Ethics and Societal Impact Strategy within the LINKS project.

The deliverable is organized in three main sections:

- Section 2: A comprehensive overview of the ethics strategy presented in D1.6, incorporating updates on actions previously labeled as 'in progress'. It specifically focuses on the Diversity Awareness Strategy, the minor's perspective in research to ensure the engagement of vulnerable groups, and on ensuring fairness in the LINKS Community Center (LCC) to manage the LINKS online community.
- Section 3: The outcomes of the Partner Self Ethics Assessment Survey, conducted by partners in 2022 and 2023. It also includes a comparison of the results from 2021, 2022 and 2023, and incorporates findings from ethics conversations as well as the Ethics workshop held in March 2022 with the LINKS partners.
- Section 4: Societal Impact Strategy. It updates the information available in D1.6, offering a comprehensive overview of partners' actions until the project's completion (detailed in the Table 6), and an assessment of both the long-term and short-term impacts of the project's ethics and societal impact strategy.

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2. OVERVIEW ON THE ETHICS STRATEGY

Throughout the LINKS project, principles such as inclusion, respect, diversity were ensured. What these principles mean within the context of the LINKS project, and how partners were urged to take these principles into account is outlined in our LINKS Ethics Strategy (D1.5). Inclusion refers to the practice of involving all individuals and ensuring that everyone has equal opportunities and access to resources. This means that the consortium respected and recognized the value of every individual involved in the project, appreciated differences between individuals, and treated them with dignity. Diversity refers to the variety of backgrounds, experiences, perspectives and resources of the people involved in the project. At the same time, the privacy of all individuals involved in the project is respected, by safeguarding personal and sensitive information and treating it confidentially.

This section includes an update of progress of the Ethics Actions identified in deliverables D1.5 and D1.6 (Nardini & Bonati 2021). In D1.6, the actions were added to a status table and some actions were labelled as 'in progress.' However, at the current and final stage of the project, these actions have been successfully completed, indicating a positive development in the ethical aspects of the project. As such, this section outlines the ways in which ethical considerations, inclusion, respect, diversity, dignity, and privacy within the LINKS project were ensured. It highlights the progress made in implementing the open Ethical Actions identified in document D1.6, thereby fostering the project's commitment to these principles.

The status of each of the actions is indicated by the following icons:

✓ Completed / Yes

= In process

− Not started / No

Table 1: Overview on Ethics Actions

Topics in D1.5/D1.6	Actions to be conducted	Responsible	Status	How actions are met
Diversity Awareness	Diversity Awareness Strategy development	VU, UNIFI	✓	Section 2.1
	Integration of minors' perspectives in research	SCIT, UNIFI	✓	Section 2.1.1
	Ensuring fairness in the LCC by providing guidelines and information	SIC	✓	Section 2.1.2

Topics in D1.5/D1.6	Actions to be conducted	Responsible	Status	How actions are met
	Assessment of partners' diversity - awareness	UNIFI, VU	✓	Section 3
Informed consent	Minor's informed consent for research activities	UNIFI, SCIT	✓	Section 2.2

2.1 Diversity Awareness

Throughout the LINKS project, diversity and how it contributes to excellence and creativity, was considered a key topic. Our approach to diversity was twofold: First, by striving for diversity within our consortium, in particular by considering gender, age and vulnerability. Second, we treated diversity as a factor in our research (e.g., participants, research questions) with the goal of delivering inclusive project results. In doing so, we created a LINKS Diversity Awareness Strategy (Annexes I). We treated this strategy as an internal and living document, updating it as the project advanced. We organized a meeting with consortium partners to present and promote the Diversity Awareness Strategy in month 20 as well as to gain insight in consortium partners' needs and preferences with regard to diversity. As a result, the Diversity Awareness Strategy addresses specific guidelines for consortium partners on how to foster diversity and inclusion in each of the following phases of the project:

- **Diversity within the consortium**: As effective cooperation and decision making might be affected by diverse working environments (e.g., gendered working environments such as male dominated professions); we aim to overcome this by mapping the diversity awareness among partners. Accordingly, the monitoring of gender diversity among the partners is included in the project technical reporting in Months 12, 30 and 42. Furthermore, an assessment of consortium partners' diversity awareness has been incorporated in the ethics assessment survey which was administered in July 2022 and July 2023.
- **Diversity outside of the consortium**: LINKS partners aim to ensure equal opportunities by organizing workshops in different locations, thereby facilitating the participation of partners and stakeholders from different backgrounds and locations. To monitor diversity in LINKS Community Workshops (LCWs), WP8 has produced a feedback template that has the purpose of capturing – among others – information on gender and age of the participants. This helped to better address the future assessment phases and discussions in the workshops.
- **Diversity in the research**: As defined in deliverable D1.5, participant diversity was defined along the following three axes: gender, age, and vulnerable groups. Within the project, we studied the intersectionality of these axes from a dynamic perspective as described in D2.1 (Bonati, 2020) and their subsequent impact on societal resilience. In general, we supported

the participation of different social groups comprising of individuals with different backgrounds to ensure as much as possible that everyone has equal opportunity to participate in the project research. One example is the research activities conducted by LINKS partners where some people with disabilities have been involved and participated to the focus groups they organized. In doing so, we focused on the communication between practitioners and public. That is, how partners may reach and share information with diverse social groups, through different platforms and channels, either directly or indirectly (e.g., policies, social media, interactions) with a specific focus on the use of social media and crowdsourcing (SMCS) during a disaster.

- **Diversity in dissemination**: We promote inclusive dissemination of the project results in the sense that different social groups will receive project results particularly relevant to their needs and/or context. In doing so, we increase the likelihood that different social groups will be able to understand the outcomes and implications. As an example, even if at the beginning of the project it was not considered a primary social media channel, an Instagram profile for the project has been launched to reach the target of younger people, especially for some specific results such as Feel Safe. A protocol for dissemination has been developed in which some guidelines on selecting relevant results for specific groups and how to effectively communicate these results have been added.

2.1.1 Integrate Minors' Perspective in Research

Integrating minors' perspective in research was an essential aspect of the LINKS project that revolved around the development of the one the project's initiatives: Feel Safe[2]. Within LINKS, a consistent investment was made to ensure that vulnerable people were engaged and involved, by ensuring a meaningful participation. Particularly in the Italian case approximately 50 children from a secondary school were involved from the onset of the project in discussions and consultations that led to the development of the Feel Safe initiative. Save the Children used a participatory approach in the co-creation phases of the product Feel Safe through Focus Group Discussions and workshops to ensure that children's views were a critical part of the development and decision making. Children and their teachers were also involved with test activities of Feel Safe and their feedback was used to change activities' content or website's feature to make the product more appealing, rich or relevant.

2.1.2 Ensuring Fairness in the LINKS Community Center

The task of ensuring fairness in the LINKS Community Center (LCC) concerns the management of the LINKS online community, using the LCC's communication facilities to foster the community and user participation. This process involves moderation and support measures to address any problems among community members, including socially driven problems (e.g., conflicts in forum). In

[2] https://feelsafe.savethechildren.it/it

addition, the task involves quality assurance through the development and continuous application of an appropriate methodology to ensure high quality of WP7 output. In D1.6 (Nardini & Bonati, 2021), the action was still in process, as Task 7.4, started in M16, and was ongoing until the end of the project.

The strategy of ensuring fairness in LCC has been described in detail in D7.5 (Kiehl et al. 2022b). It combines both community management and quality assurance in the LCC, as these two concepts are inextricably interconnected. The methodology that followed from our strategy is based on the holistic integration of 'content', 'user experience' and 'community', which are the concepts that influence both quality of content and community management. This integrated methodology includes comprehensive feedback collection via e.g., email, workshops as well as LCC's internal means. This further enables reporting and resolution of potential problems.

As for the LCC, D7.4 (Kiehl et al. 2022a) provides the final demonstration of the LCC, as a guide on how to use the website and provides an example in the form of a user story to make the experience of non-members of the project who will use the platform more inclusive. In light of this successful demonstration as well as consistent positive feedback from the community.

2.2 Informed Consent

Save the Children, UNIFI and other LINKS partners ensured form the onset of the project the use of information sheets and consent forms available also to children below and above 14 years. This process helped to strengthen trust and participation to the activities. Information sheets and consent forms were therefore translated into a child friendly language where the rules of engagement were translated into a simple concept and easy to access also for young students. This resulted in children above 14 years able to fully understand the language of the documents and children below 14 years also able to be engaged despite the consent given by their legal guardian.

Information related to the Informed Consent and the Information Sheet for adults, are reported in the D1.6 (section 2.3).

3. ETHICS ASSESSMENTS

3.1 Ethics Assessments

LINKS partners were asked to be considerate of ethical issues that emerged during their project activities. To gain insight in these ethical issues, a Partner Self-Ethics Assessment survey was distributed annually among the consortium. Compared to the first assessment administered in 2021 (see D1.6 (Nardini & Bonati, 2021)), the surveys administered in 2022 and 2023 were implemented in several ways due to the feedbacks obtained from the partners and the Ethics Advisory Board (EAB) after the first round:

- Section A: 10 questions (instead of 7) addressed to all individuals working in the project;
- Section B: 20 questions (instead of 16) addressed to the Partner Team Leaders;
- Section C: 15 questions (instead of 10) addressed to the Work Package Leaders and Task Leaders.

The implementation consists of the addition of the questions: the new version of the Partner Self-Ethics Assessment survey contained specific questions related to the Diversity Awareness Strategy (which was developed in February 2022, see previous section), in order to monitor partners' diversity awareness. The new version of the Partner Self-Ethics Assessment survey is available at the end of the document, in Annex II.

Regarding the survey response options, responses were always anonymous. This means the answers could not be linked to individual partners. After the first survey, in order to increase the response rate and to better monitor ethical issues that might play within the project, the survey was made mandatory for all partners. A section 'comments' was also added after each question to allow partners to share additional information or feedback that was not captured by the items comprising the quantitative data of the Self-Ethics Assessment survey.

The Table 2 displays the number of responses obtained for each year and for the different sections of the survey.

Table 2: Number of answers to the survey

	2021	2022	2023
Section A	19	29	27
Section B	9	16	11
Section C	11	11	10

3.1.1 Results from the Partner Self-Ethics Assessment Survey 2022

Figure 1: Results obtained from the Partner Self-Ethics Assessment survey in 2022

