

RiskPACC

INTEGRATING RISK PERCEPTION AND ACTION TO ENHANCE CIVIL
PROTECTION-CITIZEN INTERACTION

PRELIMINARY EXPLOITATION PLAN

Deliverable: D8.12

Dissemination Level: Public



D8.12 PRELIMINARY EXPLOITATION PLAN	
Deliverable number:	D8.12
Version:	1
Delivery date:	28/04/2023
Dissemination level:	Public
Nature:	Report
Main author(s)	Guillaume Brumter, Gaia Fusco, Giacomo Bianchi (EOS)
Contributor(s)	All Partners
Internal reviewer(s)	Maike Vollmer (FhG), Selby Knudsen (TRI)

Document control			
Version	Date	Author(s)	Change(s)
0.1	12.12.2022	Guillaume Brumter, Giacomo Bianchi (EOS)	Table of Contents
0.2	16.01.2023	Guillaume Brumter, Giacomo Bianchi (EOS)	First Draft
0.3	30.01.2023	Guillaume Brumter, Giacomo Bianchi (EOS)	Implementation Section 2, 3 and 4
0.4	28.02.2023 – 31.03.2023	All Partners	Contribution to section 5 and 6
0.5	28.02.2023 – 31.03.2023	ICCS, STAM, CS and UT	Technical contribution
0.6	03.04.2023	Guillaume Brumter, Gaia Fusco, Giacomo Bianchi (EOS)	Implementation of section 5 and 6
0.7	18.04.2023	Guillaume Brumter, Gaia Fusco, Giacomo Bianchi (EOS)	First Draft implemented and submitted to internal reviewers
0.8	24.04.2023	Selby Knudsen (TRI), Maike Vollmer (FhG)	Internal review. Minor comments
0.9	26.04.2023	Giacomo Bianchi, Guillaume Brumter (EOS)	Comments implementation and final draft
1.0	28.04.2023	FhG	Report submission

DISCLAIMER AND COPYRIGHT

The information appearing in this document has been prepared in good faith and represents the views of the authors. Every effort has been made to ensure that all statements and information contained herein are accurate; however, the authors accept no statutory, contractual or other legal liability for any error or omission to the fullest extent that liability can be limited in law.

This document reflects only the view of its authors. Neither the authors nor the Research Executive Agency nor European Commission are responsible for any use that may be made of the information it contains. The use of the content provided is at the sole risk of the user. The reader is encouraged to investigate whether professional advice is necessary in all situations.

No part of this document may be copied, reproduced, disclosed, or distributed by any means whatsoever, including electronic without the express permission of the RiskPACC project partners. The same applies for translation, adaptation or transformation, arrangement or reproduction by any method or procedure whatsoever.

© Copyright 2021 RiskPACC Project (project co-funded by the European Union) in this document remains vested in the project partners

ABOUT RISKPACC

Increasingly complex and interconnected risks globally highlight the need to enhance individual and collective disaster resilience. While there are initiatives to encourage citizen participation in creating a resilient society, these are typically fragmented, do not reach the most vulnerable members of the communities, and can result in unclear responsibilities for building disaster resilience.

New technologies can also support preparedness and response to disasters, however, there is limited understanding on how to implement them effectively. Awareness of risks and levels of preparedness across Europe remain low, with gaps between the risk perceptions and actions of citizens and between the risk perceptions of citizens and Civil Protection Authorities (CPAs).

The RiskPACC project seeks to further understand and close this Risk Perception Action Gap (RPAG). Through its dedicated co-creation approach, RiskPACC will facilitate interaction between citizens and CPAs to jointly identify their needs and develop potential procedural and technical solutions to build enhanced disaster resilience. RiskPACC will provide an understanding of disaster resilience from the perspective of citizens and CPAs, identifying resilience building initiatives and good practices led by both citizens (bottom-up) and CPAs (top-down). Based on this understanding, RiskPACC will facilitate collaboration between citizens, CPAs, Civil Society Organisations, researchers and developers through its seven (7) case studies, to jointly design and prototype novel solutions.

The “RiskPack” toolbox/package of solutions will include a framework and methodology to understand and close the RPAG; a repository of international best practice; and toolled solutions based on new forms of digital and community-centred data and associated training guidance. RiskPACC consortium comprised of CPAs, NGOs, associated organisations, researchers and technical experts will facilitate knowledge sharing and peer-learning to close the RPAG and build disaster resilience.

TABLE OF CONTENTS

Executive Summary	4
Glossary and Acronyms	5
1 INTRODUCTION	7
1.1 Overview and Structure of the deliverable	7
2 RISKPACC'S EXPLOITATION METHODOLOGY AND DEFINITIONS	9
2.1 Technology Readiness Level	9
2.2 Key Exploitable Results	10
2.3 Identification of the project results	10
2.3.1 Assessment of exploitation potential	11
2.3.2 Intellectual property protection	11
2.4 Dissemination and exploitation activities	12
2.5 Ownership of RiskPACC Assets	12
2.6 RiskPACC objectives	13
2.6.1 Policy objectives	13
2.6.2 Technological objectives	14
2.6.3 Training objectives	14
3 EXPLOITATION RESULTS	15
3.1 RiskPACC Platform	15
3.2 RiskPACC Tools	16
3.2.1 Crowdsourcing from community - STAM	17
3.2.2 CROWDSOURCING FOR ENVIRONMENTAL ASSESSMENT – ICCS	18
3.2.3 Crowdsourcing from Publicly Available Data – CS	20
3.2.4 Volunteered Geographical Information – UT	23
3.3 RiskPACC Framework - UCL	24
4 MARKET ANALYSIS	26
4.1 Citizens, Civil Society Organisations, Non-governmental organisations, local governments and agencies	27
4.2 Civil Protection Authorities, Practitioners, first responders and practice-based researchers	28
4.3 Policy and Decision Makers	29
4.4 Other EC funded projects	30
4.5 Industry and SMEs	32
4.6 Competitors	34
5 RISKPACC INDIVIDUAL AND PRELIMINARY EXPLOITATION PLAN	39
5.1 FhG	39

5.2	TRI	41
5.3	KEMEA	41
5.4	EFUS	42
5.5	CAFO	42
5.6	USTUTT	43
5.7	IBZ	44
5.8	MRP	45
5.9	CDP	46
6	RISKPACC JOINT AND PRELIMINARY EXPLOITATION PLAN	48
7	CONCLUSION	50
8	REFERENCEs	51
9	ANNEXES	52
9.1	Annex I – Horizon Results Booster Deliverable D1.1	52

List of tables

Table 1:	Glossary and Acronyms	6
Table 2:	Ownership of RiskPACC assets	13
Table 3:	RiskPACC Platform – Exploitation routes	16
Table 4:	RiskPACC Platform - Impacts	16
Table 5:	Crowdsourcing - Exploitation routes	18
Table 6:	Crowdsourcing – Impacts	18
Table 7:	Augmented reality - Exploitation routes	19
Table 8:	Augmented reality – Impacts	20
Table 9:	Online sentiment analysis - Exploitation routes	22
Table 10:	Online sentiment analysis – Impacts	23
Table 11:	Volunteered Geographical Information - Exploitation Routes	23
Table 12:	RiskPACC Framework - Exploitation routes	24
Table 13:	Market analysis - Target audience 1	28
Table 14:	Market analysis - Target audience 2	29
Table 15:	Market analysis - Target audience 3	30

Table 16: Market analysis - Target audience 4	32
Table 17: Market analysis - Industry and SMEs	33
Table 18: DRS-01 Cluster – challenges	38
Table 19: FhG individual exploitation plan	40
Table 20: TRI individual exploitation plan	41
Table 21: KEMEA individual exploitation plan	42
Table 22: EFUS individual exploitation plan	42
Table 23: CAFO individual exploitation plan	43
Table 24: USTUTT individual exploitation plan	43
Table 25: IBZ individual exploitation plan	45
Table 26: MRP individual exploitation plan	46
Table 27: CDP individual exploitation plan	47

List of figures

Figure 1: TRL scale	9
---------------------	---

Executive Summary

The purpose of this report is to define and present a preliminary exploitation plan for the results of the RiskPACC project.

The preliminary exploitation plan aims to maximise the impact of the project and ensure the uptake of all its results. An exploitation plan is a vital component of any project, as it outlines the strategy and approach to fully maximise and realise the benefits and potential of a particular initiative.

The aim of this deliverable is to present a comprehensive exploitation plan for RiskPACC detailing the necessary steps in order to maximize the benefits of the project and ensure its long-term success. The plan takes into account various factors, including competition, target groups' needs, both individual and joint exploitation plan, and technological advancements. Through this plan, the consortium aims to provide a clear and actionable plan to fully exploit the potential of RiskPACC and achieve the goals.

This report will act as a preliminary strategic guideline for the exploitation activities of the RiskPACC project, and it will be disseminated to all partners of the Consortium.

The document has to be intended as a preamble, a milestone of the final exploitation plan that will be elaborated at M33.

Glossary and Acronyms

AI	Artificial Intelligence
CAFO	Ceska Asociace Hasicskych Dostojniku Sdruzeni
CFEU	Citizen for Europe
CMINE	Crisis Management Innovation Network in Europe
CPA	Civil Protection Authority
CPKN	Civil Protection Knowledge Network
CPD	Comune di Padova
CS	Public Sonar
CSO	Civil Society Organisation
D.	Deliverable
DG ECHO	DG for European Civil Protection and Humanitarian Aid Operations
DG HOME	DG for Migration and Home Affairs
DRMKC	Disaster Risk Knowledge Management Centre
DRS	Disaster Resilient Society
EC	European Commission
Efus	European Forum for Urban Security
EOS	European Organisation for Security
EU	European Union
EVOLSAR	European Association of Civil Protection Volunteer Teams
FEU	Federation of the European Union Fire Officers Associations
FhG	Fraunhofer Gesellschaft zur Förderung der angewandten Forschung e.V.)
GDFC	Global Disaster Preparedness Center
GNDR	Global Network of Civil Society Organisations for Disaster Reduction
KEMEA	Kentro Meleton Asfaleias – Center for Security Studies
KI-COP	Knowledge and Innovation Community of Practice
IBZ	Service Public Federal Interieur
ICCS	Institute of Communication and Computer Systems
ICLEI	Local Governments for Sustainability
IFAFRI	International Forum to advance First Responder Innovation
ISAR	I.S.A.R. Germany Stiftung GGMBH
IP	Intellectual Property
IT	Information Technology
KER	Key Exploitable Results
M	Month
MCR	Making Cities Resilient
MDA	Magen David Adom in Israel
MoE	Municipality of Eilat
MRP	Dimos Rafinas-Pikermiou
NGO	Non-Governmental Organisation
PO	Policy Objective
RPAG	Risk Perception Action Gap
SMCS	Social media and crowdsourcing
SME	Small Medium Enterprises
STAM	STAM srl
TA	Target Audience
TO	Technological Objective
TRI	Trilateral Research
TrO	Training Objective
UCL	University College London

UoW	University of Warwick
USTUTT	University of Stuttgart
UT	University of Twente
VGI	Volunteered Geographical Information
WP	Work Package

TABLE 1: GLOSSARY AND ACRONYMS

1 INTRODUCTION

1.1 Overview and Structure of the deliverable

This document defines and presents a preliminary exploitation plan for the results of the RiskPACC project.

Led by the European Organisation for Security (EOS), this document has to be considered as the first step of the final exploitation strategy, that will be presented at M33, included in the Deliverable D8.3 “Final Project Dissemination Impact Assessment Report and Final Communication, Dissemination and Exploitation Strategy”.