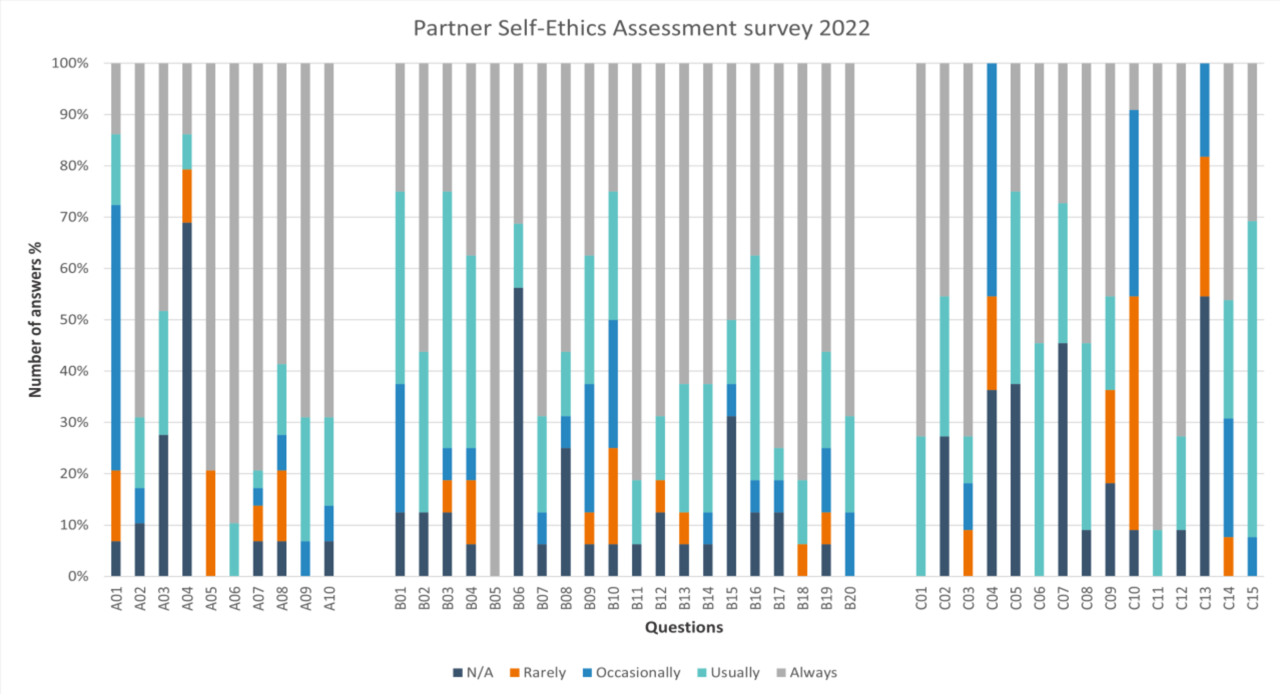

Figure 1 shows the results of the survey conducted in 2022. According to Section A (individual partners), more than 50% of the partners indicated that they are familiar with the ethical standards of the project explained in D1.5 (Morelli & Bonati, 2020) by having consulted it 'occasionally'. This percentage represents an increase compared to the survey results from 2021, when partners indicated that they consulted the document only 'rarely'. In addition, partners also indicated that they behaved in a respectful way even when they received less respectful behaviour from others (70% of answers are usually/always). This supports a fair and ethical treatment of others as highly endorsed throughout the project. In general, partners did not encounter many ethical issues, as indicated by the high number of 'N/A' (around 70%) responses to the question '*A04: In case I encountered ethical problems while carrying out my tasks, did I refer to the Ethics Advisory Board to find a solution? Why not? Did you find a solution?*' and partners specified that they did not encounter ethical issues in the section 'comments'. Questions A08, A09, and A10 pertained to the Diversity Awareness Strategy, and the responses indicate that partners were aware of our diversity goals have considered the recommendations in the Diversity Awareness Strategy document throughout their activities in a consistent way (around 60-80% responded with 'always' or 'usually').

As for Section B (partner team leaders): Team leaders have indicated that about 95% of their team members have consulted the D1.5 and that they are familiar with its contents. In general, ethical issues can be considered rare, as, first, 60% of team leaders responded with N/A to question B06 '*When we made ethical errors or omissions in the project work, our team member took ownership*

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and made corrections promptly'. Second, team leaders also indicated that they have not encountered ethical or safety issues so far, as it is confirmed by the high number of N/A to the question B15. At the same time, all team leaders (100%) indicated individuals who might differ in ethnicity, gender, education, age, societal status, professional discipline, language, generation, sexual orientation, physical or mental disability, and skill sets, are treated with respect (question B05). Team leaders also stated that they have been actively engaged in discussions on ethical issues that might arise within their field of research (question B10, with an average response major of 50% as 'always' or 'usually'). Regarding the dissemination (question B16 '*We created actions for public understanding of the project activities as a way of better informing the involved community and creating awareness of their role in participating*'), the high number of positive responses (70% responded with 'always' or 'usually') shows that the partners have created actions to try to better inform the involved community about LINKS activities and they tried to work on their awareness. To conclude, the questions B18, B19, and B20, specifically related to the Diversity Awareness Strategy as well as the ethics recommendations, ('*Our team considers diversity in our project activities*'; '*I am aware of the Ethics recommendations, and I have consulted them*' and '*I follow the ethics recommendations in planning meetings, deliverables and communication in the project'*) show a good percentage of positive answers: 'always' or 'usually' (80-90%) these issues are considered by the team members.

As for Section C (Work Package Leaders (WPLs) and the Task Leaders (TLs)), 100% of the project leaders adopted mitigation measures to avoid obstacles and to address potential risks. This is for example illustrated by the responses to question C01 '*We took into consideration any options and views differing from ours, even when deadlines forced us to make quick decisions*', where 70% of the answers are 'always' and 30% are 'usually'. Questions C04 and C05 pertained to ethical issues that might arise during the activities, and the results revealed that the Ethics Advisory Board (EAB) could provide targeted solutions to overcome specific type of problems. The N/A answers (around 40%) of question C04 '*Have ethical issues arisen during our work?*' have the specification that WPLs and TLs did not have ethical issues that need to be arisen. Regarding the inclusiveness of the consortium, all partner leaders indicated to consider everyone's needs and schedules (question C06 '*We gave attention to the schedules and needs of the other LINKS partners while developing project activities'*). In addition, partner leaders stated that they only 'occasionally' or 'rarely' had pressured the team members as to meet the workload expectations as well as the timeline outlines (question C01). This final result is similar to the result from the 2021 survey.

In general, the results from Section C show that the partners have successfully addressed as well as implemented the projects' diversity and ethics recommendations.

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3.1.2 Results from the Partner Self-Ethics Assessment Survey 2023

Figure 2: Results of the Partner Self-Ethics Assessment survey in 2023

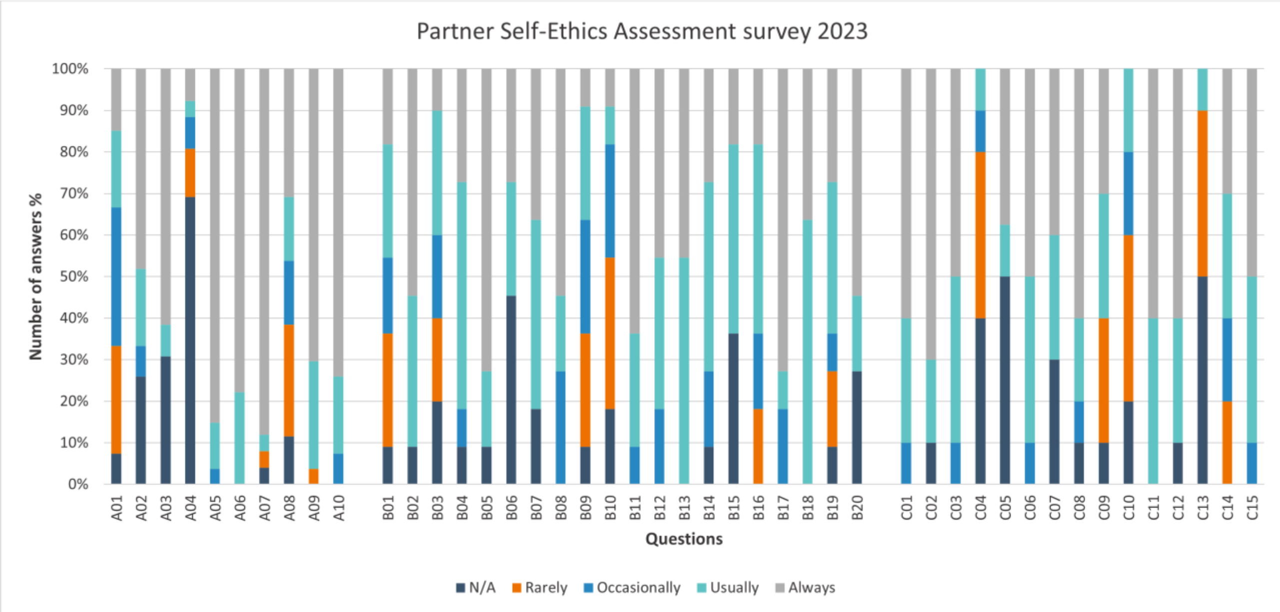

Figure 2 displays the results of the Partner Self-Ethics Assessment survey conducted in 2023.

Following the results of Section A, partners indicated to have consulted D1.5 at least one time. This is corroborated by the comments section, where familiarity with the document is emphasized. In response to question A2, about 50% of partners have declared that in case ethical behaviour was under discussion, they actively addressed the issue by opening dialogues as to find targeted solutions. The high number of N/A answers to question A04, around 70%, (*'In case I encountered ethical problems while carrying out my tasks, did I refer to the Ethics Advisory Board to find a solution? Why not? Did you find a solution?')*, implies that partners did not encounter ethical problems, they specified it in the 'comments' sections. There is only a comment that specified that the EAB was contacted for an issue, and they helped them to solve it. With regard to diversity and inclusion, about 80-100% indicated to prompt ethical behaviour and transparency, by promoting a safe environment including respect and care for diversity (indicated by responses to questions A05, A06, A07). Questions A08, A09, and A10 referred to the Diversity Awareness Strategy: Partners declared to have read the document at least one time, either before or during their research activities. Moreover, partners indicated to feel included in the project's activities as well as in the consortium itself.

According to the results gathered in Section B, the Partner Task Leaders highlighted that all their team members are familiar with the outcomes of the D1.5, which actively provided the guidelines for our ethical-driven approach. When asked about how they handled errors that were made, 45% responded with 'N/A' (question B06), indicating errors were relatively rare. When errors were made, partners indicated to solve them with simple and clear solutions. Similarly, Task Leaders indicated to inform the consortium about risks or ethical issues that might have occurred during their research activities, but these instances were rare (40% responded with 'N/A' to question B15). With regard to diversity and inclusion, 90% of the Task Leaders responded with 'always' or 'usually' to question B05 ('*In our work, we were concerned with understanding and being respectful of individuals who differ from us in ethnicity, religion, gender, age, education, societal status, professional discipline, language, generation, sexual orientation, or physical or mental disability, skill sets and in any other aspects of diversity considered in LINKS*'). Therefore, we can conclude that diversity and inclusion are continuously addressed by the teams by being sensitive to those partners that come from different backgrounds and have different approaches. This was further confirmed by the responses to question B08: *'I have promoted diversity and inclusion* in my team (*diversity refers to demographic differences and vulnerabilities, as well as a range of different capabilities, skills, knowledge and information access)'*. The 70% of answers are 'always' and 'usually'. Finally, questions B18, B19, and B20 referred to the Diversity Awareness Strategy as well as to the ethics recommendation that have been developed in the project. The majority of Task Leaders indicated to be familiar with the documents and consider them when scheduling meetings and other team activities, such as preparing deliverables or other research materials.

As for section C, responses to questions C01, C02, and C03 attest to the respect for different points of view and individual opinions voiced during meetings thereby fostering inclusion. Throughout the research activities conducted by the partners, there were no ethical issues that needed the intervention of the Ethics Advisory Board, as it is demonstrated by the answers to the questions C04 and C05 around 40-50% answered N/A, because they did not encounter ethical issues, and the 50% who answered 'rarely', they specify that 100% were overcome 'always' or 'usually'. Furthermore, 80-90% of the responses to questions C06 ('*We gave attention to the schedules and needs of the other LINKS partners while developing project activities*') and C08 ('*We considered the fairness of our requests for the other LINKS partners, although this could have consequences for our deadline*'), were 'always' and 'usually'. At the same time, most partners declared that they 'occasionally' or 'usually' needed to encourage their team members to respect the deadlines (question C10). This indicates that partners considered the ethical approach in their research activities throughout the project. Finally, as for responses to questions C14 and C15, partners confirmed that they have consulted and used the ethics recommendations in their project's activities.

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3.1.3 Comparison of the results among 2021 – 2022 – 2023 surveys

Figure 3: Comparison of the results of the different sections (A, B, C) among 2021 – 2022 and 2023

A comparison of the results of the three different sections (A, B, and C) gathered in three years (2021, 2022, and 2023), is shown in figure 3. From the first version of the survey (2021) to the second and third (2022 and 2023), several questions have changed due to the feedback obtained from the partners. For instance, they indicated that some questions seemed repetitive or ambiguous. Moreover, questions relating the Diversity Awareness Strategy as well as inclusion were added (A08-A10; B18-B20; C13-C15).

In general, the comparison reveals that most answers are positive, the number of 'always' and 'usually' answers have increased, and this represents an overall improvement between 2021 and 2023: The overall improvement between the results from 2021 and 2023 could plausibly be associated with the effects of the periodical meetings organized by the Ethics Advisory Board and thank to the ethics conversation and the workshops (section 3.1.4 of this document for a better explanation) that UNIFI organized with the partners with the aim of emphasizing to partners that ethics is important and should be taken into account always. The EAB meetings included a description of the deliverables related to our Ethics strategy (D1.5 and D1.6) as well as a summary of the results obtained from the Partner Self-Ethics Assessment survey in previous year(s).

3.1.4 Ethics workshop and conversation

3.1.4.1 Ethics workshop

In March 2022 an Ethics workshop was organized. The purpose of this workshop was twofold: 1) gaining insight into—if any—ethical issues the partners were facing, and 2) creating guidelines to help partners deal with these ethics issues—should they arise—in particular when organizing meetings and preparing the deliverables. Being a European project, LINKS joins partners from different countries, with different cultures, environments, customs and approaches. As such, one of the main priorities of the project was to be inclusive for all partners. Most of the partners took part in the Ethics workshop and actively contributed to the drafting the practical guidelines to foster inclusion and equality within the consortium. The results obtained from the workshop created three main documents related to the recommendations to follow for communication, the deliverables, and the meeting, providing suggestions and advice to guarantee the respect of diversity and ethics in the three aspects. These three documents are available in the Annex III. The documents provide the information as checklist with the instructions and the examples explained. Following the workshop, partners were asked to fill out a survey to obtain their feedback and evaluation of the ethics workshop. Sixteen partners filled out the survey, of which nine actually took part in the workshop. In general, partners appreciated participating in the workshop as they regarded it is as an engaging and interesting moment to debate and reflect on ethical issues.

The results obtained from the survey underline that the workshop has been considered useful by partners who participated and that the format of the workshop worked well. A lot of information and suggestions have been obtained from partners. There have been some problems especially related to the absence of the coordinators that could be useful to create a collaborative effort. People declared that all of the ethics issues have been touched and raised during the workshop and that the documents represent an important tool to guarantee the ethical approach within the project.

3.1.4.2 Ethics conversations

Between December 2021 and January 2022, the Ethics Advisory Board (EAB) organized ethics conversations, that is bilateral meetings with the LINKS partners. The idea was to obtain different types of feedback and information on issues related to ethics: the members were requested to share opinions on how they feel within the consortium, as well as suggestions on how to better guarantee inclusion. In addition, the ethics conversations were important to identify the level of knowledge of the ethical procedures for the research activities of the partners. These conversations were not mandatory, meaning that partners could choose whether to participate or not; most partners did participate in at least one of these ethics' conversations. Their suggestions and feedback were plenty and very useful, especially for the organization of the aforementioned Ethics workshop.

The Ethics Advisory Board also provided the partners with a survey to evaluate the ethics conversations. Sixteen people filled out the survey, of which nine of them joined at least one of the ethics conversations. The results of the survey highlighted that the ethics conversations have been extremely useful, and the format proposed worked well. People felt comfortable during the conversations, they have the possibility to explain their thoughts and ideas without feeling judged or put off, so all the ethics issues have been raised. For this reason, there was not the necessity and the urgency to proposed again this activity, anyway partners can always the possibility to refer to the EAB for any kind of problem or issue to resolve.

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3.2 Ethics Advisor

This section is an update of the section 3.3 of D1.6 (Nardini & Bonati, 2021) related to the projects independent Ethics Advisor (EA), Dr. Katrina Petersen. In D1.6 there were some recommendations provided by the EA that were still 'in progress'. In Table 3 these recommendations are listed as well as their current status. The status of the action is indicated as follows:

- Completed
- In process
- Not started or cancelled

Table 3: Actions Taken towards Ethics Advisor Recommendations

EA Recommendations/Measures		Status	LINKS Actions	Deliverable/ Document
Anonymisation Procedures	Provide partners with more details on how to balance the decontextualization of data for the protection of the participants vs levels of details needed to ensure validity/usefulness of data	Completed	Anonymisation procedures are discussed in D10.3 and in the Data Management Plan. Information on anonymisation of data are discussed in D1.6.	D10.3 Data Management Plan Research Protocol for Interviews and Surveys D1.6
LINKS' Ethics and Societal Impact Strategy	Articulate how the design of the research activities will support the identification and production of positive impacts	Completed	The positive and negative impacts have been identified before the research took place. Partners provided information related to the Societal Impact Strategy in the different phases of the project and the results are available in Annexes I. The work is also closely linked to the overall impact and exploitation strategies for the project, developed with WP8 and WP9 through the Impact Taskforce	D1.5 D1.6 Research Ethics-Assessment Form D9.3 and D9.6 provide updates of the the Exploitation Plan

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EA Recommendations/Measures		Status	LINKS Actions	Deliverable/ Document
			and also closely related to the work of the dissemination and application activities of WP6 through the work of the Case Assessment Teams in the five scenarios[3].	
	Provide instructions to ensure data minimisation and purpose limitation	✓	The partners responsible for research in LINKS have experience in this area, so at the moment specific information on this has not been identified as necessary. However the topic will be covered in greater detail in relation to the research methods applied in the cases, both within the protocols and D6.2, and also in workshops with CATS on the protocols in September 2021.	Research Protocol for Interviews and Surveys D6.2
Recommended Next Steps	Review of the ethics assessments procedures in the project, including how LINKS is engaging diversity and vulnerability, and the ways partners are determining the representativeness of their participants, and how these relate to the literature on crisis communication	✓	The Ethics Advisory Board reviewed both the Partner Self-Ethics Assessment and the Research Ethics Assessment including the diversity and vulnerability aspects. The two surveys are available in D1.6 (Annexes I and II)	Updated Partner Ethics-Assessment Survey Research Ethics-Assessment Form D1.6 Diversity Awareness Strategy

[3] Italy (earthquakes), the Netherlands (industrial hazards), Germany (drought), Denmark(floodings), Germany (terrorism)

EA Recommendations/Measures		Status	LINKS Actions	Deliverable/ Document
	To have specific and regular discussions on the problems of the project and guarantee that partners have the support and competence to mitigate them	✓	These discussions take place at project level (Executive Board and Steering Committee Meetings), bilaterally (e.g., with the project coordinator), and via the feedback provided to the consortium by the EAB. EAB/UNIFI organized also the Ethics Workshop and the Ethics conversations (3.1.4) with partners to guarantee the support and the respects of the ethics aspects.	D1.7 Ethics Workshop Partner Self Ethics Assessment Survey Research Ethics Assessment
	Update the Ethics Advisor of the state of progress and feedback of approval process of D10.5 and D1.6	✓	The Ethics Advisor was updated on the progress in a specific meeting in January 2022. This document (D1.7) has also been shared with the Ethics Advisor, and she has provided feedback on 20th Novermber 2023 .	N/A

4. OVERVIEW ON THE SOCIETAL IMPACT STRATEGY (SIS)

The Societal Impact Strategy has a dual focus: it aims to enhance equity and diversity in both the inputs and outputs of the project, while at the same time minimizing the potential negative consequences during the research activities' planning and execution. Each partner has the responsibility of assessing and monitoring the impact of their activities. The project has employed three different methods to evaluate the Societal Impact Strategy:

- The **short-term societal impact assessment** is made up of five processes and actions with the goal of lowering the risk of adverse effects of the project activities. Table 4 provides an update on the status of some of the actions listed in D1.6 that were still ongoing;
- The **long-term societal impact assessment**, defined in the D1.5 (Morelli & Bonati 2020), which is described by six different objectives. To guarantee that these six objectives are met, the actions relating to them have been identified in D1.6 (Nardini & Bonati 2021). The Societal Impact Strategy Roadmap is in table 6 and it is as an update to the roadmap in D1.6, where the Work Packages (WPs) have described all the actions that they planned and defined at M30 and up to the end of the project;
- The partner self-ethics assessment explained in section 3;

4.1 Societal Impact Strategy Roadmap

4.1.1 Short-Term Assessment for Societal Impact Strategy

Table 4: Status of the actions for short-term societal impact of the project

<table>
<tr><th>Actions</th><th>WP</th><th>What has been done</th><th>Deliverable/document</th><th>Status</th></tr>
<tr><td rowspan="3">Identify stakeholders</td><td>WP2
WP3
WP4</td><td>Identify research participants for cross-case research and inform for deep dive research: the work has been done in the first methodology of the KBs developed in May 2021 in which the interviews, online surveys and focus groups discussions have been explained and defined and in the protocols for research developed in December 2021.</td><td>D2.3; D3.2 and D.4.2 protocols for research; D2.7</td><td>✓</td></tr>
<tr><td>WP7</td><td>Identification and engagement of the stakeholders of LCC</td><td>D7.1; D7.2</td><td>✓</td></tr>
<tr><td>WP8</td><td>Identify main stakeholders and beneficiaries of the LINKS Community: information and details are provided in D8.1, defined in D8.2 and updated in D8.3.</td><td>D8.1; D8.2; D8.3</td><td>✓</td></tr>
</table>

Actions	WP	What has been done	Deliverable/document	Status
		Identification of **participants to the LCWs**	D8.1; D8.4; D8.5, D8.6	✓
	WP9	Identify participants for **dissemination strategy**	D9.1; D9.2; D9.3	✓
		Identify beneficiaries for the **exploitation strategy**	D9.2; D9.3, D9.6 Exploitation canvas	✓
Overview of legislation and policy	WP3	Collecting **policy and guidelines** that could inform the project to inform the DMP and DCT-landscapes.	D3.1	✓
Identify negative and positive impacts	WP1; WP6	Every Case Assessment Team was invited to think about potential positive and negative impacts of their research in the **research ethics assessment survey**. The survey needed to be submitted before research activities took place.	D1.5; D1.6	✓
	WP9	The **Impact Taskforce** to support and monitor the process in the Exploitation Strategy. Furthermore, an exploitation canvas has been created and delivered in M19. Therefore, the Impact taskforce meet bi-weekly until the end of the project.	D9.2 Horizon Results Booster	✓
Mitigation measures and follow up	WP1-2-3-4-6-10	**Mitigation measures** for the COVID-19 pandemic for the research activities in the project (see also the research ethics assessment survey and all the recommendations and guidelines provided under WP10); Mitigation measures were developed by Case Assessment Teams for planned research and results of the project.	D2.3; D3.2; D4.2; D6.2; D6.4; D1.5, D1.3; deliverables in WP10	✓

4.1.2 Long-term Assessment for Societal Impact Strategy

The Societal Impact assessment roadmap provided in D1.5 and updated in D1.6, includes six objectives defined in the long-term societal impact assessment. These objectives have been selected on the basis of a literature review that has shown how these steps can improve the societal impact of the project in the long-term. These actions in D1.6 were ongoing or thought and designed for the latest steps of the project. In Table 5 below, we list the six objectives and the respective actions identified, along with their status and related deliverables.

Table 5: Long-Term Assessment overview

Objectives	Actions	Status
Direct involvement and active collaboration between academic and non-academic stakeholders	• Methodologies Taskforces • Product Taskforces • Impact Taskforce • Site visits • LCWs • Deep dive research activities • Integration and use of User Guidance in the LCC • Participatory Action Research • Cooperation with local stakeholders • Conferences and events • Testing and validation phases of the tools	✓ WP2; WP3; WP4; WP5; WP6; WP7; WP8
Societal relevance of the project (usefulness and consumability of the project)	• Users' stories • LCW • Focus Groups Discussion • Integration and use of the User Guidance in LCC • Use of products in the cases by local stakeholders • Participatory Action Research • Exploitation strategy • Impact Taskforce • Exploitation canvas	✓ WP5; WP6; WP8; WP9
Equity – diversity – plurality and sustainability	• Ethics Assessment forms • LCW feedback forms were used to gather information regarding the gender diversity of the participants to the workshops. • Diversity Awareness Strategy • Participatory Action Research • Pocket Guidelines • LCC engagement	✓ WP1; WP2; WP6; WP7; WP8; WP9; WP10
Knowledge transfer	• Case activities • Integration and use of the Framework in LCC • Use of products in the cases by local stakeholders • 26 LCWs and 4 LAC Meetings • Dissemination, communication and exploitation tools • DEC Strategy	✓ WP5; WP7; WP8; WP9
Cross-boarder, cross-language, cross-disciplinary approaches	• Cross-case assessment • Multi-language browser translation within the LCC • Integration and use of the User Guidance in LCC • Translation of the products where needed • DEC in multi-language	✓ WP2; WP3; WP4; WP5;

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Objectives	Actions	Status
	• 26 LCWs in local language and across cases • Conferences and events in local language • Events and conferences with multi-disciplinary approach • Publications in all the languages of the project and in English	WP6; WP7; WP8; WP9
Visibility of the project	• Guidelines for accessibility in dissemination • LCC • LINKS website • LINKS newsletters • LINKS social platforms • Social media campaign • Videos, photos and infographics • Events • Conferences • Scientific publications • DEC Strategy • Exploitation canvas • 26 LCWs were organised throughout the project aimed at disseminating the results and community building	WP7; WP8 WP9

Below in Table 6 the objectives and actions described in detail from the Work Package Leaders highlighting and explaining in depth the actions addressed until M18, until M30 and until the end of the project (M42).