The structure of the document, excluded this chapter, follows the below steps:

- Section 2 presents the different stages of technology readiness, highlighting the key characteristics of the RiskPACC 's goals in this regard and how they impact a project's potential for success. Then the key exploitable results of the project are delved into, identifying the project's most promising innovations and the identification of RiskPACC results are presented, examining the importance of tracking, and documenting all project outputs and outcomes. Next, the exploitation potential of the project is assessed, examining the various factors that determine the viability of a product or service and the importance of intellectual property protection in safeguarding the project's innovations and securing its long-term success are also explored. In the second part of the section, the attention is focused on the dissemination and exploitation activities of RiskPACC, discussing the strategies and plan that can be employed to maximize the project's impact and reach. Additionally, the ownership of the assets of the project, including the allocation of intellectual property rights is presented. Finally, the policy-technological-training objectives of the project are depicted, discussing the broader societal and economic implications of the project's innovations and outlining the training and educational opportunities that RiskPACC may offer.
- Section 3 presents the expected exploitation routes based on partners inputs for the solutions produced under the RiskPACC Action. In the chapter, the various exploitation routes for RiskPACC are explored, along with the platform, tools, and framework. With the ever-evolving technological landscape, it is crucial to have a comprehensive understanding of the tools and resources at our disposal to make informed decisions and develop a successful project.
- Section 4 consists of a market analysis, in terms of stakeholders' needs, benefits, and an overview of RiskPACC competitors. This market analysis also details how the

consortium will take advantage of the Horizon Results Booster programme which RiskPACC is currently participating in.

- Section 5 contains RiskPACC partners' individual preliminary exploitation plans. The project partners identify the Key Exploitable Results and share their expected exploitation plan and their target audience.
- Section 6 details the RiskPACC joint preliminary exploitation plan, as well as addressing the feasibility of setting up a Spin-Off company on a voluntary basis.
- Section 7 contains the conclusion and the next steps in regard to the Exploitation activities.

2 RISKPACC'S EXPLOITATION METHODOLOGY AND DEFINITIONS

As technology continues to advance at an exponential rate, the need for projects to have a clear understanding of their readiness level has become increasingly important. In this chapter, as already mentioned in section 1.2, the different stages of technology readiness are explored, highlighting the key characteristics of the RiskPACC 's goals in this regard and how they impact a project's potential for success. This section also includes project exploitable results, referring to the outputs, outcomes, or benefits that can be obtained from the project solutions. To conclude, a focus on the Ownership of RiskPACC Assets is highlighted.

2.1 Technology Readiness Level

The Technology Readiness Level (TRL) is a measure of the maturity of a particular technology, based on the level of development and testing that has been completed. The TRL scale ranges from 1 to 9, with 1 being the lowest level of maturity (basic principles observed and reported) and 9 being the highest level of maturity.

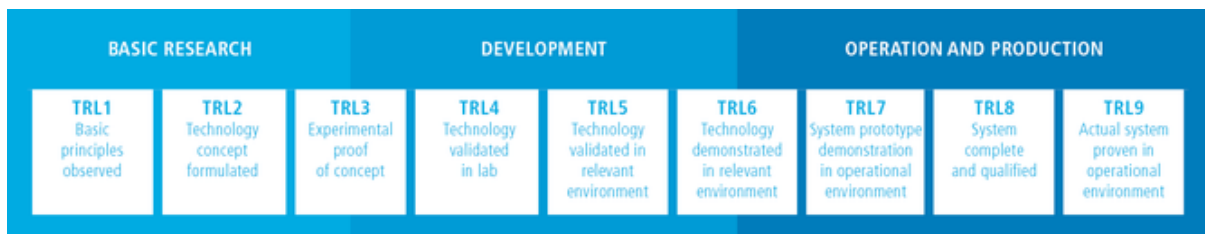


FIGURE 1: TRL SCALE

As stated in the Grant Agreement¹, in work packages 5 and 7 RiskPACC will build on existing technical solutions and aiming at a TRL of 5 at the end of the project. The initial system requirements and functions are detailed in Deliverable D3.2².

TRL 5, as depicted in figure 1 is considered as “Demonstration Pilot”. At this level the technology is expected to be validated in a relevant environment (industrially relevant environment in the case of key enabling technologies).

The technical feasibility and benefits should still be evaluated at the end of the project, with decisions taken on whether to continue with the development of the technology or not.

It needs to be considered that creating a business and exploitation plan for solutions that reach not higher than TRL 5 is challenged by a significant number of uncertainties concerning the product's performance, market acceptance, and commercial viability.

¹ RiskPACC Grant Agreement, part B, page 24

² RiskPACC D3.2 “System requirements and functional specifications – initial version”

2.2 Key Exploitable Results

"Project exploitable results" usually refer to the outputs, outcomes, or benefits that can be obtained from a project, particularly those that have commercial or practical value. These results can be tangible or intangible and may include new products, services, technologies, processes, or knowledge that can be applied or transferred to other contexts.

According to the Horizon 2020 guidelines, a result is defined as: "Any tangible or intangible output of the action, such as data, knowledge and information whatever their form or nature, whether or not they can be protected, which are generated in the action as well as any attached rights, including intellectual property rights".³

A Key Exploitable Result (KER) is an identified main interesting result which has been selected and prioritised due to its high potential to be "exploited" – meaning to make use and derive benefits- downstream the value chain of a product, process or solution, or act as an important input to policy, further research or education.⁴

2.3 Identification of the project results

Identifying the project results is a crucial step in developing a joint exploitation plan for exploiting the outcomes of RiskPACC. For the RiskPACC joint exploitation, the consortium took into account several steps and key actions, including:

- **Define the project objectives:** Identify the main objectives of the project and the specific outcomes that are expected to be achieved.
Defining the project objectives is a critical step in project planning and management, and the consortium already identified several of them such as: i) Identify the potential project stakeholders who will be impacted by the project outcomes; ii) Identify the project goals, outcomes that will be achieved; iii) Identify the benefits that each stakeholder group will get from RiskPACC solutions; iv) Evaluate the potential impact of the results and outcomes as depicted in section 5.
- **Review the project scope:** Review the scope of the project in order to identify the specific outputs and outcomes that will be produced.
- **Conduct an inventory of project assets:** Conduct an inventory of all the project assets, including data, research, prototypes, and other intellectual property, to identify the specific project results. It helps to ensure that all the resources are properly accounted for and utilized. In order to achieve this scope, the consortium identifies several project

³ European Commission (2020) Horizon Results Platform, <https://ec.europa.eu/newsroom/informatics/items/689551/en>

⁴ European Commission (2020) Horizon Results Platform, <https://ec.europa.eu/newsroom/informatics/items/689551/en>

assets, and assesses the value of each asset in order to determine its importance to the project and its potential impact on project outcomes.

- Identify the tangible and intangible results: Differentiate between tangible project results (e.g., RiskPACC Platform and tools) and intangible project results (e.g., knowledge exchange).
- Evaluate the potential impact: Evaluate the potential impact of the project results in terms of their practical value, market potential, and social or economic impact.

2.3.1 ASSESSMENT OF EXPLOITATION POTENTIAL

The process of determining the chances of effectively transforming a technology, invention, or innovation into a profitable business or product is known as the assessment of exploitation potential.⁵ In order to assess the RiskPACC exploitation potential, the consortium is developing a so-called roadmap that will address the final exploitation plan for RiskPACC which will be released on M33.

2.3.2 INTELLECTUAL PROPERTY PROTECTION

Intellectual Property (IP) means intangible properties that are created through human intellect. Intellectual Property Rights (IPR) mean also the legal rights assigned to the person or the legal entity who has created the property. The IPRs protect the owner's exclusive right to use and take advantage of these properties. Usually, the protection is limited geographically and to a certain period of time. IPR management is an integral part of the overall management of the RiskPACC project.⁶

Intellectual Property Rights enable the consortium partners to:

- Disclose previous knowledge and new ideas safely.
- Encourage inventors to disclose their research to the market.
- Secure the ownership of the assets.
- Protection of the property owner's exclusive right to exploit the property.
- Prevent or discourage unauthorised use of the results by others.

In order to guarantee that all partners can enjoy the above-mentioned benefits, the access rights to any Background and Foreground IPR for the execution of the project, the relevant IPR rules had to be agreed in proposal phase.

⁵ European Commission, https://intellectual-property-helpdesk.ec.europa.eu/news-events/news/exploiting-horizon-results-what-are-rules-transfers-and-licences-2022-01-28_en

⁶ https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/intellectual-property_en.htm

2.4 Dissemination and exploitation activities

Several potential key dissemination and exploitation activities that the consortium included in a joint exploitation plan will be followed. These activities can help promote the project, the assets and the outcome and maximize the overall RiskPACC impact. In order to have a solid foundation for the final exploitation strategy, RiskPACC will use marketing and advertising tactics to promote the relevant assets, tangible and intangible, to the dedicated target audience. The dissemination of information about the assets will be conducted (and it is already in place) through publications and presentations, including scientific papers, conference and workshop presentations and reports (see the detailed Communication and Dissemination Strategy in D8.1).

Another aspect related to those activities is the organisation and conduction of demonstrations and trials (already started in the framework of Work Package 3) to depict the capabilities and effectiveness of the RiskPACC platform, technical tools and conceptual solutions.

Additionally, as already ongoing under RiskPACC Work Packages 3 and 4, training materials are being produced to explain the results of the project.

Finally, networking and collaboration are ongoing in RiskPACC. The consortium is working to build relationships and collaborate with different partners, potential customers, and other stakeholders are ongoing activities to gain insights and generate new opportunities (see D8.1).

2.5 Ownership of RiskPACC Assets

The type of tools used, the size and scope of the project, and the roles and duties of the personnel engaged are all important considerations when determining who owns the tools used in a project. In general, the term "ownership of tools" can apply to either the ownership of the intellectual property associated with software tools or other digital assets, or it can refer to the legal ownership of tangible tools or equipment utilized in a project.

In many circumstances, who has the authority to use them and who is responsible of maintaining physical tools and equipment utilized in a project will establish who owns those items.

In the table number 2, the RiskPACC assets and the partners "responsible" are depicted.

RiskPACC Asset	Partner
Platform	All
Network	All
Tools	STAM, CS, ICCS

Framework	UCL, UoW, TRI
Co-creation methodology	USTUTT, FhG, TRI, UoW, UCL

TABLE 2: OWNERSHIP OF RISKPACC ASSETS

Article 26 of RiskPACC Grant Agreement establishes that Results are owned by the beneficiary that generates them.⁷ In case of joint ownership of results, each joint owner may grant non-exclusive licences to third parties to exploit jointly-owned results (without any right to sub-license), if the other joint owners are given: (a) at least 45 days advance notice and (b) fair and reasonable compensation.⁸

Also, owners of outcomes and assets may choose to assign the result's ownership to a third party (Article 30)⁹. For exploitation activities, access rights to the results are granted under fair and reasonable terms; for research and educational purposes, they are granted on a royalty-free basis, as established in Article 31.¹⁰

2.6 RiskPACC objectives

New technologies can facilitate risk awareness and support citizens and communities to become active participants in building societal resilience. However, relying solely on technology to facilitate interaction between Civil Protection Authorities (CPAs) and citizens raises social and ethical issues as some groups in the society do not have access to technology. That is why RiskPACC provides both technical and non-technical solutions to facilitate interaction between CPAs and citizens to reduce the RPAG. To deliver this multi-faceted approach, RiskPACC aims to achieve policy, technical, and training objectives.¹¹

2.6.1 POLICY OBJECTIVES

RiskPACC set five policy objectives. The first one goal is to increase the understanding of the Risk Perception-Action Gap (RPAG) and the vulnerabilities across Europe to reduce disaster risk and increase resilience. The second policy purpose is to develop and validate a framework and methodology for CPAs, Civil Society Organisations (CSOs) and citizens to reduce the RPAG in communities of varying socio-economic conditions. The third policy objective is to increase information exchange between different stakeholders and facilitate collaboration across the risk cycle. The fourth target is to advance multi-disciplinary understanding of disaster resilience. To conclude, the last intent is to provide recommendations for decision

⁷ RiskPACC Grant Agreement, Part A, page 45

⁸ RiskPACC Grant Agreement, Part A, page 45

⁹ RiskPACC Grant Agreement, Part A, page 50-51

¹⁰ RiskPACC Grant Agreement, Part A, page 52

¹¹ RiskPACC Grant Agreement, Part B, page 6

makers and disaster resilience stakeholders on how to reduce the RPAG and facilitate engagement between CPAs, CSOs and citizens including volunteers.

The list of Policy objectives is depicted in RiskPACC Grant Agreement, part B, page 6 and 7.

2.6.2 TECHNOLOGICAL OBJECTIVES

RiskPACC adopted four technological objectives. First, increase knowledge on the use of new technologies, media and practices to close the RPAG. Second, develop a platform to serve as a knowledge base consisting of existing tools, technologies and guidelines. Third, combine the use of crowd-sourcing and volunteered geographical information (VGI) solutions with the RiskPACC solutions. Lastly, assess the impact of novel technologies, such as tracking apps, and develop guidelines for the development of future technological solutions.

The list of Technological objectives is depicted in RiskPACC Grant Agreement, part B, page 7.

2.6.3 TRAINING OBJECTIVES

RiskPACC has the intention to meet two training goals. The first one entails establishing collaboration formats, guidelines and physical and online training material for RiskPACC outputs and platform. The second objective includes the development of training and guidance material for CPAs and citizens.

The list of Training objectives is depicted in RiskPACC Grant Agreement, part B, page 7.

3 EXPLOITATION RESULTS

This section presents the expected exploitation routes based on partners inputs for the solutions produced under the RiskPACC Action. These solutions can be divided into several categories such as knowledge based and know-how, technologies enabling live information exchange, communication solutions or methodologies. In the context of the RiskPACC Exploitation Plan, the Key Exploitable Results follow the description of the different tools to be delivered at the end of the project. The Exploitation Routes aim at firstly identifying the Key Exploitable Results, defining their impact from a social, scientific and economical point of view and finally defining their potential exploitation after the Project has ended. This is a preliminary exploitation plan, and the routes and expected outcomes may evolve based on the outcomes of the pilot phases.

Firstly, the Platform exploitation route will be presented. The Platform is of particular importance as it is based on the findings from the different WPs and aims at enabling the easy access to the tools, methodologies and guidance and fostering information sharing across the target groups. Secondly, the Tools exploitation routes will be presented, using the inputs from the partners involved in their design and development. Then, the RiskPACC Framework expected exploitation will be presented with the Co-Creation Methodology and Framework before introducing the Risk Pack, materializing the outputs of the Co-Creation Methodology, trainings and guidance produced over the action lifetime.

3.1 RiskPACC Platform

The RiskPACC Platform, built under WP7 and according to the Framework – developed under WP4 that is currently using the practices identified in WP1, is the set of solutions based on the Tools (see section 3.2) designed under WP5, while the Co-Creation Methodology (see Section 3.3) detailed under WP3, and the Repository of Good Practices based on WP1 and WP2. ICCS is the partner responsible for the system architecture to ensure the RiskPACC Platform supports the different tools in an efficient and smooth manner. Indeed, the tools (see section 3.2) are characterised by different technologies and maturity levels. To that end the work undertaken for the platform design is critical to ensure the Platform is operational and delivers the expected impact to the target groups.

The tables for the platform and tools consist of three main sections: results, target groups, and exploitation routes, each with their own subsections.

The Results section contains the solution, while the Target groups section focuses on the specific groups that the solution is designed to serve. This section includes subsections on

the target groups themselves, their addressed needs, the key messages communicated to them, and the outcomes of the project with respect to these target groups.

Finally, the Exploitation routes section outlines the processes and tools used to exploit the project's findings or outcomes, as well as any barriers that may have been encountered along the way.

RESULTS	TARGET GROUPS				EXPLOITATION ROUTES	
	TARGET GROUPS	ADDRESSED NEEDS	KEY MESSAGES	OUTCOMES	PROCESSES/TOOLS	BARRIERS
RiskPACC Platform	CPAs	Establishment of interaction links between CPAs and citizens/volunteers	Need to ensure efficient communication between CPAs-citizens/volunteers /Need to train CPAs to prepare meaningful trainings for citizens/volunteers.	Establishment of links, organization of workshops to allow for direct interaction	Adoption of a co-creation approach with CPAs so as to ensure user-friendliness, easy applicability and potential replicability in other cases studies	Case specific barriers (e.g. language issues) & other technical issues (directly associated with the low target TRL)
	Project partners	Development of a common environment that will host all tools available by tech partners and	Need to ensure seamless integration of different tools in a common platform	Different tools described in WP5 close to final, full integration	Motivate CPAs to feel confident to insert trainings and AR campaigns in the platform and have the overall control of the content they need to integrate.	Reluctance of CPAs to exploit the platform

TABLE 3: RISKPACC PLATFORM – EXPLOITATION ROUTES

RESULTS	IMPACTS					
	SCIENTIFIC	SCIENTIFIC IMPACT-BASED INDICATORS	SOCIETAL	SOCIETAL IMPACT-BASED INDICATORS	ECONOMIC	ECONOMIC IMPACT-BASED INDICATORS
RiskPACC Platform	Fostering innovation activities in disaster management	Scientific publications (in journals and workshops)	Fostering training activities of citizens and/or volunteers in disaster management Fostering direct involvement of citizens and/or volunteers in disaster management	Active engagement of CPAs in the platform (quantified in feedback retrieved from evaluation questionnaires, # of targeted training sessions for citizens/volunteers etc.)	Indirect impact on the economy through the appropriate training of citizens/volunteers in disaster management (throughout all disaster management phases)	Active engagement of CPAs in the platform (quantified in feedback retrieved from evaluation questionnaires, of targeted training sessions for citizens/volunteers etc.)

TABLE 4: RISKPACC PLATFORM - IMPACTS

3.2 RiskPACC Tools

The Following Tools were developed under the RiskPACC Action. These tools all originated from the RiskPACC Partners and differ in their technological maturity. Therefore, the exploitation routes may differ in their objectives, target audiences and expected impact. Each

partner involved in the design and development of tools from the RiskPACC platform were asked to complete the exploitation route tables. Below are the tables presented.

3.2.1 CROWDSOURCING FROM COMMUNITY - STAM

The web-based solution which will be developed by STAM aims to facilitate the communication between Civil Protection Authorities and citizens in case of emergency. The web-based platform allows to share information as quickly as possible in different ways by:

- Creating a post describing an imminent hazard
- Using chatting services by a messaging system between each citizen and the CPA.
- Sending and receiving targeted notifications to users based on their profiles creating user groups/communities.

Finally, through the platform the CPA will be able to make available illustrative videos or descriptions of the behaviour to be adopted in case of emergencies that are considered within the project and that could occur within the localities that will introduce the use of the platform.¹²

RESULTS	TARGET GROUPS				EXPLOITATION ROUTES	
	TARGET GROUPS	ADDRESSED NEEDS	KEY MESSAGES	OUTCOMES	PROCESSES/TOOLS	BARRIERS
Technology solution aiming at minimizing the delay in risk communication to citizens.	CSOs, NGOs, cities, CPAs	Dissemination of information to citizens Request citizens/volunteers support during an emergency Provision of materials/guidelines to be used by CPAs and citizens in order to improve their preparedness in case of emergency.	Increase awareness in the city and always be prepared.	The contents of the HERMES tool will help citizens to be more risk aware.	HERMES - Crowd Sourcing Solution.	Usability for all: for example, it might be difficult to get elderly people to use the solution since they might not be equipped with smartphone.
			Disseminate information to citizens in your city as soon as possible.			
			VGI-based tools to collaborate with the CPAs and the First Responders in case of emergencies.			
			VGI-based tools to request citizen support during an emergency.			
			Continuous update functionalities and contents to the RiskPACC platform which best suits your citizens' needs.			
Provide citizens with all the materials and guidance to allow the best use of the platform and collaborate as efficiently as possible with CPAs and first responders.						
			Use the RiskPACC platform to understand			

¹² RiskPACC Deliverable D3.2, "System requirements and functional specifications – initial version"

			how your city responds to hazards.		
--	--	--	------------------------------------	--	--

TABLE 5: CROWDSOURCING - EXPLOITATION ROUTES

RESULTS	IMPACTS					
	SCIENTIFIC	SCIENTIFIC IMPACT-BASED INDICATORS	SOCIETAL	SOCIETAL IMPACT-BASED INDICATORS	ECONOMIC	ECONOMIC IMPACT-BASED INDICATORS
Technology solution aiming at minimizing the delay in risk communication to citizens.	Using the functionalities offered by HERMES and monitoring their efficiency.	Studying how the citizen approaches a new communication system and whether HERMES actually improves the citizen's experience during an emergency situation (before, during and after).	Development of technical solution for the preparation of society when a calamitous event occurs.	Counting the number of users registered on the platform and the required interactions to assess whether HERMES is well received by the society.	Reducing the effort required from the CPA to communicate with citizens.	Counting of working hours performed by the information transmission team and comparison with the number of hours required of the team during an emergency before using HERMES.

TABLE 6: CROWDSOURCING – IMPACTS

Crowdsourcing is a key enabler to achieve RiskPACC objectives to facilitate the communication between CPAs and citizens, increase situational awareness for better decision making, and address citizens' needs. For this reason, this tool also contributes to the effectiveness and efficiency of others (i.e. AR, VGI). Consequently, its target audience is exhaustive and has an impact across the three dimensions (scientific, societal and economic). Further solution development is already foreseen to enable its usage in other circumstances and environment, and to tackle identified shortcomings and barriers to increase society preparedness to disasters.

3.2.2 CROWDSOURCING FOR ENVIRONMENTAL ASSESSMENT – ICCS

As already presented in the Deliverable D3.2 “System requirements and functional specifications – initial version”, The crowdsourcing for environmental assessment component focuses on the development of an Augmented Reality (AR) mobile application to enable dissemination of timely bi-directional information and media to enhance preparedness and response phases to disastrous natural hazard events.

The mobile app will be built to:

- Directly disseminate early warnings, communicate effectively climatic risks to citizens to increase their disaster preparedness and response;
- Offer real-time bi-directional interaction between experts and vulnerable communities through targeted campaigns;

- Provide critical information on a map so that the end user will be informed about the evolvement of hazards and will be directed to safety assembly points;
- Enhance learning through the AR feature and the development of disaster tales (virtual education material) focused on climatic risks (e.g., flood related hazards, heatwaves, forest fires, droughts, landslides), so as the users are trained and educated through historical information.¹³

RESULTS	TARGET GROUPS				EXPLOITATION ROUTES	
	TARGET GROUPS	ADDRESSED NEEDS	KEY MESSAGES	OUTCOMES	PROCESSES/TOOLS	BARRIERS
Aeolian AR mobile app.	CPAs, citizens, volunteers, project partners.	Training of citizens and volunteers on natural and anthropogenic hazards.	Need to ensure efficient communication between CPAs-citizens/volunteers.	Links established, training sessions prepared by CPAs and already in place for citizens/volunteers.	Adoption of a co-creation approach with CPAs and citizens/volunteers so as to ensure user-friendliness, easy applicability and potential replicability in other cases studies.	Case specific barriers (e.g. language issues) & other technical issues (directly associated with the low target TRL).
	Project partners.	Establishment of interaction links between CPAs and citizens/volunteer.	Need to motivate citizens to actively participate in disaster management and undertake training activities.		Motivate end-users to run trainings and AR campaigns in the app and communicate with CPAs through the chatting functionalities.	Reluctance of CPAs/citizens/volunteers to use the app.