Table 6: Long-Term Assessment of Societal Impact Strategy roadmap

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Conditions	WP	Actions until Month 18	Action until M30	Action until the end of the project M42
Direct involvement and active collaboration between academic and non-academic stakeholders	WP2 WP3 WP4	Construction of DRPV – DCT – DMP Knowledge bases and methodologies with the help of the consortium practitioners (see, e.g., practitioners' boxes in D2.1, D2.2, D3.1, consultation processes described in D2.3, D3.2, D4.2, and collaboration of non-academic partners in writing deliverables); Three methodological taskforces have been created to involve non-academic partners of the consortium in selecting and formulating research questions and methods (D2.3, D3.2, D4.2). Participation to conferences not thought only for the scientific community (e.g., Accessibility days 2021).	WP2: cross case interviews, online survey, 1LCW, activities with schools, 2 focus groups discussions WP3: Cross case interviews, case specific pilot interviews, survey on risk perception in the Danish case, 6 focus groups, LCWs, Site visits WP4: Cross case interviews Online survey LINKS Advisory Committee 3 LCWs Workshop at the LINKS annual meeting Site Visits	WP2: Finalising the Including Citizens Handbook and testing of the tool though roundtables, workshops, surveys and user story exercises with practitioners and stakeholders inside and outside the project. Creation of the policy outputs related to Accessibility. WP3: Finalising report on WP3 results, report/communication on flood risk survey for Danish practitioners. Finalising handbook legs on voluntarism and the resilience wheel for official release. Policy brief on targeted communication. Participation in conferences and workshops (including LCWs) to disseminate and apply the WP3 knowledge base – especially the Resilience Wheel. Workshop on the including citizen handbook at the annual meeting in Osnabruck, submission of one scientific publication and preparation of one to be submitted. WP4 (partly WP6): Conducting workshops (e.g., at the Annual Meeting in Osnabrück or LAC Meeting #3 in Rotterdam) and surveys (e.g., to relevant drought stakeholders in Germany), participation and presentation of the SMCS Libraries at conferences, fairs and events (e.g., vfdb annual conference, EENA conference etc.) at European and national level. Writing publications in professional journals (e.g., vfdb journal). Intensify cooperation with local stakeholders for the implementation of social media strategies as well as monitoring and evaluation. Testing of LINKS Framework in broader application context.
	WP5	D5.1 reported the workplan for the development of the LINKS Framework as a result of a participatory process among partners engaged and especially	The Framework has been presented in internal and external events (e.g., LINKS meeting in Split, workshop in Split with DPPI- SEE etc.). User stories have been	Academic and non-academic stakeholders participated in co-creating the LINKS Framework's final version. External assessment of the Framework contributed to its validation with a broader network of stakeholders.

Conditions	WP	Actions until Month 18	Action until M30	Action until the end of the project M42
		practitioners (e.g., internal consortium workshops). User stories have been developed by practitioners in order to understand their needs and expectations. Presentation and discussion of the LINKS Framework during the first LCW (November 9, 2021, in Terni, Italy).	developed with consortium partners. This is a on-going task that will continue until the end of the project.	
	WP6	A participatory process has been activated to develop the workplan described in D6.1 presents the workplan and for the evaluation of the case assessment for the five cases. Organization of LINKS Practitioners' Taskforce, Case Coordinators' meetings, and Practitioners' workshops.	The local assessment teams have carried out various activities involving stakeholders relevant to each case. Italy and Denmark have developed and carried out different activities in focus groups, workshops and meetings to discuss different points. All the cases have met in site visits where they had the opportunity to understand each other's work-research context on-site. At the same time, this provided an opportunity to exchange ideas and brainstorm possible future activities. The local partners have organized and carried (with the assistance of WP8) the LCW.	The assessment teams carried out activities similar to those carried up to M30. The teams remained in contact and actively exchanged ideas and best practices. There was a lot of collaboration between the different stakeholders across the five contexts.
	WP7	The development of the LINKS Community Center follows an open and inclusive approach (see D7.2 and D7.3). and is available at all times for testing by all stakeholders. The needs of different target groups, i.e., practitioners and researchers, are being	The LCC was evaluated by diverse user groups at various workshops and their feedback has been taken into account for the development.	The LCC was presented and evaluated in numerous activities such as workshops, conferences and events (e.g., LAC#2 and LAC#3 meeting, vfdb annual conference, CERIS, EENA, external evaluation via questionnaires etc.). In the local workshops (LCWs), the LCC was also discussed as a central platform for the project results and made known in practice. All the measures mentioned above and others (e.g.,

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Conditions	WP	Actions until Month 18	Action until M30	Action until the end of the project M42
		taken into account since the beginning of the development (see e.g., design thinking workshop described in D7.1).		newsletter, social media campaign, etc.) contribute to the continuous establishment and retention of the LINKS community beyond the duration of the project.
	WP8	The pilot LINKS Community Workshop has been held in Italy in November 9th, 2021. The LCWs have been thought as moments of collaboration and discussion, that are created in collaboration between scientific and non-scientific stakeholders. Thus, the pilot workshop has been organized in two moments: the first one managed by local practitioners (Province of Terni, with the participation of local Civil Protection), hosting also moments of scientific discussion; the second part has been organized by UNIFI and has seen the participation of local volunteer associations of civil protection.	10 LCWs took place dealing with the 5 cases and taking place in the 4 countries involving practitioners from various LINKS Stakeholder groups. 2 LAC Meetings were held involving academic and non-academic stakeholder.	15 LCWs were carried out between M30 and the end of the project M42. Two LAC meetings took place as well as the final LAC activity during the LINKS final conference 16-17.10.2023. These LCWs and LACs were of great importance in gaining feedback and validation of the products as well as in helping expand the LINKS Community.
Societal relevance of the project – usefulness and consumability of the project	WP8 WP9	WP8 is developing the marketability strategy to understand market-potentials of the project. As referred before, the first LCW has been thought also as a moment to collect feedbacks on the potentials of the project and its outputs. The Impact Taskforce has been created with the purpose to support the process for identify long-term impacts and consumability of the outputs.	Development of the D9.2 with the information related to the Marketability strategy. Work on the exploitation canvas with the help of the Impact Taskforce.	Definition of the exploitation strategy of all the LINKS products (D9.3); definition of the sustainability of the LINKS Framework (and the related products) also after the end of the project (D9.6); identification of the societal impacts of the products in the LINKS Cases (D9.5 and D9.6)

Conditions	WP	Actions until Month 18	Action until M30	Action until the end of the project M42
	WP5	In the first 18 months, the societal relevance of the Framework has been mainly assessed internally to the LINKS consortium. User stories has been used also to this scope. Furthermore, the LAC has been organized as a moment of discussion with external experts.	D5.4 - user stories developed in collaboration with the stakeholders involved in the flooding and industrial hazards cases. The LINKS Framework has been implemented in the LCC and is currently being used in the second case-based assessment.	D5.5 Three new user stories showing the use of the Framework in the local contexts were developed and included in the deliverable. The LINKS Framework has been assessed externally (through LAC meetings and other events with e.g., relevant DGs)
	WP6	N/A	The case assessment teams are testing and using the Framework from their perspectives (the users' perspective) through their different tasks. These perspectives are vital to the Framework because they give important insight into the needs and challenges of the cases and potential users similar to them.	D6.6 The Framework was used in a broader context. The information collected was reported in the deliverable. The use of the Framework builds on each case's feedback, expertise and stakeholders' network, which also allows the creation of sustainable strategies for using the Framework and its products after LINKS has finished.
Equity – diversity – plurality and sustainability (of the project outputs)	WP1 WP2 WP9	D1.1 has been submitted in July 2020 and it is about the project management manual. D1.2 has been submitted in June 2021 and it is a report about the progresses of each WP. A first plan for the societal impact of the project and its assessment has been provided in D1.5. D1.6 provides an assessment of the ethics and societal impact strategy and provides information on the diversity awareness strategy. Guidelines for accessibility in dissemination (see WP2 and 9).	Definition of the 'Diversity Awareness Strategy', dissemination of the partner self-ethics assessment and the research ethics assessment before the beginning of the research activities. EAB task force is always on charge to solve the ethics problems if necessary. Definition and publication of the ethics pocket guidelines (Annexes IV) to guarantee the equity in dissemination and on the development of outputs and materials. Also, the Including Citizens Handbook worked on this direction providing information and recommendation on how to guarantee	Development and dissemination of the Diversity Awareness Strategy and the Pocket Guidelines inside the project. Testing of the Including Citizens Handbook to promote equity and inclusivity in communication, especially section related to accessibility.

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Conditions	WP	Actions until Month 18	Action until M30	Action until the end of the project M42
			the equity on the communication during an emergency.	
	WP10	WP10 has provided some requirements to ensure the monitoring of ethics and societal impact process. WP10 worked specially to provide procedures which can foster equity, diversity and plurality of participants to the research.	Monitoring of the implementation of guidelines created under WP10.	Monitoring of the implementation of guidelines created under WP10.
	WP6 WP7 WP8	The case studies, LCC and LCWs have been developed according to the principles at the basis of the ethics and Societal impact strategy. A stakeholders mapping has been activated in collaboration between WP7-8 to ensure plurality in the defining participants. A feedback form has been developed for LCWs to evaluate (among the others) diversity in participants.	The strategy has been implemented in the LCC and a community code of conduct has been implemented.	Compliance with the Code of Conduct was continuously monitored and respected by all members of the community.
Knowledge transfer	WP5 WP7	The Framework is being developed by taking into account a) how to best structure and sort the knowledge in the LCC; b) how to best facilitate knowledge sharing and transfer. A Practice to Policy workshop took place in April 2020. The workshop was organised in collaboration with DPPI SEE and involved DPPI SEE Members. The Framework was presented and experiences, needs and challenges were shared and discussed at	The LCC makes the content produced by LINKS available to all stakeholders. Markers indicating which content is relevant for which stakeholders were not added, as all content is relevant for all stakeholders to some degree. However, customized learning paths have been implemented via the LINKS Framework (Compass).	At the end of the project, all LINKS products are publicly available in the LCC. In addition, they have been made accessible in a user-friendly way through user guidance (former 'learning paths') tailored to the content of the products. By involving the DMOs and other stakeholders in the workshops, the knowledge transfer was initiated, and the user guidance was evaluated. In the long run, this ensures that the knowledge developed in the project is recognized and applied in the DRM community.

Conditions	WP	Actions until Month 18	Action until M30	Action until the end of the project M42
		length. LCC has been conceptualized and is being developed to ensure collaboration and knowledge transfer among the participants.		
	WP8	LCW have been developed to leverage local stakeholders' knowledge and experiences for the benefit and development of LINKS project research (see first LCW).	10 LCWs were carried out in order to disseminate the knowledge and results of the project.	In total 26 LCWs and 4 LAC meetings took place in order to leverage local stakeholders' knowledge and experiences for the benefit and development of LINKS Framework and products.
	WP9	WP9 worked to guarantee the diffusion of the results by defining a clear DEC strategy, using different tools (including publications, magazines, events, workshops, networks, etc.)	Identification of the exploitation actions for the LINKS products that will be developed	Exploitation actions for all the LINKS products have been identified (D9.3 and D9.6)
Cross-border; cross-language; cross disciplinary approach	WP2 WP3 WP4	All the WPs worked to promote a cross-disciplinary, cross-language and cross-border approach to the knowledge bases. The methodologies have been built to provide a cross-case analysis.	A joint second methodology has been written together (D2.7).	The products developed in the Knowledge Bases have been characterized by an interdisciplinary approach since the beginning of the project. For the development, different scientific disciplines (e.g., crisis informatics, social sciences...) as well as application-oriented research were equally taken into account. The products were initially developed in English and then transferred to different contexts and languages. Through the close cooperation of the knowledge bases with the Framework developed in WP5, the products can be accessed through user navigation depending on the motivations of different target groups.
	WP5	LINKS Framework is being developed according to the principles of transversality and diversity, taking into account the language issue but also the cultural differences, specifically in relation to the implementation of the Framework into the	First and second round of case assessments (same actions)	A cross-disciplinary approach was also applied in the external evaluation of the LINKS Framework. This was done through the feedback of different invited experts.

Conditions	WP	Actions until Month 18	Action until M30	Action until the end of the project M42
		LCC. Additionally, it is by nature cross-disciplinary.		
	WP6	The cross-border and cross-disciplinary approach has been ensured through meetings and workshops in which practitioners with different backgrounds and coming from different countries, hence adopting a multi-disciplinary approach.	The actions are confirmed. In all cases a cross disciplinary approach has been implemented. Some products will be translated in local languages. S	The same approach remained until M42.
	WP7	To ensure that the needs of different users coming from different countries, with different primary languages, different cultural backgrounds, and from different disciplines actions have been taken in the first phase of the project (see e.g., design thinking workshop described in D7.1).	The basic functionality of the LCC is available in many different languages and an automatic translation tool has been tested. The translation of specific products is the responsibility of the respective product owners, but the LCC provides the technical means for hosting translated versions of the products.	The LINKS community built by the project consists of stakeholders from different disciplines (e.g., practitioners, media, technology providers, local communities) and also the researchers in the community complement their knowledge from different fields of science (e.g., social sciences, computer science, communication sciences etc.). The SMCS Libraries can, for example, be translated into almost any language by an automated translation.
Visibility of the project, open data and (physical, cultural, intellectual) accessibility of the results	WP7 WP9	The visibility of the project and the accessibility of the results have been ensured by the communication process. WP9 worked to the diffusion of the results of the project using the LINKS website, LINKS newsletter, LINKS social platforms, conferences, newsletter, etc. A guide about accessibility in dissemination has been developed by WP2 for WP9 purposes.	The actions are confirmed. Particular attention has been given not only to the communication and dissemination activities through the different channels indicated in the D9.2, but to the project exploitation, which not only allow to give visibility to the project but also ensure that the results have a concrete use.	Use of the LCC and further dissemination and communication channels, materials and events (LINKS website, LINKS social media - Facebook, LinkedIn, Twitter, Instagram), infographics, videos, leaflets, scientific publications in open access, trade events, scientific conferences, webinars, etc.

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5. CONCLUSION

The deliverable is the last report on the LINKS project's consistency with the Ethics and Societal Impact Strategy. It provides an overview and an update of the steps and the requirement that have been explained and defined in the previous deliverables, D1.5 and D1.6.

Throughout the duration of the project, the ethics and diversity concepts have always been considered as they represent the core aspects at the basis of the research activities and the relationship with participants, vulnerable groups, as well as those who have experiences in the context of disasters. To guarantee these aspects were safeguarded ethically, different documents and methodologies have been developed along the way and many ethics activities have taken place in the project. LINKS regards the results as a success overall: several achievements have been reached, such as the definition of the 'Diversity Awareness Strategy', the 'Data Management Plan', and the development and the dissemination of the 'Pocket Guidelines' as practical tools and outputs.

The partner self-ethics assessment was also key to understanding the levels of comprehension and understanding of the partners of ethics issues inside the project and to obtain feedback to be able to produce outcomes that could be used by the partners to guarantee ethical approaches were followed. For this reason, between the first and the second partner self-ethics assessment, some questions and some aspects have been reformulated and reconsidered (see section 3 of this document). Moreover, the actions that were still 'in progress' in the last deliverables have been concluded and successfully completed.

We wish to conclude by thanking all who contributed to our Ethics work in LINKS. The support of the Ethics Advisor has been extremely useful during the project, and the Ethics Advisory Board (EAB) that was established at the beginning of the project, has turned out to be extremely efficient and supported the success of the research activities, providing information on how to manage them from an ethical perspective. Moreover, EAB and the University of Florence (UNIFI) organized the Ethics workshop: on one hand, it provides information and outputs useful for the entire consortium, on the other, it led to the development of the ethics guidelines to guarantee that the diversity and inclusivity are totally respected.

In order to facilitate the ongoing development and success of projects working in research and ethics areas related to disaster risk management (and beyond), the project is also making its ethics resources openly and freely available for reuse on the project website. Those resources include 'Diversity Awareness Strategy', the 'Pocket Guidelines' both for research activities and the structure of presentations, the 'Ethics Guidelines' and the 'information sheets' and can be found at this address: https://links-project.eu/ethics-outputs.

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7. ANNEXES

7.1 Annex I: Diversity Awareness Strategy

LINKS

Strengthening links between technologies and society for European disaster resilience

DIVERSITY AWARENESS STRATEGY

FEBRUARY 2022

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

Strengthening links between technologies and society for European disaster resilience

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DISCLAIMER

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EXECUTIVE SUMMARY

About the project

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

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

Bringing together 15 partners and 2 associated partners across Europe (Belgium, Denmark, Germany, Italy, Luxembourg, the Netherlands) and beyond (Bosnia & Herzegovina, Japan), the project will develop a framework to understand, measure and govern SMCS for disasters. The LINKS Framework consists of learning materials, such as scientific methods, practical tools, and guidelines, addressing different groups of stakeholders (e.g. researchers, practitioners, and policy makers). It will be developed and evaluated through five practitioner-driven European cases, representing different disaster scenarios (earthquakes, flooding, industrial hazards, terrorism, drought), cutting across disaster management phases and diverse socioeconomic and cultural settings in four countries (Denmark, Germany, Italy, the Netherlands). Furthermore, LINKS sets out to create the LINKS Community, which brings together a wide variety of stakeholders, including first-responders, public authorities, civil society organisations, business communities, citizens, and researchers across Europe, dedicated to improving European disaster resilience through the use of SMCS.

About this deliverable

This document provides the Diversity Awareness Strategy for the LINKS project. It functions as a guide to issues relating to diversity within the research and processes of the LINKS consortium. It is a living document to be updated throughout the lifetime of the project.

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LIST OF ACRONYMS

Abbreviation / Acronym	Description
DCT	Disaster Community Technologies
DMP	Disaster Management Process
DRPV	Disaster Risk Perception and Vulnerability
LCC	LINKS Community Center
LCW	LINKS Community Workshop
SMCS	Social Media and Crowdsourcing
WP	Work Package

1. INTRODUCTION

1.1 Diversity by Design

The overall objective of LINKS is to strengthen links between technologies and society for improved European disaster resilience, by producing sustainable advanced learning on the use of social media and crowdsourcing (SMCS) in disasters**.** In order to examine the effectiveness of SMSC for European disaster resilience, we are taking into account the use of SMCS in disasters in different ways and under diverse conditions. That is, this project brings together 15 partners and 2 associated partners from across the world, uses a wide variety of scientific methods, tools and technologies, and guidelines addressing different groups of stakeholders (e.g., researchers, first-responders, practitioners and policy makers, and bringing them together in a LINKS Community), incorporates five different hazard scenarios across Europe including different disaster management phases against a variety of socio-technical and cultural backgrounds. In LINKS this process is defined as *Diversity by Design*.

The Diversity by Design nature of the LINKS project translates to two facets of diversity:

First, diversity in terms of different groups consisting of different demographic characteristics (e.g., gender and cultural identity, age) and their intersectionality, differences in diversity awareness and differences in vulnerability. The groups refer to different partners and stakeholders (i.e., diversity in the consortium), but also target groups such as research participants and communities affected by disasters (i.e., diversity in the research). Vulnerable groups refer to those groups that due to physical, social, economic, and environmental factors or processes, are more exposed and susceptible to the impacts of hazards (see LINKS Glossary).

Second, the Diversity by Design nature of the project refers to diversity in terms of knowledge, skills, and access to information and resources that the abovementioned different groups bring to the project. That is, each of the groups involved, including the partners, stakeholders but also participants and vulnerable communities, can offer unique aspects and insights into the research questions. When effectively joint and shared, we can build on the existing knowledge and meet the specific needs of the different groups. Hence, we consider diversity as a resource for strengthening disaster resilience.

Considering these two aspects, diversity is indicated by two facets in the LINKS Glossary:

"1) diversity as a characteristic, consisting of demographic differences between individuals (e.g., gender, age, cultural identity), diversity awareness and vulnerability; 2) diversity as a resource, including a range of capabilities, skills, knowledge, and information access."

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1.2 The Ethics Advisory Board and the Diversity Awareness Working Group for Communication

Within the LINKS project, the Ethics Advisory Board (EAB) has among its goals to facilitate and support partners with any diversity issues and to plan actions to monitor the diversity awareness strategy. With any questions or concerns related to diversity, please contact the EAB (LINKS-EAB@safetyinnovation.center). Furthermore, EAB has created a working group on diversity awareness with the aim of promoting diversity awareness in communication and in spreading the results of the LINKS project. If you are looking for any further information on diversity awareness in communication, please contact the EAB asking to be linked to the working group or contact directly one of the members of the working group. Members of the working group are listed below in Table 1.

Table 1: Diversity Awareness Working group members

Member	E-mail	Affiliation
Sara Bonati (also a member of the EAB)	sara.bonati@unifi.it	UNIFI
Francesco Graziani (also a member of the EAB)	francesco.graziani@savethechildren.org	Save the Children
Risha Jagarnathsingh	risha.jagarnathsingh@vu.nl	VU
Romy van der Lee (also a member of the EAB)	r.vander.lee@vu.nl	VU
Antonio Opromolla	a.opromolla@unilink.it	LINK Campus University

2. DIVERSITY IN THE LINKS PROJECT

In line with the six key priorities listed by the European Research Area in the Communication set out in July 2012 and with the three core documents of Horizon 2020 (i.e., The Horizon 2020 Regulation, The Rules for participation, and The Specific Programme implementing Horizon 2020), diversity and inclusion are deemed important topics in the LINKS project. It is perceived as a matter of equal rights and opportunities as well as added value in terms of excellence, creativity, and resources.

As such, we foster 1) diversity in the consortium, in particular regard to gender, age and vulnerability and on the other hand, 2) diversity in our research (e.g., participants, research questions), and 3) in our dissemination and outreach. In general, with the LINKS project, we aim to deliver inclusive project results, deliverables and outcomes.

2.1 Diversity in the LINKS Consortium, Meetings, Workshops and Events Promoted by LINKS Partners

The LINKS consortium values diversity and inclusion by fostering equality in matters of employment and opportunities and as such the career-development of partners, following the European Policy of equal opportunities. Hence, the consortium is composed of stakeholders from different cultures and backgrounds and with different gender identities. Diversity and inclusion will be respected in all the phases of the LINKS project, and fair (gender) representation and equal opportunities will be fostered in the management structures and leading roles, as planned in D1.5: Bonati & Morelli 2020 (see also D1.6: Nardini & Bonati, 2021). As such, we report on the gender representation of the consortium partners, and we will explore potential differences between gender identities (intersecting with e.g., age, ethnicity) with regard to inclusion.

In addition, we also focus on the diversity awareness of LINKS partners, in particular of the stakeholders consisting of, or working with, disaster management professionals. For instance, from a gender perspective, high status and male dominated professions such as first responders (e.g., police, firefighters, but also medical experts), might contribute to a masculine work culture (Cheryan & Markus, 2020; Desmond, 2006; 2008; Lyng, 2014; Van den Brink, 2011) where gender stereotyping is prevalent (e.g., Ellemers, 2018; Derks, van Laar, Ellemers, de Groot, 2011; Froelich, Olsson, Dorrough, Martiny, 2020). This, in turn, might hinder effective cooperation and decision making (see for example Nielsen et al., 2017; Nielsen et al., 2018). As such, we pay attention to the diversity awareness of emergency professionals, for example by the administration of a questionnaire (incorporated in the Partner Self-Ethics assessment questionnaire) among LINKS partners to map their diversity awareness and practices (e.g., implicit biases, data collection and data interpretation; see for example Eklund & Tellier, 2012). If necessary, we will develop tailored interventions to create more diversity awareness and provide concrete tools for partners to use to facilitate inclusion in the research. This could range from the implementation of a (updated) diversity policy, an online info sheet about diversity practices, or an online diversity awareness training (e.g., Van der Lee & Ellemers, 2018). The goal is to foster an inclusive work culture as well as inclusive research designs.

Furthermore, the LINKS consortium organizes workshops and events in different locations. In doing so, we aim to be inclusive by facilitating the participation of partners and stakeholders from different backgrounds and who may have limited opportunity to travel (due to e.g., family circumstance, economic constraints). Furthermore, we continuously stress the importance of diversity and inclusion of diverse staff and participants in the workshops and we encourage stakeholders to consider these aspects when organizing or attending LINKS events.