TABLE 7: AUGMENTED REALITY - EXPLOITATION ROUTES

RESULTS	IMPACTS					
	SCIENTIFIC	SCIENTIFIC IMPACT-BASED INDICATORS	SOCIETAL	SOCIETAL IMPACT-BASED INDICATORS	ECONOMIC	ECONOMIC IMPACT-BASED INDICATORS
Aeolian AR mobile app.	Fostering innovation activities in disaster management.	Scientific publications (in journals and workshops).	Fostering training activities of citizens and/or volunteers in disaster management.	Active participation of citizens/volunteers and CPAs in foreseen project workshops (quantified in # of participants, feedback retrieved from evaluation questionnaires etc.).	Indirect impact on the economy through the appropriate training and active involvement of citizens/volunteers in disaster management (throughout all disaster management phases).	Active participation of citizens/volunteers and CPAs in foreseen project workshops (quantified in # of participants, feedback retrieved from evaluation questionnaires etc.).

¹³ RiskPACC Deliverable D3.2, "System requirements and functional specifications – initial version"

			Fostering direct involvement of citizens and/or volunteers in disaster management.			
--	--	--	--	--	--	--

TABLE 8: AUGMENTED REALITY – IMPACTS

The results of the AR tools are expected to increase risk awareness to disasters. It will mostly impact the societal dimension, and its exploitation will benefit the research community by providing feedbacks which can be used for further research on disaster management.

3.2.3 CROWDSOURCING FROM PUBLICLY AVAILABLE DATA – CS

RiskPACC’s inclusion of CrowdSense (CS) technology strives to exploit crowdsourced data to help organisations obtain real-time knowledge from publicly available information sources and mitigate the hazardous impact of natural and man-made hazards.

The main features / functionalities to develop, to expand, or to deepen are:

- Automated sentiment analysis for multiple EU languages;
- AI word suggestion functionalities adapted for multiple EU countries;
- Public perception evolution analysis pre or post actions from CPA;
- Expand and deepen vocabulary and location indicators for multiple EU countries;
- Creation of real-time adjustable searches specific for the CPA use cases;
- The ability to send personalised alerts, customisable per search;
- Enablement of customise dashboards, reports or export matching the project’s needs.¹⁴

RESULTS	TARGET GROUPS				EXPLOITATION ROUTES	
	TARGET GROUPS	ADDRESSED NEEDS	KEY MESSAGES	OUTCOMES	PROCESSES/TOOLS	BARRIERS
Automated sentiment analysis for multiple EU languages.	CPA’s	Allows the target group to gauge the public opinion on Twitter on a range of topics relating to disaster management.	Use the RiskPACC platform to increase your awareness in the city and always be prepared. Use the RiskPACC platform to disseminate information to citizens in your city as soon as possible. Use the RiskPACC platform to understand how your city responds to hazards.		Licensing	Same purpose as foreseen in RiskPACC

¹⁴ RiskPACC Deliverable D3.2, “System requirements and functional specifications – initial version”

<p>Creation of real-time adjustable searches specific for the CPA use-cases in multiple EU languages/countries.</p>	<p>CPA's</p>	<p>Allows the target group to determine the scope of their crowdsourcing data in real time.</p>	<p>Use the RiskPACC platform to increase your awareness in the city and always be prepared.</p>	<p>The RiskPACC Toolkit will enable CPAs, Practitioners, First Responders and Practice-based researchers to improve their situational awareness and understanding of citizens reactions and behaviors using different means. It will also provide the relevant public authorities with the ability to adapt both their operations and communications to the public.</p>	<p>Licensing</p>	<p>Same purpose as foreseen in RiskPACC</p>		
<p>The ability to send personalized alerts, customizable per search.</p>	<p>CPA's</p>	<p>Allows the target group to be alerted about crises that arise within their defined topics of interest.</p>	<p>Use the RiskPACC platform to increase your awareness in the city and always be prepared.</p>		<p>Use the RiskPACC platform to disseminate information to citizens in your city as soon as possible! which best suits your citizens' needs.</p>	<p>Licensing</p>	<p>Same purpose as foreseen in RiskPACC</p>	
<p>AI word suggestion functionalities adapted for multiple EU countries.</p>	<p>CPA's</p>	<p>Assists the target group in discovering keywords for collecting crowdsourced information.</p>	<p>The integrated RiskPACC Toolkit will improve the response capabilities of the CPAs, Practitioners, First Responders and Practice-based researchers, allowing to effectively and efficiently distribute the validated information to the citizens, enabling bilateral communication between CPAs and citizens.</p>			<p>The RiskPACC platform will enhance the response management services and capabilities of the CPAs, Practitioners, First Responders, Practice-based researchers facilitating the process of validating the information and alerts received from citizens.</p>	<p>Licensing</p>	<p>Same purpose as foreseen in RiskPACC</p>
<p>Customizable dashboards and reports.</p>	<p>CPA's</p>	<p>Allows the target group to share crowdsourced data in real time through dashboards or report on important information found within the topic of interest (reports).</p>	<p>Use the RiskPACC platform to understand how your city responds to hazards.</p>				<p>Licensing</p>	<p>Same purpose as foreseen in RiskPACC</p>

Expand and deepen vocabulary and location indicators for multiple EU countries.	CPA's	Allows the target group to search in different languages and across different countries, other than the ones available before the project.			Licensing	Same purpose as foreseen in RiskPACC
---	-------	--	--	--	-----------	--------------------------------------

TABLE 9: ONLINE SENTIMENT ANALYSIS - EXPLOITATION ROUTES

RESULTS	IMPACTS					
	SCIENTIFIC	SCIENTIFIC IMPACT-BASED INDICATORS	SOCIETAL	SOCIETAL IMPACT-BASED INDICATORS	ECONOMIC	ECONOMIC IMPACT-BASED INDICATORS
Automated sentiment analysis for multiple EU languages.	Fostering innovation activities in crowd sourcing.	To be defined in the final plan	Fostering situational awareness and preparedness.	To be defined in the final plan	To be defined in the final plan	To be defined in the final plan
Creation of real-time adjustable searches specific for the CPA use-cases in multiple EU languages/countries.	Fostering innovation activities in data management and crowd sourcing.	To be defined in the final plan	Fostering live-time situational awareness.	To be defined in the final plan	To be defined in the final plan	To be defined in the final plan
The ability to send personalized alerts, customizable per search.	Fostering innovation activities in disaster management.	To be defined in the final plan	Fostering citizens awareness and preparedness and narrow the GAP between CPAs and citizens.	To be defined in the final plan	To be defined in the final plan	To be defined in the final plan
AI word suggestion functionalities adapted for multiple EU countries		To be defined in the final plan	Supporting the awareness and information sharing for planning operations and fostering communication.	To be defined in the final plan	To be defined in the final plan	To be defined in the final plan
Customizable dashboards and reports		To be defined in the final plan		To be defined in the final plan	To be defined in the final plan	To be defined in the final plan

Expand and deepen vocabulary and location indicators for multiple EU countries		To be defined in the final plan	Fostering situational awareness and preparedness.	To be defined in the final plan	To be defined in the final plan	To be defined in the final plan
--	--	---------------------------------	---	---------------------------------	---------------------------------	---------------------------------

TABLE 10: ONLINE SENTIMENT ANALYSIS – IMPACTS

The major impacts of outputs exploitation are fostering further research in the field of disaster management and increase preparedness. Moreover, the possibility to use the online sentiment analysis for other purpose was also identified. The considered exploitation route relies on licensing the outputs. As a consequence, the economic impact of such route is difficult to estimate as the tool is currently still under the pilot phase.

3.2.4 VOLUNTEERED GEOGRAPHICAL INFORMATION – UT

The VGI solution will be based on a web-based tool with the focus on improving the understanding of VGI, specifically of how to assess volunteer suitability for a given task, match the volunteers based on a mapping of the cognitive load of a given task, how to instruct a volunteer, and to monitor progress and validate submissions. This addresses the problem that most existing VGI tools and approaches only focus on data flows and use of the information provided by volunteers, while largely ignoring the limitations in the initial information generation just mentioned.¹⁵

RESULTS	TARGET GROUPS		EXPLOITATION ROUTES	
	TARGET GROUPS	ADDRESSED NEEDS	MEAN	INTENDED PURPOSE
Apps to support CPAs in post-wildfire response through citizens (damage identification, map updating), as well as to assess people's wellbeing during heatwaves (Padua); target TRL5.	CPAs.	(i) Disaster damages are difficult to assess comprehensively, especially in rural areas. Also maps (of assets etc.) need updating, which the first app will facilitate; (ii) heat hazard is poorly understood, and the tool will allow to collect information on wellbeing during heatwaves that are integrated with physical sensor data collected in Padua, to allow the municipality to plan more effective mitigation and resilience-building measures.	As research partner the principal aim of our work is knowledge generation, i.e. understanding better how to make affective use of citizens in data collection. Principal output is research publications based on the work; additional target are the CPA (MRP) and Municipality (Padua) we partner with - developed procedures, tools and insights are meant to be taken up by the partners.	(i) Research output will be aimed at the research community, and also be used in ongoing post-graduate and PhD education at the UT; (ii) through active collaboration with the partners we will also train them in the use of the tools and newly generated insight, and through the observing cities also spread the knowledge to other CPS and municipalities.

TABLE 11: VOLUNTEERED GEOGRAPHICAL INFORMATION - EXPLOITATION ROUTES

The VGI expected exploitation aims at delivering CPAs a solution to increase situational awareness. In the context of the RiskPACC action, the solution maturity should reach TRL 5,

¹⁵ RiskPACC Deliverable D3.2, “System requirements and functional specifications – initial version”

which will prevent immediate commercialisation of the solution. However, the outputs of the related WP will feed into further research, with the support of end-users and practitioners, to ensure its takes-up.

3.3 RiskPACC Framework - UCL

RESULTS	TARGET GROUPS		EXPLOITATION ROUTES	
	TARGET GROUPS	ADDRESSED NEEDS	MEAN	INTENDED PURPOSE
RiskPACC Collaborative Framework.	CPAs (primary), citizens and citizen representatives (secondary).	There is a gap between the risk perceptions of CPAs and citizens, and between citizen risk perceptions and their actions. This can result in mismatch between CPAs expectation of citizen preparedness and response actions (and therefore community resilience) and what citizens do in actuality. CPAs thus have a need of ways for closing these risk perception action gaps (RPAGs).	Provision of the RiskPACC collaborative framework on the RiskPACC platform.	Provide the partner CPAs and citizens/citizen representatives as well as equivalent groups external to the project with easy access to the resources provided by the framework.
		The RiskPACC Collaborative Framework is a framework of four modules designed to provide this - to guide CPAs in methods and tools for closing RPAGs. As a secondary outcome, the framework may also be of interest to citizens and citizen representatives for understanding how they might better engage with their local CPAs, and themselves work towards closing RPAGs.	Provision of the RiskPACC Collaborative Framework on the Risk Know How Platform (produced by Sense About Science).	Make the RiskPACC framework more broadly available via an international platform. Note that Sense About Science are also interested in any case studies we have of how the framework and associated methods/tools were developed too.
		The four framework modules are: 1. Understanding context (of the risk and community); 2. Sharing (of knowledge and risk perceptions between different participant types); 3. Relating (building relationships of trust between citizens and civil protection groups); 4. Building (of techniques and tools for communication).	Production of a special issue in the International Journal of Disaster Risk Reduction (including articles from a variety of RiskPACC partners i.e. not just the framework).	This will help disseminate the findings broadly across the academic community.

TABLE 12: RISKPACC FRAMEWORK - EXPLOITATION ROUTES

Moreover, the Partner UCL will produce two scientific articles on the Co-Creation Methodology to narrow the gap between CPAs and the Civil Society. As the Pilots are still running, the publication expected date is still to be determined.

The RiskPACC tools, Platform and Framework are being developed in parallel. Each of them build on each other outputs and face different maturity levels. For this reason, their respective exploitation plans consider both the exploitation within the context of the action, and the envisaged exploitation by knowledge and solutions designers and developers.

Indeed, the Consortium Agreement emphasizes the ownership of outputs produced under the RiskPACC project. Technological partners, involved in the Platform and the Tools, brought their experience, knowledge, and part of already existing solutions, to achieve the objectives of the project. Therefore, they own some of the needed inputs and the outputs they directly contributed to generate.

Moreover, the tools targeted TRLs to be reached by the end of the action differ from each other. The difference is a consequence of the need to integrate tools, originally developed separately, within a single platform and to ensure the efficient operation of the latter.

Finally, the Platform, Tools and Framework are still running under their pilot phases. Therefore, potential barriers and bottlenecks as well as measures to address them may appear by the Final Exploitation Plan (to be delivered by the end of the action). The Final Exploitation Plan is expected to comprehensively identify exploitation routes for the Tools, Platform and Framework, as well as the considered results exploitation by partners and from a common point of view.

4 MARKET ANALYSIS

In this chapter, a market analysis is provided, to highlight, for each RiskPACC target audience identified in Deliverable D8.1¹⁶, different yet crucial aspects to be considered in exploitation activities.

Together with the DRS-01 Cluster, composed of EC funded projects LINKS, ENGAGE, BUILDERS, CORE and RESILOC, RiskPACC joined on April 2022 the Horizon Results Booster, an initiative powered by the European Commission, which aims to bring a continuous stream of innovation to the market and maximise the impact of public funded research within the European Union.¹⁷

RiskPACC joined the service “Portfolio Dissemination and Exploitation Strategy”, that is divided in two main streams (Dissemination and Exploitation) and three different modules: i) Module A and B are about dissemination activities, in order to strengthen the capacity of the project group in disseminating, maximising the dissemination of a portfolio of results and offering a wider view to potential users; ii) Module C is about the Exploitation service and to support single projects in exploiting their research results.¹⁸

In April 2023, RiskPACC completed module A, and the following market analysis reflects the research and findings coming from it.

The aspects the Horizon Results Booster took into consideration to build a market analysis are the followings:

- Target audience’s analysis: it contains a short description of the related stakeholders and their interests and main area of expertise and application.
- Target audience map: it presents few potential stakeholders that might be involved in RiskPACC research and findings. This section will be updated within the final exploitation plan at M33.
- Needs: this part contains the needs that the RiskPACC solutions will address.
- Benefits: it depicts the benefits and advantages that the RiskPACC solutions will offer to each target group.
- Competitors: it is focused on the other and main relevant EU research projects funded under the same call as RiskPACC.¹⁹

The analysis is presented in the tables below.

¹⁶ RiskPACC Deliverable D8.1, “Communication and Dissemination Strategy”

¹⁷ <https://www.horizonresultsbooster.eu/>

¹⁸ <https://www.horizonresultsbooster.eu/>

¹⁹ See Annex I

4.1 Citizens, Civil Society Organisations, Non-governmental organisations, local governments and agencies

TARGET AUDIENCE ANALYSIS

The stakeholder analysis for this target audience includes a wide range of actors, including citizens, civil society organizations (CSOs), non-governmental organizations (NGOs), and local governments and agencies.

1. **Citizens:** Citizens are the most important stakeholders in building disaster resilient societies. They are directly impacted by disasters and have a crucial role to play in developing and implementing disaster resilience strategies. Citizens can participate in disaster preparedness and response training, support community-based initiatives, and advocate for policy changes that promote disaster resilience.
2. **Civil society organizations (CSOs):** CSOs are non-profit organizations that work to promote social, environmental, and economic justice. They can play an important role in building disaster resilience by working with communities to develop local disaster resilience strategies, conducting research and advocacy, and providing direct support to disaster-affected communities.
3. **Non-governmental organizations (NGOs):** NGOs are non-profit organizations that work on a range of issues, including disaster relief and disaster risk reduction. They can provide technical and financial support to communities to help build disaster resilience and can also work with governments to advocate for policy changes that promote disaster resilience.
4. **Local governments and agencies:** Local governments and agencies are responsible for managing emergency response and recovery efforts during disasters. They can work with communities to develop disaster resilience strategies, provide funding and resources for disaster risk reduction, and coordinate disaster response efforts.

TARGET AUDIENCE MAP

Several citizens, civil society organisations, NGOs, local governments and agencies have been identified at international levels.

- ICLEI Resilient cities: Local Governments for Sustainability is a global network of more than 1,750 local and regional governments committed to sustainable urban development
- Global Network of Civil Society Organisations for Disaster Reduction (GNDR): a voluntary network of civil society organisations, associations and individuals who are committed to increase community resilience and reduce disaster risk around the world.
- Global Disaster Preparedness Center (GDPC): established by the American Red Cross and the International Federation of Red Cross and Red Crescent Societies to be a reference centre to support innovation and learning in disaster preparedness for Red Cross and Red Crescent national societies.
- Citizen for Europe (CFEU): a community of over 500 CSOs that shares expertise, discusses ideas and implements projects. It is committed to strengthening civil society actors in their structures and a more participative, diverse and democratic Europe.
- European Forum for Urban Security (Efus): European network of local and regional authorities dedicated to urban security. It includes nearly 250 local and regional authorities from 16 countries.

NEEDS

- a) Awareness and education platforms: Platforms that can provide access to information and education about disaster risks, mitigation strategies, and preparedness measures.
- b) Communication and coordination tools: Platforms that can facilitate communication and coordination among citizens, CSOs, NGOs, and local governments and agencies to promote transparency and accountability in disaster resilience efforts.
- c) Early warning systems: Platforms that can provide real-time alerts and notifications to citizens and communities about impending disasters.
- d) Disaster response and recovery platforms: Platforms that can provide resources and support to citizens and communities during and after disasters, including emergency shelters, medical supplies, and counselling services.
- e) Community engagement tools: Platforms that can support community engagement and participation in disaster resilience efforts, including social media, online forums, and citizen science initiatives.
- f) Advocacy and mobilization tools: Platforms that can help citizens, CSOs, and NGOs advocate for policies and programs that promote disaster resilience and mobilize resources and support from the public and private sectors.

BENEFITS

Benefits for citizens, civil society organizations, non-governmental organizations, and local governments and agencies in disaster resilient societies are to provide a comprehensive and integrated solution for disaster risk reduction and management. RiskPACC will help, with its solutions, to allow those stakeholders to be more prepared to face disasters and to reduce the Risk Perception Action Gap.

TABLE 13: MARKET ANALYSIS - TARGET AUDIENCE 1

4.2 Civil Protection Authorities, Practitioners, first responders and practice-based researchers

TARGET AUDIENCE ANALYSIS

1. Civil Protection Authorities: Civil Protection Authorities are responsible for managing emergency response and recovery efforts during disasters. They can play a critical role in disaster risk reduction by working with communities to develop disaster resilience strategies, providing funding and resources for disaster risk reduction, and coordinating disaster response efforts.
2. Practitioners: Practitioners, such as architects, engineers, and urban planners, can help communities build disaster resilient infrastructure and design buildings and public spaces that are more resilient to natural disasters. They can also work with communities to develop early warning systems, emergency evacuation plans, and disaster response plans.
3. First responders: First responders, such as firefighters, police officers, and paramedics, are the first on the scene during disasters. They can help save lives, provide emergency medical care, and support disaster response efforts.
4. Practice-based researchers: Practice-based researchers are professionals who study disaster risk reduction and resilience in practice. They can provide valuable insights into what works and what doesn't work in disaster risk reduction, help communities develop evidence-based disaster resilience strategies, and support policy makers in developing effective disaster resilience policies.

TARGET AUDIENCE MAP

Several practitioner networks have been identified at the international level.

- International Forum to advance First Responder Innovation (IFAFRI): A global collaboration between countries focused on enhancing and expanding the development of affordable technology and innovative solutions to improve first responder safety, efficiency and effectiveness.
- Federation of the European Union Fire Officers Associations (FEU): FEU's aim is to enhance fire safety and provide expertise to European bodies in matters concerning the development of fire brigades and fire safety in Europe and especially in respect of organisation and management structure: technical skills, training and fire engineering. FEU covers representatives of national fire associations from 21 European countries.
- Crisis Management Innovation Network in Europe (CMINE): An open, online community for Crisis Management Innovation, Networking and Support.
- Preventica: A French-speaking network that organises various conferences and international fairs with different providers and services related to risk management and civil protection.
- EVOLSAR (European Association of Civil Protection Volunteer Teams): The organization has been established with the aim of having a European group of volunteer team similarly trained in various disciplines of Civil Protection.
- Department of Civil Protection and Emergency Management
- Protection civile française

NEEDS

- a) Risk assessment tools: Tools that can help Civil Protection Authorities and practitioners conduct risk assessments, identify potential hazards, and assess vulnerabilities.
- b) Planning and coordination tools: Platforms that can support the planning and coordination of disaster response efforts, including communication and collaboration tools.
- c) Training and education platforms: Online training and education platforms that can provide access to disaster preparedness and response training for first responders and practitioners.
- d) Mapping and data visualization tools: Tools that can help visualize disaster risks and provide information about disaster-prone areas and potential hazards.
- e) Early warning systems: Platforms that can detect impending disasters and provide real-time alerts to first responders, practitioners, and Civil Protection Authorities.
- f) Research platforms: Platforms that can support practice-based research on disaster resilience, including data collection and analysis tools, collaboration tools, and sharing platforms.

BENEFITS

One of the benefits for civil protection authorities, practitioners, first responders, and practice-based researchers in disaster resilient societies tools and platforms is to provide a comprehensive and integrated solution for disaster risk reduction and management.

One of the main benefits of disaster resilient societies tools and platforms is to empower them with the knowledge, tools, and resources they need to protect lives, property, and the environment in the face of disaster. By leveraging the latest technology and data-driven insights, these tools and platforms can help improve decision-making, coordination, and overall effectiveness in disaster response and management.

TABLE 14: MARKET ANALYSIS - TARGET AUDIENCE 2

4.3 Policy and Decision Makers

TARGET AUDIENCE ANALYSIS

This target audience is formed by policy and decision makers. They are the legislative and executive authorities that act at different legislative levels (local, federal, provincial, regional, national, European) and with a large cross-sectoral impact.

It is composed of experts, associations or organisations that work in the public or policy sector and that use the RiskPACC findings and outcomes in order to reach and improve the regulations in terms of helping and addressing the society in relation to RiskPACC objectives.

1. European Institutions: Such as DG ECHO and DG HOME, European Parliament.
2. Policy networks
3. Policy platforms

TARGET AUDIENCE MAP

Policy and decision makers, have been identified at international, European and national level.