Box 1: Recommendations for Considering Diversity in the LINKS Consortium and in Events Organized by LINKS Partners

- When composing internal taskforces or working groups, ensure fair representation of demographical diversity among the members in terms of e.g., gender, cultural background.
- When appointing leadership roles, consider and short-list members of underrepresented groups like women and people of colour.
- When organizing events or workshops, ensure that all stakeholders have the possibility to participate in terms of travel, accommodation, finances.
- When it was not possible to warrant diversity in a taskforce, working group or event, reflect and report to the EAB and in the research ethics self-assessment survey on the reasons why this was the case and how to overcome this in the future.
- Discuss the Partner Self-Ethics assessment questionnaire with your team and identify potential challenges for diversity awareness.
- For any questions or concerns about diversity with regard to the consortium, contact the Ethics Advisory Board.

2.2 Diversity in the Research

In the LINKS project, we recognize that diversity plays a relevant role in Disaster Risk Perception and Vulnerability (DRPV), Disaster Management Processes (DMP) and Disaster Community Technologies (DCT) within local communities. This may influence the data derived through the case assessments (WP5-6) as well as the participation and knowledge produced through the LINKS Community Workshops (LCWs; WP8) and LINKS Community Center (LCC; WP7). Thus, a diversity perspective will be adopted in the research activities across WPs and in the development of the LINKS framework.

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There are four core questions in which diversity is addressed across the research carried out in the LINKS project. In particular, we aim to consider diversity in terms of risk perceptions and vulnerabilities (*the why*) among diverse individuals' communities (*the who*) and the ways to address and harness diversity within specific research questions (*the what and how*), as a means of strengthening disaster resilience through inclusion and involvement. For example, greater accessibility to social media and crowdsourcing (SMCS) solutions and inclusion in the public debate can promote disaster risk management.

The Why

One of the objectives of LINKS is to contribute to a consolidated, common understanding of disaster resilience in Europe. By recognizing diversity and its (potential) impact, we further contribute to the understanding of disaster resilience. We include different types of individuals (e.g., diversity markers, geographical context, knowledge sharing, perceptions of risk) and system related dimensions of diversity (e.g., accessibility, governance) and assess to what extent they impact (either facilitate or hinder) resilience. These factors are interconnected meaning that factors primarily considered as individual dimensions can also to some extent be considered as system related dimensions, and vice versa.

The Who

We focus on intersectionality (McCall, 2005), meaning that we acknowledge that diversity markers (such as gender, age, culture, geopolitical factors) are interconnected and as such impact vulnerability and resilience. In the LINKS project, we focus in particular on gender, age and vulnerability as individual diversity markers. These markers and their intersectionality are highly relevant in disaster studies (see D2.1, Bonati, 2020) as they, for example, can offer unique perspectives to participatory processes in dealing with SMCS in disasters. However, also other aspects are included on the basis of the vulnerability paradigm developed in D2.1, based on issues of accessibility, connectivity and mobility that are analysed in relation to diversity.

As such, we strive to promote and facilitate the participation of different social groups with diverse characteristics and backgrounds. As such, we promote the inclusion of (groups of) participants based on their gender, age, language, disability, income or any other reason.

The What

What are the key diversity issues in LINKS research? At this time LINKS outlines three core areas that are relevant for case coordinators and WP 2 – 4.

- **Accessibility, inclusivity** and **participation** are closely related to research. How is diversity addressed in terms of ensuring that diverse groups (of individuals) have access to knowledge, information, tools, and are able to participate equally in research in order to contribute to strengthening local disaster resilience? This entails an assessment of limitations such as cultural and political climates, social economic status, marginalization and (personal) disabilities which potentially affect access to SMCS and other tools (also see below, the bullet point about Technology). In addition, how do institutions and local systems support and incorporate potential differences in accessibility and participation? The assessment should also include an assessment of the capabilities of institutions to adapt to needs of individuals and relevant groups with regard to their access to SMCS and other tools.

- Is the **Technology**, that is SMCS, inclusive by design or do diversity issues play a role in the use of SMCS technology? Diversity issues and vulnerability affect the access to (see above) and use of SMCS technology. For example, the use of SMCS technology might be influenced by the political context (OpenNet Initiative) and is different among different social groups. Although the use of SMCS is widespread and growing among the public, it is not used similarly among different social groups (Pew Research Center, 2021). Among the elderly, the use of SMCS is relatively low. This makes age a vulnerability in the access to and use of SMCS in disaster communication and resilience.

The How

How do we address the key diversity issues from a diversity perspective? Moreover, how can the results obtained by LINKS research feed into addressing these issues in practice? To this end, some procedures have been included in the LINKS project to ensure that diversity is considered and included in the research. A list of recommendations can be found in Box 2.

Box 2: Recommendations for Considering Diversity in the Research

Participant recruitment and data collection

- When selecting recruitment areas, consider different areas (i.e., locations) to represent the diversity of cultures and provide opportunities for all relevant groups to participate.
    - Is there fair gender representation among the participants?
- In WP2-6 (field research) and WP8 (workshop activities), when organizing community workshops and other research activities, facilitate diversity by fostering proportional representation of different communities and group (e.g., cultures, gender, age). We will stress the importance of fostering diversity and proportional representation of different communities to the stakeholders.

Data analyses and presenting results

- In WP2, gender and age will be adopted as one of the variables affecting risk perception and vulnerability; analyse these variables as aggregated data in order to investigate the role of diversity in crises response and resilience.

Communication in research and accessibility

- Communicate in an appropriate way with potential participants, by e.g., adapting the

language to the relevant parties. For example, country specific translations, gender-neutral and inclusive pronouns.
- Are the means for participation and communication accessible for all relevant groups and communities?
- When it was not possible to warrant diversity in the research, reflect and report in the research ethics self-assessment survey on the reasons why this was the case to overcome this in the future.
- For any questions or concerns about diversity with regard to research, contact (members of) the Ethics Advisory Board.

2.3 Diversity in the Dissemination of Results

We aim to deliver results that foster inclusion in such a way that we consider the perceptions and vulnerabilities of all participating and relevant social groups. In other words, we will 1) select the relevant results for those groups they pertain to, and 2) communicate those results in an understandable way.

Communication between professionals and public in the project refers to information sharing, through different platforms and channels, both directly and indirectly (e.g., policies, social media, interactions). The language used to share information regarding risks, disasters, regardless of the platform or channel, might be prone to creating inequality and exclusion (e.g., Alvinius, Deverell, & Hede, 2020; Cornell, 2005; Ericson & Mellstrom, 2016; Jung, Shavitt, Viswanathan, & Hilbe, 2014; see also Garg, Schiebinger, Jurafsky, & Zou, 2018; Jones, Hine, & Marks, 2017; DeJesus, Umscheid & Gelman, 2021). As such, our protocol for dissemination (WP9, that will be provided in deliverable 9.2 expected in Month 21), will include a strategy as well as guidelines on how to effectively select and communicate project results to diverse social groups.

Box 3: Recommendations for Considering Diversity in the Dissemination of Results

- Target results to relevant groups, as not all results are relevant to all groups. Select those results that are relevant for the context and needs of specific groups.
- Communicate clearly and adapt the language to the needs of the groups that receive the selected results.
- Preferably use data visualizations.
- Include clear and explicit points for action/areas of attention that will foster community resilience and disaster risk management.
- Consider the means by which data are disseminated: are the means accessible to all relevant groups?
- For any questions or concerns about diversity with regard to the dissemination of results, contact (members of) the Diversity Awareness Taskforce on Communication or

the Ethics Advisory Board.

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7.2 Annex II: Partner Self-Ethics Assessment survey

Partner Self-Ethics Assessment
Intended audience: All partners of the consortium
The assessment is organised in 3 mandatory sections. Every section refers to a specific audience.
Section A is mandatory for all the partners.
Section B is for Partner Team Leaders which are invited to answer on behalf of their team.
Section C is for WP Leaders and Task Leaders.

Reference period under evaluation: One year of activity in the project. The self-evaluation is repeated each year (Months 12, 24, 36).

Purpose of the evaluation: To analyse the ethical awareness of partners in relationship with other consortium partners and the outside world, as well as the ability to manage ordinary/extraordinary activities in the framework of the project from the ethical point of view. The ethics assessment tool is also a way to measure the overall ethical considerations in the project and how to improve it.

Partners utility: This process assists partners in thinking about their own ethics-related role and actions in the project. In particular it wants to help partners to understand the state of their actions in ethics and to strengthen their ethical considerations for future activities. Ongoing assessments and re- evaluations will help partners to commit to sustaining ongoing and continuous ethics improvement.

Return of information: The assessment is anonymous so any personal information is required and there is not possibility to identify the answering person. The results of the assessment will be collected by the Ethics Assessment Board (EAB) and used to monitor and identify potential issues to address in the project. The given answers must not be considered to accuse anyone or denounce ethically incorrect situations encountered in the project. The main results of the self-assessment will be used to inform the ethics and societal impact reports of the project (D1.6 and D1.7).

Sources: The form is the result of the free inspiration of the members of the consortium involved in its creation on the basis of the aims of the project and on insights from some evaluation forms, thematically replicable, that are available online in different sectors of activity.

Kind of questions: This tool consists of a certain number of basic statements that need to be evaluated in the table through pre-established answers (choosing only one and ticking among *Rarely, Occasionally, Usually, Always, N/A*). Some of these statements may have a positive or negative meaning, depending on the case. You may find that in some cases an answer of "occasionally" is satisfactory, but in other cases an answer of "occasionally" may raise an ethical issue. If necessary, there is the possibility to leave comments in the space provided under each question

Time: The whole questionnaire should take not more than 10 minutes.
Section A is composed of 10 questions, section B by 20, section C by 15.

A) Individual level:

Answer these questions, referring to yourself in the last 12 project months

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A01. I consulted the "D1.5: Ethics and Societal Impact Strategy" for ensuring that my work within LINKS was consistent with the ethical standards of the project.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A
Comments:				

A02. When ethical behaviour (for example, respect towards diversity, the partners, or the research participants) was in question in the LINKS consortium, I encountered a safe environment for debates and open dialogue about how to improve this				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

A03. I behaved respectfully and kept control of myself when I received provocative or unrespectful behaviour from other partners in the LINKS consortium.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

A04. In case I encountered ethical problems while carrying out my tasks, did I refer to the Ethics Advisory Board to find a solution? Why not? Did you find a solution?				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

A05. I applied transparency in the decision-making processes of which I am part of, meaning that I communicate and argue explicitly and with honesty.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

A06. I strived to have an open working environment in the consortium, meaning that I am open to critique and believe that we all should express our opinions freely.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

A07. In my work, I was concerned with understanding and being respectful of individuals who differ from me in ethnicity, religion, gender, age, education, societal status, professional discipline, language, generation, sexual orientation, or physical or mental disability, skill sets and in any other aspects of diversity considered in LINKS.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

A08-A10 questions refer to the Diversity Awareness Strategy (February 2022) with the aim to understand the concepts of diversity, awareness and inclusion both in the consortium and in the research and in the dissemination of the results

A08. I am familiar with the LINKS Diversity Awareness Strategy				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

A09. Within LINKS, I personally feel included				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

A10. Within LINKS, diversity and inclusion are valued				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B) Partner team level (only for partner team leaders)

B01. My team members and I have consulted the "D1.5: Ethics and Societal Impact Strategy" for ensuring that their work within LINKS was consistent with the project's ethical standards.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

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B02. Have my team members and I applied the ethical approach described in D1.5 and D10.1 in the management of our activities (e.g., respecting working hours, providing a safe working environment)? Why not?				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B03. I have promoted the ethics documentation and information to my team members and followed the process outlined in the "D1.5: Ethics and Societal Impact Strategy".				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B04. My team members and I fostered discussions in the team about ethical concerns when they arose (both in the administrative management and operational phases).				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B05. In our work, we were concerned with understanding and being respectful of individuals who differ from us in ethnicity, religion, gender, age, education, societal status, professional discipline, language, generation, sexual orientation, or physical or mental disability, skill sets and in any other aspects of diversity considered in LINKS.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B06. When we made ethical errors or omissions in the project work, our team members took ownership and made corrections promptly.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B07. We have thoughtfully considered decisions and their ethical implications when we have made a commitment with the project coordinator and/or other consortium members.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B08. I have promoted diversity and inclusion* in my team *diversity refers to demographic differences and vulnerabilities, as well as a range of different capabilities, skills, knowledge and information access				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B09-B11 questions refer to the attitude of your team towards the project partners with which there has been a close working relationship and frequent contact in producing deliverables, research, or other actions within the project:

B09. Was our team involved in discussions on the ethical aspects of the research/work with these partners?				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B10. Our team opened discussions on the ethical aspects of the research/work with these partners				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B11. We strived to have clear communication with partners, as we were aware that they potentially came from other disciplines and backgrounds than us.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B12-B17 questions refer to the attitude of your team towards the LINKS Community and external society, including research participants.

B12. We took the necessary time to consider possible negative repercussions of our decisions concerning the work involving some members of the LINKS community such as for external participants and local case communities.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B13. We took into account the practical needs and conditions of the LINKS Community and external society in planning the project activities.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B14. We ensured community engagement for the design and implementation of the LINKS community activities.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B15. We promptly informed the consortium of risks, ethical, and safety issues potentially encountered during the activities (for example, research, workshops, events, …) we planned in local cases.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B16. We created actions for public understanding of project activities as a way of better informing the involved community and creating awareness of their role in participating.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B17. We were always transparent in our communication towards local communities, about our role, the purposes of our work, risks, and potential negative and positive outputs of the research/work.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B18. Our team considers diversity in our project activities* ***Diversity can be considered in the consortium, research and dissemination of results**				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B19. I am aware of the Ethics recommendations, and I have consulted them				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

B20. I follow the ethics recommendations in planning meetings, deliverables and communication in the project				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C) Work Package Leaders and Task Leaders Level (only for WPL and TL):

C01. We took into consideration any opinions and views differing from ours, even when deadlines forced us to make quick decisions.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C02. We took successful actions to prevent situations of disrespect towards individuals who differ from us in ethnicity, religion, gender, age, education, societal status, professional discipline, language, generation, sexual orientation or physical or mental disability, skill sets, and in any other aspects of diversity considered in LINKS				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C03. We adopted mitigation strategies to avoid obstacles and to address potential risks that could impact our work (for example, COVID-19 pandemic, hazard seasons, etc.).				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C04. Have ethical issues arisen during our work?

☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C05. In case you answered yes to C04, were they effectively overcome?				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C06. We gave attention to the schedules and needs of the other LINKS partners while developing project activities.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C07. We have acted quickly and decisively when partners have not been treated respectfully in their interactions with other partners.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C08. We considered the fairness of our requests for the other LINKS partners, although this could have consequences for our deadlines.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C09. We encouraged our partners to comply with the "D1.5: Ethics and Societal Impact Strategy" during collaborative interactions with the consortium.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

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C10. We made pressure on our WP/task partners to work overtime in order to meet workload expectations and timelines outlined for a specific WP/task.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C11.We have always tried our best to be supportive in assisting partners with their work.				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C12-C13 questions refer to the Diversity Awareness Strategy (February 2022) with the aim to understand the concepts of diversity, awareness and inclusion both in the consortium and in the research and in the dissemination of the results

C12. LINKS is honest about its commitment to diversity and inclusion				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C13. LINKS is not considering diversity as much as can be expected based on the Diversity Awareness Strategy				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C14. I am aware of the Ethics recommendations and I have consulted them				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

C15. I follow the ethics recommendations for planning meetings, deliverables and communication in the project				
☐ Rarely	☐ Occasionally	☐ Usually	☐ Always	☐ N/A

Thank you for your answers.

You can see here the summary of all your answers that you can download and save together with the personal and team ethics development plan. This plan is a tool that you can use or not. Its purpose is to support you in identifying the issues you would like to address and to plan how to do this. You are not asked to share this plan with the other partners, this is something only for you.

Finally, if you want to report on or discuss specific situations you had within your team or the consortium with regards to ethical matters, please contact EAB.

Personal and Team Ethics Development Plan

This tool is thought to help you in identifying what are the ethical issues you have identified and you could work on in the next months. This is not mandatory and you are free to not use this tool if you don't want.

Guide on how to compile your plan: according to the answers you provided, identify the most critical statements for you which you may realistically work on in the next months. Thus, fill out the table in the following way:

1. Transfer the statements you want to work on in the first column of the table
2. Report the current frequency you have declared answering the self-assessment (rarely, occasionally, usually, always, N/A)
3. In column 3, make a plan on how to reach your goal
4. Identify the timeframe to reach it
5. Follow up actions

Personal and Team Ethics Development Plan			
Ethical behaviour I want to work on	Current frequency	Action Steps	Timeframe
I.e. *A06 I strived to have an open working environment in the consortium.*	*Occasionally*	*Discuss with the coordinator to have a strategy to ensure an open working environment; have regular discussions with my colleagues and partners with which I work most, on how to improve this*	*Next 6 months*

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7.3 Annex III: Ethics Recommendation from Ethics workshop

ETHICS GUIDELINES

LINKS

The following recommendations have been written on the basis of the comments collected throughout the workshop with the partners. They should be seen as complimentary to the deliverable review process and the templates/checklists already developed in the project as specified in the Project Management Manual.

PLANNING THE WORK ON THE DELIVERABLES AND DOCUMENTS

Before:

- Set in advance a meeting with the partners involved in the deliverable to ensure that the dialogue and planning process are interactive. The purpose of these meetings with the reviewers and the potential contributors should aim to define with them deadlines and level of their involvement in the work, and to present the conceptual idea at the basis of the deliverable (when possible, the TOC). This should be not less than 2-3 months before the deadline and 1-2 months before the partners will be called to contribute, depending on the extend of the contribution
- The review process should be planned according to the timeline and the needs of the deliverable's authors and the reviewers
- The number of reviewers/inputs should be limited to a narrow group, not more than one-person per partner to ensure that the feedback is more focused.
- Clear communication on the tasks/expectations of the contributors/reviewers

Key takeaways:

- Inform in advance the reviewers about the deadline and the planning process for the review.
- Number of people involved for the review should be limited
- Provide and guarantee a clear communication

During:

- Deadlines and delays: remember to always inform partners about the changing in the timeline/deadlines. Always explain the reasons of the delays and make sure the delays are accepted by other partners involved in the writing of the deliverable or in its review.
- Inform the partners and agree with them about the criteria used to establish the authorship in the deliverable before its submission
- Flexibility in the timeline should be considered (both for the authors and the contributors) on a case-to-case basis, but remember that this should not be the norm
- When asking support to the partners, please consider only the working days (Monday to Friday) and give no less than 5 days to answer to your request (shorter deadlines should be agreed upon directly with the partners and be considered as an exception, thus you should try to do your best to avoid this type of situation)
- Sometimes a phone call can solve small urgent matters/clarification
- Try to be flexible, considering that in some cases it is not possible to satisfy your requests
- Review process: be sure to answer the requests of the reviewers and inform the coordinator if you have followed their recommendations or not about core aspects/major comments (and in case you don't, provide an explanation). The coordinator will then discuss with reviewers and deliverable's author to clarify any major conflicts in the review feedback and amendments if needed before submitting.
- Constructive feedback is expected and needed

Key takeaways:

- Inform partners about any changes related to deadlines, criteria, texts, or any information related to the document
- Give partners the right time to answer the request and be flexible

After:

- Present the deliverable to the partners who have contributed and in general to the consortium
- A different format than the kind of presentation held previously is needed, avoid long explanations and presentations

Key takeaways:

- Present the deliverable to the consortium

TO ORGANIZE AND PLAN MEETINGS

Before:

- Because we are spending a lot of time on the laptop, think well if the meeting is effectively necessary before planning it
- Take in consideration the risks of burnout of home-working during pandemic and meetings fatigue
- Take a look to the meetings timeline to be sure to not overload partners
- When possible (and especially if the meeting is 'mandatory' or important), share a doodle to select the best time for all the participants (give them some days to answer, at least 3-4 days)
- When possible, avoid organizing meetings out of the working times of the different countries (take in consideration also the number of hours every partner has on the project). Don't start at time sharp: allow people to join meetings (9:05 e.g.). In general, the best would be to have meetings between 9-12 and 14-16
- Share a detailed agenda of the meeting not less than 5 working days before the event (when possible, as it depends on the type of the meeting) providing information on responsibilities, level of involvement, especially if participants will be engaged in the discussion or they will be questioned about their work
- Share the objective(s) and the purpose(s) of the meeting in advance
- Be clear on whom should join and who is really needed
- Take always in consideration the persons/months partners have on the project and in your WP before planning the meetings. Meetings should be carried out when needed.
- Time limit: set the time in advance (e.g., no more than 2h)
- (For participants): confirm your participation to the meeting when possible and if your presence is considered 'necessary'. It helps the organizer to better plan the meeting
- (For participants): if your participation is important, try to avoid being late, as it might have consequences on the schedule of the meeting and on the other participants' schedules (5mins are accepted, more could be problematic). If you will be late, inform the organizer so the meeting can start without you.

Key takeaways:

- Be sure that the meeting is necessary and useful
- Plan the meeting following the working times of the different countries involved
- Send the invitation and the agenda at least 5 days before

During:

- Try to be always constructive in the discussion and be opened to constructive feedback from the others
- Address sensitive/personal issues bi-laterally, not in group meetings
- Try to focus on the topic of the meeting, without deviations that could affect the agenda
- Plan the breaks to be sure they are enough to restore before be engaged in a further discussion (one break of 10-15 mins if possible, every 45 mins)
- Avoid questioning other partners' skills / knowledge
- When planning activities, consider the different skills of the partners and how to involve them
- General remark: collaborate to maintain a good atmosphere in meetings and in the project
- In person meetings: give always an option for who cannot attend in person
- Tone: work in a friendly environment (professional criticism versus personal and/or referring to underperforming).
- (For meeting moderators): manage the time and avoid overstepping the duration of the meeting. If the meeting will run over the allotted time, please make it clear to participants that they are not obligated to stay if it is not possible for them before continuing.

Key takeaways:

- Be constructive, and try to focus only on the topic of the meeting
- Collaborate to maintain a good atmosphere

After:

- Always provide the minutes of the meeting (when relevant - depends on the typology of the meeting. Some meetings are more productive than others) where you define the further steps and to summarise the main decisions that have been taken. Important especially for partners who have internal follow-up meetings. Downside: too much time spent on writing minutes. Solution: Use action points/key messages.
- Share the decisions and set up follow-up meetings (to be communicated in advance)
- Try to provide answers to all questions left open in the meeting either in the minutes, future meetings or follow up conversations with relevant participants.
- Consider planning a restitution meeting (when relevant) where to explain the work progress and the decision-making process, and provide answers to the open questions
- Give time to 'digest' as group the decisions/changes and eventually consider to have a follow-up meeting

Key takeaways:

- After the meeting, it is necessary and useful to provide the minutes with the decisions taken

ETHICS GUIDELINES

LINKS

TO PROVIDE THE RIGHT COMMUNICATION

Outside the consortium:

- If you share images and/or contents related to public deliverables produced by other partners, be sure to inform them that you will be using/presenting their work.
- When possible, avoid sharing personal information if not officially authorized (e.g., picture, name or other sensitive information)
- Always check the content with the partners potentially involved or referred to in the post
- Please ask all the involved participants/speakers if you can tag them AND related institutions
- Do your best to make your posts accessible for different groups of people (see guidelines on accessibility in communication and diversity awareness)
- Events: images/information about results, products can be shared
- When referring to other partners' results and findings make sure to credit the author and to agree upon the content, unless you are presenting a new analysis

Key takeaways:

- Guarantee that the contents and materials are suitable for sharing
- Follow the accessibility rules for your materials

Social media post:

- Contents should be reviewed by communication experts to make sure they are delivered in the best possible way
- Social Media channels are managed by DEM responsible or communication lead
- Contents should always come from the partners/researchers
- Collaboration from and between partners/researchers is required for a smooth process
- Communication lead should plan ahead and agree with partners how many posts are needed (period shall be agreed upon with the partners)
- When possible, partners are encouraged to write in their native language

Key takeaways:

- Create a social media post plan and verify the contents with the partners before the sharing
- Use both English and native language