Different entities have been identified such as:

- o Making Cities Resilient 2030 (MCR 2030): A global partnership aiming at strengthening local resilience.
- o Disaster Risk Knowledge Management Centre (DRMKC): Provides a networked approach to the science-policy interface in DRM, across the Commission, EU Member States and the DRM community within and beyond the EU.
- o Civil Protection Knowledge Network (CPKN): Aims to strengthen the Union Civil Protection Mechanism in the prevention, preparedness and response phase of disasters.
- o European Civil Protection Forum: A platform to discuss the current developments in the Union Civil Protection Mechanism framework and put forward new ideas for tackling common challenges.

NEEDS

- a) Policy development and implementation tools: Platforms that can support the development and implementation of disaster resilience policies, including guidance documents, best practices, and regulatory frameworks.
- b) How to receipt and translate policies and standards in decision-making processes.
- c) Research platforms: Platforms that can provide policy makers with access to practice-based research and evidence-based recommendations for disaster resilience policies.
- d) Developing policies in disaster management framework.

BENEFITS

- a) Evidence-based policymaking: Providing access to the latest research, best practices, and data-driven insights to inform policy decisions and improve the overall effectiveness of disaster risk reduction and management efforts.
- b) Increase understanding of the Risk Perception-Action Gap (RPAG) and vulnerabilities in Europe in order to reduce disaster risk.
- c) Increase resilience in line with the Sendai framework and the European Commission's Sendai Action Plan.

TABLE 15: MARKET ANALYSIS - TARGET AUDIENCE 3

4.4 Other EC funded projects

TARGET AUDIENCE ANALYSIS

There are several EC funded projects that could potentially be involved in building disaster resilient societies. Especially, researchers and practitioners involved in Horizon 2020 and other funding projects and programmes, which focuses on building resilience and risk perception, among others.

By involving stakeholders from these and other EC-funded projects, it may be possible to leverage existing expertise, resources, and networks to build more disaster resilient societies across Europe.

TARGET AUDIENCE MAP

1. H2020 LINKS: “Strengthening links between technologies and society for European disaster resilience” is a comprehensive study on disaster governance in Europe. The overall aim of the LINKS project 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 recent years, social media and crowdsourcing (SMCS) have been integrated into crisis management for improved information gathering and collaboration across European communities.
2. H2020 ENGAGE: Together with real practitioners from their Knowledge and Innovation Community of Practice (KI-CoP), ENGAGE proposes emergency response strategies to bring the population closer to rescuers and authorities, bridging the gap between formal and informal guidelines in specific contexts.
3. H2020 BUILDERS: BuildERS works on increasing the societal resilience and social capital of European communities and citizens. It will do this by genuinely co-designing processes and tools with citizens, first-responder organisations, and technology tools developers. The project will incorporate an inclusive and interactive research and analysis process, where the results are not derived ‘top-down’ but through a ‘bottom-top’ dynamic interaction.
4. H2020 CORE: CORE (sScience & human factOr for Resilient Society) is a multi-disciplinary consortium established to understand how to define common metrics with respect to the different natural and man-made disaster scenarios, and how to measure, control and mitigate the impact on the populations, particularly on vulnerable groups: disabled, elderly, poor, as well as women and children.
5. H2020 RESILOC: The overall goal of RESILOC is to identify new strategies for improving on the processes of preparedness of local communities against any kind of hazards, either planned or unplanned.
6. The project aims at bringing together the validity and experience of local communities and the strategies and commitment of national and supra-national actors to achieve a tangible impact on the way resilience is understood and increased in local communities.
7. H2020 MEDIATE: The Multi-hazard and Resilient-informed system for Enhanced Local and Regional Disaster risk management (MEDiate) project will contribute to enhanced assessment of disaster risks and to improved disaster risk management and governance.
8. H2020 PARATUS: Promoting disaster preparedness and resilience by co-developing stakeholder support tools for managing the systemic risk of compounding disasters.

Other EC funded projects already presented in Deliverable D8.1.²⁰

NEEDS

- a) Collaborative platforms: Tools that allow project teams to collaborate and share information across disciplines and sectors, including academics, practitioners, and policymakers.

²⁰ RiskPACC Deliverable D8.1 “Communication and Dissemination Strategy”

- b) Data and analytics tools: Platforms that provide access to high-quality data and analytics to support evidence-based decision-making.
- c) Mapping and visualization tools: Platforms that can provide maps and visualizations of disaster risk, vulnerability, and resilience to support disaster risk reduction planning.
- d) Communication and outreach tools: Platforms that can support project teams in communicating and disseminating their findings to stakeholders, policymakers, and the general public.
- e) Training and capacity building tools: Platforms that can support capacity building and training for project teams and stakeholders, including e-learning and online training courses.
- f) Participatory tools: Platforms that can support stakeholder engagement and participation in project activities, including surveys, forums, and online discussions.
- g) Monitoring and evaluation tools: Platforms that can support project monitoring and evaluation, including tools for data collection, analysis, and reporting.

BENEFITS

- a) Innovative technologies: Some projects may focus on developing and implementing innovative technologies to support disaster resilience, such as early warning systems, artificial intelligence, and machine learning.
- b) Participatory approaches: Other projects may prioritize stakeholder engagement and participation, developing tools and platforms that allow for co-creation, co-design, and co-implementation of disaster resilience initiatives.
- c) Multi-sectoral collaboration: Some projects may emphasize multi-sectoral collaboration, bringing together stakeholders from different sectors and disciplines to work together towards a common goal.
- d) Scalability and replicability: Other projects may prioritize scalability and replicability, developing tools and platforms that can be easily adapted and replicated in different contexts and locations.
- e) Interoperability: Some projects may focus on developing interoperable tools and platforms that can be integrated with other systems, such as those used by local and national authorities.
- f) Open access: Other projects may prioritize open access and open data, developing tools and platforms that are accessible to all stakeholders, regardless of their location or resources.
- g) Evidence-based decision-making: Some projects may prioritize the use of high-quality data and analytics to support evidence-based decision-making, developing tools and platforms that provide easy access to this information.

TABLE 16: MARKET ANALYSIS - TARGET AUDIENCE 4

4.5 Industry and SMEs

In addition to the target audiences mentioned earlier, there are industries and Small and Medium Enterprises (SMEs) playing a crucial role in the context of RiskPACC.

TARGET AUDIENCE ANALYSIS

1. Energy industry: The energy industry can play a vital role in disaster preparedness and response, ensuring that critical energy infrastructure, such as power plants and transmission lines, are designed and maintained to withstand natural disasters.
2. Telecommunications industry: The telecommunications industry can provide critical communication infrastructure and services during and after a disaster, such as mobile networks, satellite communication, and emergency alert systems.

<ol style="list-style-type: none"> 3. Technology industry: The technology industry can develop and provide tools and platforms to support disaster risk reduction and resilience building, such as remote sensing, data analytics, and modelling software. 4. Logistics industry: The logistics industry can provide critical support during disaster response and recovery efforts, such as transport and distribution of relief supplies and equipment. 5. Water and sanitation industry: The water and sanitation industry can play a crucial role in disaster response and recovery efforts, providing access to clean water and sanitation facilities to prevent the spread of disease.
TARGET AUDIENCE MAP
Not Applicable
NEEDS
<ol style="list-style-type: none"> a) Access to data and information: Industry and SMEs need access to reliable data and information on hazards, vulnerabilities, and risks to inform their decision-making and risk management strategies. b) Risk assessment and analysis tools: Industry and SMEs need access to tools and platforms that can help them assessing and analysing their risks and vulnerabilities to natural disasters. c) Decision-making support tools: Industry and SMEs need decision-making support tools that can help them make informed decisions on disaster risk reduction and resilience building. d) Innovative technologies: Industry and SMEs may require innovative technologies and tools to help them prepare for and respond to natural disasters, such as remote sensing, early warning systems, and machine learning. e) Business continuity planning tools: Industry and SMEs need tools and platforms that can help them develop and implement business continuity plans to minimize the impact of natural disasters on their operations. f) Collaboration and networking platforms: Industry and SMEs need platforms that can facilitate collaboration and networking with other stakeholders, such as other businesses, NGOs, and local government agencies, to share knowledge and resources. g) Access to funding: Industry and SMEs may require access to funding and financing options to support their disaster risk reduction and resilience building efforts.
BENEFITS
The use of the RiskPACC results and solutions will allow Industry and SMEs to better understand the market and to realise tailored and specific solutions and technologies.

TABLE 17: MARKET ANALYSIS - INDUSTRY AND SMEs

The tables listed above are to be considered as a first step regarding the market analysis of RiskPACC. In fact, the work and results of the project will undergo a natural evolution over the next few months, highlighting the needs, benefits and added value of the stakeholder categories presented.

4.6 Competitors

Competitors are other main EU research projects that are focused on similar activities and results to RiskPACC. They are mainly considered entities which RiskPACC can cooperate with, gaining a significant knowledge and experience exchange as well as complement results.

Particular attention has been paid to the other EC funded projects under Cluster DRS-01: LINKS, ENGAGE, RESILOC, BuildERS and CORE. The projects have been funded under the same EU research-topic “Human factors, and social, societal, and organisational aspects for disaster-resilient societies”, with the aim to promote actions and activities that will enable “a better understanding and implementation of new technologies, media and tools, and their capacity to raise disaster risk awareness, to improve citizen understanding of risks, the building of a culture of risks in society, an effective response from affected populations, improving functional organisation in most fragile and vulnerable environments, and increasing the resilience of health services, social services, education, and governance, in line with target of the Sendai Framework”.²¹

For this reason, each project has to face societal, scientific, technological industrial challenges, as shown in the table below.²²

Project	Societal Challenges	Scientific and Technological Challenges	Industrial Challenges
LINKS	<ul style="list-style-type: none"> - Secure societies; - Protecting freedom and security of Europe and its citizens. 	<ul style="list-style-type: none"> - Absence of scientific and practical knowledge on effective uses of social media and crowdsourcing in disasters technologies in all the phases of disaster management. - Absence of a multidisciplinary approach in studying disaster risk governance (no interplay between social, technical and institutional dimensions at the local level). - Absence of a multidisciplinary approach for increasing disaster resilience at the local level through the use of social media and 	<ul style="list-style-type: none"> - Make stronger the relations between solutions providers and DMOs.