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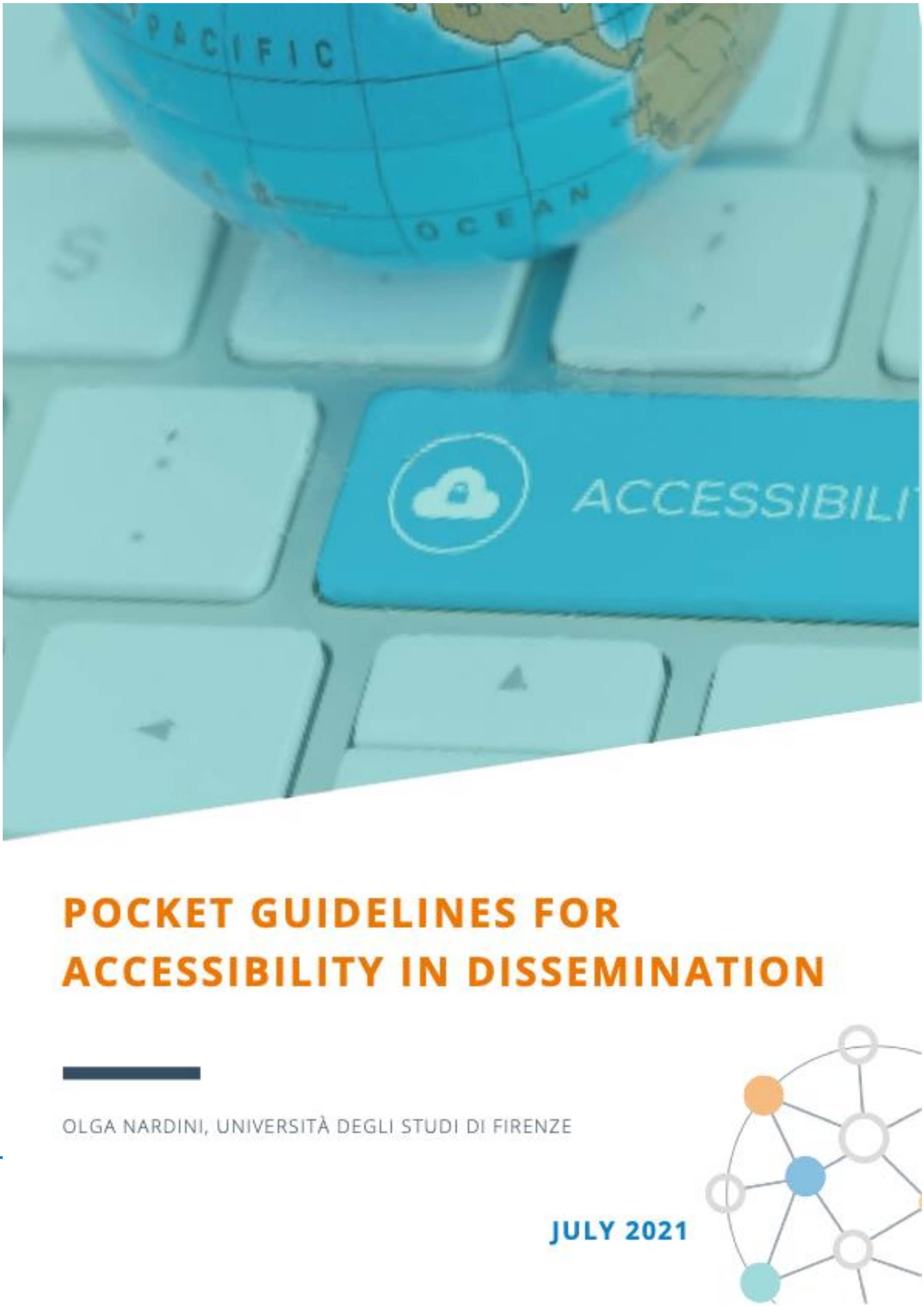
7.4 Annex IV: Pocket Guidelines of Ethics



POCKET GUIDELINES FOR ACCESSIBILITY IN DISSEMINATION

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JULY 2021

HOW TO CREATE ACCESSIBLE WEBSITE AND PRESENTATIONS

FONT: it needs to be more than 18 point-dimension; font simple and easy to read called sans-serif (for example Arial, Calibri or Helvetica, font as Times New Romans that simulated the handwriting are not recommend because they are not easy to read from distance). The presentation does not need too much text in a slide. If you want to show a piece of an article or something else, remember to zoom the text so that everyone can read it.

ALTERNATIVE TEXT FOR THE IMAGES: (blind people) when possible, the images should always be described to allow blind people to understand. The text should be coherent with the image, too much information could be misleading for the listener. Decorative images and icons must not have an alternative text, they would be useless information

DESCRIPTION TEXT FOR THE IMAGES: (deaf people) the images should have also a description text to allow deaf people to understand the meaning of the image. The text should be coherent with the image, too much information could be misleading.

TABLES: they have to be easy to read and understand also without the speaker. The headings have to be declared and clearly recognisable to figure out the meaning of the table.

HYPERLINKS: the links need to be easy to remember and to enter, for example using short link or QR code. QR code is important also if you want to show something in real time during the presentation.

CONTRAST: between the colour of the text and the colour of the screen is important to have a good contrast to read easily from distance and to not make difficult the reading also for the colour-blind people. The suggested colours are yellow and blue; black and white; etc. For example, red and green are colours that do not have to put together because they could lead to confusion.

COLOURS: the colour should not be the only way to transmit the information (for example the traffic light transmit the information with the colours but also using the position of the lights) to allow everyone to understand the meaning taking into account also the colour – blind people. It is also important to consider the cultural difference when we use the information and the colours (for example, red colour in Italy refers to the danger situation but in the other countries could refers to another concept, for example in India it refers to the purity and in China it refers to the luck).

ORDER OF THE ELEMENTS: the order of the elements have to be respected to simplify the reading especially taking into account the screen reader. All titles have to be univocal for one slide, the same title has no to be associated at more than one slides.

AUDIO-VIDEO: during an audio-video it is required a narrator also to describe and to explain the images. It is important also to have the subtitles both for the people who don't know the language and people with hearing problems. Self-descriptions are also required. To do this there are some programs, for example PowerPoint presentation translate.

Technological supports: On PowerPoint program there is also the accessibility checker that suggest if there are errors (Revision accessibility checker). Another useful tool is Live presentation: it helps to show the slides to someone who is far from the computer or for who has vision problems. To do this, you send a link to open the presentation in another computer and it works as a second desktop.

LANGUAGE: it has required an appropriate to the audience and technically correct language, acronyms and business jargon are not recommended. We have to be sure that the interlocutor understands what we are talking about.

RESPONSIVE WEB DESIGN: navigation from mobile
The same element must be both on the website in desktop mode and in mobile mode
There must be no overlapping of content
Optimal viewing in landscape and portrait mode

HEADINGS: the headings and the index must have a primary access so that you have an immediate idea of what is on the site without having to go through it all. There must be navigation by headings to allow also blind people to easily understand the content of the website.

ENLARGEMENTS: enlargements are necessary (for visually impaired people but non only), but they have not to generate an overlap between texts, the elements should all remain visible and vertical and horizontal scroll bars should not be created which could cause difficulties.

TIME CONTENTS: they can be confusing because users need time to decide the actions and to read the text. Not everyone reads at the same speed. They are not useful content.

LABEL: they are required to allow everyone to interact with the website

RECAPTCHA: they are mechanisms that verify that the user is real and not a computer. Often, they tend to be based on graphic images only. If they are necessary on the website, it has to include the recaptcha with audio and images.

KEYBOARD NAVIGATION: allow users to use the TAB key to reach the different focal point on the website and check that TAB is visible as focus

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LINKS

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http://links-project.eu/

HOW TO INVOLVE VULNERABLE GROUPS IN FOCUS GROUPS AND INTERVIEWS

POCKET GUIDELINES FOR ETHICS

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JULY 2022

POCKET GUIDELINES FOR ETHICS

These guidelines can be used to engage vulnerable groups in research activities, as they aim to minimise stigmatisation

HUMAN DIGNITY

All humans should be respected, independently from age, gender, socio-economic conditions, ethnicity, sexual orientation, religion

VULNERABLE GROUPS

People whose susceptibility to the impacts of hazards is increased by physical, social, economic and environmental factors or processes (see UNDRR Glossary)

BEFORE RESEARCH

PLAN WELL WHAT IS THE PURPOSE OF YOUR RESEARCH

Identify the **risks** and the (positive and negative) **potential impacts** of your research

PROVIDE INFORMATION TO RESEARCH PARTICIPANTS ABOUT THE PURPOSES OF THE RESEARCH

Prepare the **information sheet** and the **informed consent** modules.

- Use **accessible language**
- Be clear about the **data** you plan to collect and where/how long you will store it
- Give the opportunity to **make questions**

PLAN THE DISCUSSION

- Define instructions **easy to understand**
- **Test** the questions of discussion to make sure they can be understood
- Plan **regular breaks**
- If **persons with hearing impairments** are engaged, ensure to have sign language or a device support

ADEQUATELY MANAGE AUDIO DATA

- Inform participants about the **recording device** you use and where/how long you plan to store the audio files
- Inform participants if you intend to use an **automated transcription method**

For in person events

SELECT THE ENVIRONMENT WHERE THE RESEARCH TAKES PLACE

- Give the participants the possibility to **suggest a place**
- Evaluate and **prevent risks**
- Ensure the environment is accessible for people with **different backgrounds**, **abilities**, **ages**
- Ensure the space allows people to **feel safe and protected**
- Consider providing participants **water and snacks**

For online events

BE SURE THE PLATFORM IS ACCESSIBLE

- Send the **informed consent via e-mail** (and request a signed copy)
- If not possible, collect (and register) **oral consent**
- Provide an **electronic informed consent**

WHEN YOU PLAN TO INVOLVE VULNERABLE GROUPS...

- Can I avoid involving these people? Is there another way to obtain the same information? Is their participation essential for the success of the research?
- What is the potential impact of my research on them? Could I increase their vulnerability?
- How is my work useful for them? Who is the main beneficiary of the research?
- Have I adequately planned measures of mitigation to reduce my impact on their life?
- Have I adequately adapted the research to their capacities/abilities/sensitivities?
- How will my presence produce effects on their behaviour and perception of the future? Have I adopted adequate systems of assessment of research impacts, involving them in the evaluation process?

DURING RESEARCH

ENSURE GOOD COMMUNICATION AND ETHICAL PARTICIPATION

- Present **yourself**, the **organisation** and the **objectives**
- Ask **autorisation to take notes**
- **Never pressure participants** into participating, leave them the time to answer and show respect in case someone does not answer
- With participants with cognitive impairments, use **simple language**, asking support of caregivers
- **Ensure breaks** to avoid distress (especially with people experienced fatigue and anxiety)
- Inform that participants are **free to withdraw from activities** at any time (re-check at the start of each session that people want to participate)
- Continue **monitoring the well-being** of participants
- Develop **research content appropriately accessible** across different ages groups, abilities, ethics, languages

AVOID STIGMA AND PROMOTE INCLUSION

- Prevent possible situations of **power disparity** (don't bias answers)
- Prevent **stigmatization** (organize warm-up moments, asking setting clear expectations and house rules that promote respect for diversity)
- Always use **accessible and gender-sentitive language**

AVOID STRESS AND RETROSPECTIVE TRAUMATISATION

- Avoid activities that can **recall traumatic experiences** (e.g. situations connected to recent disasters)
- In asking something about previous experiences of disaster, consider a strategy to mitigate the **risk of retraumatization**
- Activities that recall traumatic events should be conducted by **specialized staff** (psychologists and psychotherapists)

FINAL TIPS

- Allow time for people to **ask their own questions** and explain again what happens with the collected data
- **Do not make promises** about what comes next or people may receive
- For the Focus Group: **debrief together** and write up any additional information as soon as possible so that it is not forgotten

AFTER RESEARCH

PSEUDONYMIZE DATA

1. Establish a **set of codes** to be used. Participants will be identified with these codes (e.g. replace the identifiers with number: ID1, ID2, etc.)
2. **Collect all the personal data** that can identify the participants in a first document and report their statement in a second document (where only the selected indication code will be used)
3. Store the key files (which link to the pseudonyms to the identifiers) in a **secure system**. Delete the list with the names of participants once data have been processed
4. **Pseudonomize** the data to share with the research partners

LEARN MORE:

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