²¹ https://cordis.europa.eu/programme/id/H2020_SU-DRS01-2018-2019-2020

²² See Annex I

		<p>crowdsourcing.</p> <ul style="list-style-type: none"> - Absence of formal procedures of applying social media and crowdsourcing in disasters. - Absence of best practices and peer exchange among DMOs. - Solutions providers need to understand the needs of DMOs, DMOs need to understand the landscape of solution providers (costs, trust). 	
<p>ENGAGE</p>	<ul style="list-style-type: none"> - Secure societies; - Protecting freedom and security of Europe and its citizens. 	<ul style="list-style-type: none"> - Investigating societal resilience in situations and identifying key contextual elements; generalising into a model of societal resilience. - Describing existing solutions to better involve the public in a content-rich and easy to navigate catalogue. This effort includes especially capturing contextual elements of locations in which solutions were successfully applied, in order to support their identification and implementation in other contexts. - Defining a process to validate the project's proposed approach and the usefulness of the catalogue of solutions. - Investigating opportunities and challenges of AI-based communication technology to offload emergency centres while maintaining public trust and 	<ul style="list-style-type: none"> - Clarifying the value-added and ensuring the usefulness of a new content repository, the ENGAGE Knowledge Platform, for actors of disaster management. - Accounting for a large variety of needs and use contexts for the project's results. - Ensuring the sustainability of the Knowledge Platform after the project period, i.e. the continued access to and updating of its content.

		developing a blueprint for such capabilities.	
RESILOC	<ul style="list-style-type: none"> - Secure societies; - Protecting freedom and security of Europe and its citizens. 	<ul style="list-style-type: none"> - Research: Increase the understanding of resilience as applied to communities. - Innovation: Empower all actors to identify and assess the validity of actions to increase resilience in their communities. - Societal: Bring resilience at the forefront of the political agenda, by demonstrating the validity and the potential of the approach. - Political: RESILOC legacy for further activities. 	<ul style="list-style-type: none"> - Develop and successfully position a user friendly IT platform that can be used by community decision-makers to assess resilience and develop strategies to increase it.
BuildERS	<ul style="list-style-type: none"> - Secure societies; - Protecting freedom and security of Europe and its citizens. 	<ul style="list-style-type: none"> - BuildERS aims to find out more about who are the most vulnerable in European societies and for which reasons. This is done based on the assumption that a) risk awareness, b) social capital and c) preparedness are core aspects influencing to vulnerability. Acknowledging the diversity of sources of vulnerability and powerlessness, BuildERS scrutinizes existing approaches, strategies, technologies and tools to measure and reduce vulnerability, in light of the social diversity of European societies and in order to find out more about the shortcomings of different European crisis management 	<ul style="list-style-type: none"> - BuildERS has evaluated emerging technological opportunities for improving risk awareness and resilience of vulnerable people in disasters, aiming to estimate the innovation potential, utility, importance, applicability, risks for vulnerable people, and ethical acceptability of novel technologies. The evaluation was based on a survey, end-user evaluation, and co-creative workshops on technologies.

		<p>systems. In doing so, BuildERS does not eliminate vulnerability as such – this is neither possible nor feasible, given the opportunity costs linked to building resilience and vulnerability rooted in life itself. However, BuildERS does seek to mitigate vulnerability caused by discrimination and neglect of essential needs, intrinsic potential and special life contexts. BuildERS offer alternative approaches, strategies, and new technologies to measure and reduce vulnerability and give recommendations on how to achieve them. These engage different actors from all levels of European disaster management (EU/national/local), with a focus on policymaking officials, first responders, and civil society groups involved in crisis management activities. Furthermore, these recommendations unfold an innovative potential for all phases of the crisis management cycle.</p>	
<p>CORE</p>	<ul style="list-style-type: none"> - Europe in a changing world; - Inclusive, innovative and reflective societies. 	<ul style="list-style-type: none"> - CORE has the goal to lead the way for larger scale exercises involving citizens and to foster the continuous improvement of society resilience monitoring the effectiveness of many initiatives based on CORE legacy. 	<ul style="list-style-type: none"> - The challenge will be to engage industry community and will be aware of the project possible benefits also for this sector. Indeed, CORE solutions could diminish the possibility of disruption in case of disastrous events.

TABLE 18: DRS-01 CLUSTER – CHALLENGES²³

²³ See Annex I

5 RISKPACC INDIVIDUAL AND PRELIMINARY EXPLOITATION PLAN

Individual plans for exploitations specify how each project participant intends to make use of the project's results or outcomes. These plans, which are frequently created in cooperation with the project team, contain the following:

Individual strategies for exploitations are critical to ensuring that all project participants profit from its results and that its findings are successfully applied to the commercial or practical world.

In this section the individual exploitation plans (by project partner) are depicted in order to provide a detailed overview of each partners exploitation's intentions and goals at this stage of the project. The project partners were invited to identify the Key Exploitable Results they are interested in and share their expected exploitation plan for each of them as well as their target audience. Some partners could not reply to the invitation due to early stage of their respective tasks. Indeed, considering the project is currently at M20 (out of 36) some tasks, and especially tasks depending on the outputs of others, were not able to produce a preliminary exploitation plan. Moreover, some of the solutions developed under the action are on-going tests with end-users from the consortium, limiting their ability to define potential exploitation routes.

The Results section contains the solution. The Target groups section outlines the specific groups that the project was designed to serve. This section may include subsections that describe the specific needs that these groups had and how the project addressed them. The Means of exploitation section describes the channels, tools, or other methods used to exploit the results.

Finally, the Exploitation intended purpose section outlines the intended purpose of the project's exploitation. This may include objectives such as raising awareness, influencing policy.

5.1 FhG

RESULTS	TARGET GROUPS		EXPLOITATION	
	GROUPS	ADDRESSED NEEDS	MEANS	INTENDED PURPOSE

RiskPACC platform [see entry by ICCS].	CPAs.	Access to tangible solutions (technical and non-technical) for narrowing down the RPAG; training material to apply these solutions; repository on good practices addressing the RPAG.	Analyze options to maintain the platform beyond the project lifetime. The following options will be explored: - DRMKC - UCPM Knowledge Network - CMINE Promotion of the platform among European local authorities including Efus members and professional networks.	Ensure accessibility and usability of the platform beyond the project lifetime.
Physical "Risk Pack".	CPAs; representatives of cities/municipalities/regions.	The Physical "Risk Pack" will mirror the RiskPACC online platform. Using a gamified approach (most likely a board game, to be applied in a dedicated workshop session), it will allow to investigate most suitable solutions for narrowing down the RPAG in a given context. It will provide access to the RiskPACC solutions (technical and non-technical); training material to apply these solutions; and to the repository on good practices addressing the RPAG.	Facilitate the use of the "Risk Pack" in European local authorities including Efus members; analyze options to offer facilitation of respective workshop sessions beyond the project lifetime.	Allow CPAs and other representatives of cities/municipalities/regions to investigate most suitable solutions for narrowing down the RPAG within their specific context.
Network.	Project partners; CPAs; representatives of cities/municipalities/regions.	Required network for disseminating or acquiring suitable solutions, or for continuing research beyond the project.	Any means of communication and dissemination including workshops and conferences.	Support possibilities to disseminate or acquire suitable solutions, or for continuing research beyond the project.
Co-creation methodology [see entry by USTUTT].	CPAs; representatives of cities/municipalities/regions.	Non-technical solutions to analyze and narrow down the RPAG in given contexts.	Use in consultancy work for practitioners in the security field and dissemination to academic community.	Support consultancy work targeting practitioners in the security field; support dissemination to academic community.
Knowledgebase repository.	CPAs; representatives of cities/municipalities/regions.	The Knowledgebase repository will include good practices of narrowing down the RPAG, structured according to the RiskPACC framework. Next to the solutions developed in RiskPACC, these good practices can be identified and applied for specific purposes.	The repository will be accessible through the RiskPACC platform. Thus, exploitation of the repository is strongly related to exploitation of the platform.	Disseminate and provide access to good practices to enhance narrowing down the RPAG.

TABLE 19: FHG INDIVIDUAL EXPLOITATION PLAN

5.2 TRI

RESULTS	TARGET GROUPS		EXPLOITATION	
	GROUPS	ADDRESSED NEEDS	MEANS	INTENDED PURPOSE
Interview data with CPAs on risk communication practice.	Researchers.	Better on the ground understanding of what current practices are.	Conference papers, blogs, conference panels, academic articles.	Inform current research on risk communication and disaster management.
Interview data with CPAs on risk communication practice.	Policy makers.	Better on the ground understanding of what current practices are.	Policy blogs and policy briefs.	Advocate for more inclusive risk communication policies.
interview data with citizen groups on risk communication needs.	CPAs.	Better understanding of how communities are hearing and understanding risk communication from CPAs.	Blogs and articles, further research.	Better understanding of how current risk communication practices are working to inform practice.
interview data with citizen groups on risk communication needs.	Researchers.	Need for an understanding of citizen needs in communication practices.	Conference papers, blogs, conference panels, academic articles, future research.	Inform current research on risk communication and disaster management.

TABLE 20: TRI INDIVIDUAL EXPLOITATION PLAN

5.3 KEMEA

RESULTS	TARGET GROUPS		EXPLOITATION	
	GROUPS	ADDRESSED NEEDS	MEANS	INTENDED PURPOSE
Training material on the framework and repository of good practices.	1.Citizens/tourists, 2.CPAs, 3. Organized volunteers, 4. Young children.	Creation of the framework and repository of good practices.	Training material, report.	Educate target groups to improve risk perception.
Case study knowledge exchange.	Citizens, CPA.	Analysis of existing solutions, including related challenges and opportunities.	Workshops, conferences, presentations of project and UC workshops results.	Exchange of knowledge and best practices.
Scientific support for the development and creation of applications and their training material.	1.Citizens/tourists, 2.CPAs, 3. Organized volunteers.	The lack of a common tool among CPAs (and volunteers) so as to communicate in real time and coordinate their actions.	MAPPING DAMAGE TOOL, ICCS tool, platform.	Improve communication in real time and coordination among CPAs and volunteers in all stages of an event.

Disaster resilience and risk perception approaches across different risk contexts.	1.Citizens/tourists, 2.CPAs, 3. Organized volunteers.	Desk-based research, surveys/ interviews, and dialogue meeting.	Report.	Knowledge gained to increase resilience and feed tasks within the project.
--	---	--	---------	--

TABLE 21: KEMEA INDIVIDUAL EXPLOITATION PLAN

5.4 EFUS

RESULTS	TARGET GROUPS		EXPLOITATION	
	GROUPS	ADDRESSED NEEDS	MEANS	INTENDED PURPOSE
Trainings.	Citizens, Local Policy makers, CPAs.	Lack of training, lack of awareness.	By recreating and adapting the training in their actual contexts.	Improve urban services, Improve communication and exchange between different stakeholders, Improve living environment.
New technology.	Citizens, Local Policy makers, CPAs.	Digitalization of services.	Deploy and make accessible the technological tool to the population.	Increase quality of life and improve urban and rural services, Faster the exchange of information and its accuracy.
Repository and recommendations.	Citizens, Local Policy makers, CPAs.	Have a reference in terms of crisis management ready for citizens, Local Policy Makers and CPAs.	By a large diffusion towards these target groups and make the aware of the existence of these materials.	Creation of a new directive or a regulation through an EU law and also international guidelines.
Skills and knowledges.	Citizens, Local Policy makers, CPAs.	Co-creation and need of exchanges between these different stakeholders.	Communication events, Publications in papers etc.	Creation of further research activities and publications containing new insightful results.

TABLE 22: EFUS INDIVIDUAL EXPLOITATION PLAN

5.5 CAFO

RESULTS	TARGET GROUPS		EXPLOITATION	
	GROUPS	ADDRESSED NEEDS	MEANS	INTENDED PURPOSE
Gaining new knowledge in threat perception from citizens to CPA - great experience from discussion. Testing new methods (Aeolian and PublicSonar) for solving emergencies-gaining incentives to	Citizens.	The need to closing the gap between CPA and citizens, Citizens should have self-educated themselves and self-prepared for any emergency.	Information and awareness campaign.	Narrow the gap between CPAs and citizens.
	Elderly.	Elders should inform themselves where they can seek help in case of need, where to call and how to behave. CPAs should have a general overview of where this vulnerable group is located and planned for them help as a priority.	Adapted and translated information and awareness campaign.	Increase the preparedness of vulnerable people.

improve procedures and communications.	Migrants.	Migrants should educate themselves about the aid system in the new country. The current migration wave of refugees from the war has taught the Czech security system to work with foreigners as well, and we are trying to provide information and translate educational materials into their language as well.	Adapted and translated information and awareness campaign.	Increase the preparedness of vulnerable people.
	CPA.	The RiskPACC project helped CPA to realize the need for cooperation with ordinary citizens, e.g. organize seminars on security issues and discuss their procedures - thereby achieving better preparedness of society for emergency situations. New procedures within the project in the form of innovative technologies need to be included in current emergency response systems, and the safety forces must also focus on communication via social networks.	Information and awareness campaign.	Narrow the gap between CPAs and citizens.

TABLE 23: CAFO INDIVIDUAL EXPLOITATION PLAN

5.6 USTUTT

RESULTS	TARGET GROUPS		EXPLOITATION	
	GROUPS	ADDRESSED NEEDS	MEANS	INTENDED PURPOSE
Co-creational, modular workshop methodology to be implemented in case studies and observer cities.	Practitioners in case studies, use cases, or observer cities, such as first responders, CPAs, CSOs, organized volunteers, or citizens.	Target groups want to establish a two-way communication in their area to close their respective RPAG.	Demonstrator (to be turned into training material or a whitepaper).	"Train the Trainer".
Training material on how to use the co-creational workshop methodology, its activities, the technological tools' training material, and the overall RiskPACC platform.	End-users of the RiskPACC platform and the Repository of good practices (digital), or the Risk Pack (tangible).	Target groups want to learn about the projects' methodology and technological and conceptual solutions.	Training material (digital and tangible).	"Train the Trainer".
Case study knowledge exchange.	Case Studies and Observer Cities which are part of the RiskPACC consortium and associated persons.	Peer-learning.	Events with presentations of project and case study workshops results.	Exchange of knowledge and best practices.
Scientific support for the development and creation of applications and their training material.	Technological partners who are part of the RiskPACC consortium.	End-user feedback in the form of a scientific evaluation.	Scientific evaluation of the implementation of technological tools in case studies.	Tailor technological solutions to the needs of end-users; help technological partners test their tools.
Scientific research on project-related topics.	Research associates, fellow researchers and practitioners etc.	Desk-based research, surveys/ interviews, and dialogue meeting.	Surveys and questionnaires; reports and scientific papers.	Knowledge gained to increase resilience and feed tasks within the project.

TABLE 24: USTUTT INDIVIDUAL EXPLOITATION PLAN

5.7 IBZ

RESULTS	TARGET GROUPS		EXPLOITATION	
	GROUPS	ADDRESSED NEEDS	MEANS	INTENDED PURPOSE
Co-creation methodology.	CPAs, cities and policy makers, citizens.	Target groups want to establish a two-way communication in their area to close their respective RPAG.	Training material, workshops and conferences.	Narrow the gap between CPAs and citizens.
Tools.	CPAs, cities and policy makers, citizens.	Target groups want to establish a two-way communication in their area to close their respective RPAG.	Training material, platform, workshops and conferences.	Narrow the gap between CPAs and citizens.
Overall project results (deliverables, acquired knowledge, insights... and Risk Pack toolbox).	Citizens, general public	Need to know what our organization (the NCCN) does, what projects it is involved in.	Social media: LinkedIn, Facebook, article on our website.	Show what we are up to as an organisation, what projects we work on and are involved in. Explain our mission and activities. To enhance our credibility and authority.
Overall project results (deliverables (knowledge, insights...) and Risk Pack toolbox).	Partners of our organization, the National Crisis Center, (CPAs in Belgium: national, regional and local authorities, police, emergency planning...)	Need for new methods on how to build trust, and relationships, collaborative initiatives with citizens and (reducing the proverbial distance with them) in order to make citizens more resilient and to make sure they have a more adequate, realistic risk perception and better understanding of risks.	Social media: LinkedIn, article on our website, publication on special (shielded) pages for our partners on website, organisation's newsletter.	Show to our partners what projects the NCCN is involved in, giving them insights in how to close the RPAG, inspiring partners to involve citizens more closely in their activities and to understand citizens' expectations and perceptions in order to tackle the gap and ensure more accurate understanding of risks and the advised (preparative) actions, thus increasing resilience.
Overall project results (deliverables (knowledge, insights...) and Risk Pack toolbox).	Workshop participants (teachers and CPAs).	Need to know what exactly they contributed to and what is done with their input in the context of the whole project. Need to know whether we actually do something with their input, remarks, etc.	Email.	Show that their contribution was highly valued and that we actually did something with their input.
Workshop results and most pertinent findings and conclusions.	Workshop participants.	Need to know that their participation was valuable and that they effectively contributed to the project solutions	Email.	Feedback loop to the participants to inform them on what we distilled from the workshops, what findings, insights and conclusions we will take with us to build on in our analysis and development of possible solutions.

Eventual adapted learning material BE-Ready (= subject of our case study) as a result of the workshop.	General public, partner organisation of the NCCN.	Need to be informed on our activities and the 'services' we provide as an organisation (e.g. providing information and tools to help citizens become more resilient)	Website of our organisation, social media...	Show what we are up to as an organisation, what projects we work on and are involved in. Explain our mission and activities. Show that we take our responsibility in providing these high-quality materials.
Eventual adapted learning material BE-Ready (= subject of our case study) as a result of the workshop.	Primary school teachers.	Need for adequate, high-quality teaching materials about risks/hazards tailored to their needs and the needs of (young) children	Social media, magazines for teachers, website of NCCN, Klascement (platform with teaching materials), small campaign to disseminate the 'adjusted' material to schools/teachers	Fulfilling our mission of informing and preparing the entire Belgian population about risks and making them more resilient (by providing adequate, high-quality teaching materials tailored to their needs and the needs of primary school children), Motivating teachers/schools to use the materials, thus increasing the resilience of children.
Update on workshop results.	RiskPACC project partners.	Need to have an overview of what is done in the other case studies and learn from others	Meetings, and knowledge sharing workshop.	Explain our contribution to the RiskPACC project, inspiring other project partners for future activities.

TABLE 25: IBZ INDIVIDUAL EXPLOITATION PLAN

5.8 MRP

RESULTS	TARGET GROUPS		EXPLOITATION	
	GROUPS	ADDRESSED NEEDS	MEANS	INTENDED PURPOSE
Training material on the prevention and management of risks, especially fire and flooding.	Citizens.	The existing gaps in the perception and the knowledge of citizens regarding the risks in our area.	Social Media Channels, Project Website, MRP website, newsletters, tools, platform.	Improve the perception and the knowledge of citizens regarding the risks in our area, Strengthening citizens' preparedness and response in case of risk.
Training material on improving evacuation planning and communication of the respective routes, explored through the use of Voluntary Geographic Information (VGI).	Citizens.	Improving evacuation planning and communication of the respective routes, training on evacuation routes.	Training material, ICCS tool.	Educate citizens on evacuation routes to increase the resilience of the local community.
The tools and the platform.	CPAs – Volunteers	The lack of a common tool among CPAs (and volunteers,) so as to communicate in real time and coordinate their actions.	MAPPING DAMAGE TOOL, ICCS tool, platform.	Improve communication in real time and coordination among CPAs and volunteers in all stages of an event.
The tools and the platform.	CPAs.	The need to exploit the dynamics of volunteer groups after an event, so as to have quick results in order to act asap	training material, platform, workshops and conferences.	Better coordination and reaction after the event.

Training material regarding the use of the platform.	CPAs.	The lack of training of CPAs (and volunteers) so as to communicate in real time and coordinate their actions.	Training material, platform.	To train the caps in order to use the tools and platform.
Aeolian and Mapping damages.	Citizens-CPAs-Volunteers	The need to better communicate the risks and be prepared in case of destructions	Social Media Channels, Project Website, MRP website, newsletters, tools, platform.	Increasing citizen participation, improving communication.
The knowledge gained from the interviews.	Citizens-CPAs-Volunteers	The existing RPAG regarding the risks in our area.	the knowledge from the interviews (report)	Understanding and reducing RPAG in the area of Rafina.
The information to be obtained from the applications.	Citizens-CPAs-Volunteers	Insufficient information for citizens and volunteers, different perceptions of risks.	Social Media Channels, Project Website, MRP website, newsletters, tools, platform.	Dissemination of information and media related to natural and man-made hazards.
The knowledge from the interviews and the workshops (report).	Citizens-CPAs-Volunteers	The existing RPAG gaps in the Rafina area.	Project Website, MRP website, newsletters, tools, platform.	Defining the existing situation and good practices.
Strengthening of the voluntary institutions.	Volunteers - CPAs.	Bilateral communication in real time.	MAPPING DAMAGE TOOL, ICCS tool, platform.	To enhance the existing volunteer institutions.
The knowledge from the interviews and the workshops (report).	Citizens-CPAs-volunteers	Investigating the relationship between the effects of forest fires and flood risk.	Conferences, workshops and presentations of project results.	Improved management of emergencies at all stages.

TABLE 26: MRP INDIVIDUAL EXPLOITATION PLAN

5.9 CDP

RESULTS	TARGET GROUPS		EXPLOITATION	
	GROUPS	ADDRESSED NEEDS	MEANS	INTENDED PURPOSE
Guidelines/ training materials.	Citizens.	Training on correct behaviors in case of emergency due to a climatic risk and to prevent emergency risks.	Communication campaign.	Increase civil society preparedness to disasters.

Social network analysis.	Emergency operators and citizens.	Better cooperation among emergency operators in order to act faster and with more efficiency in case of emergency and even in the preventive phase.	Annex of the civil protection plan.	Increase situational awareness using available information provided by citizens.
Guidelines on how to effectively reach citizens.	CPAs.	Better understanding the tools/instruments/methodologies/best practices to communicate with the citizens.	Communication & engagement strategy.	Narrow the gap between CPAs and citizens.
Guidelines on how to perform evacuation tests at neighborhood level.	CPAs.	Prepare citizenship to face risks and emergencies events.	Trials.	Increase preparedness of both CPAs and citizens to disasters.

TABLE 27: CDP INDIVIDUAL EXPLOITATION PLAN

6 RISKPACC JOINT AND PRELIMINARY EXPLOITATION PLAN

A joint exploitation plan is a strategy that outlines how the project partners intend to collectively exploit the results or outcomes of the project. The joint exploitation plan is typically developed during the project planning phase.

A joint exploitation plan is crucial in order to ensure that all partners are aligned in their objectives for exploiting the project results and that the outcomes are effectively translated into practical applications. It also helps, in case of RiskPACC, to ensure that the project results have the greatest possible impact on society.

In RiskPACC, the joint preliminary exploitation plan includes: i) Identification of the project results, presented in section 2; ii) Assessment of exploitation potential included in section 2; iii) Market analysis, in section 4; iv) Dissemination and Exploitation Activities, in section 4 v) Individual exploitation plans, as described in section 5.

As mentioned in section 3, the different maturity levels of the technological solutions developed under the action and the scientific knowledge produced, make the common exploitation plan difficult to establish considering the tests are still on-going. Indeed, the Tools, the RiskPACC Platform, the Co-Creation Methodology and the RiskPACC Framework are a set of technologies, methodologies and procedures produced by the Partners who owned their results. These outputs can be used together, such as in the RiskPACC Platform and the RiskPACC Framework, or separately with further development for other applications.

Considering the different nature of the KER produces (i.e. platform, tools and framework), the exploitable outputs may be divided into two categories: the scientific knowledge and the technological solutions. Firstly, the scientific knowledge is crucial for foster research on risk awareness and prevention, situational awareness and to help policy and decision makers (i.e. CPAs, municipalities) to mitigate the impact of the disasters. Such results could benefit both the research community and practitioners. Moreover, the scientific knowledge produced will directly feed into the technological solutions providers, by increasing their understanding of disaster management and end-users processes. Moreover, the use of technological solutions is of particular importance to ensure to dissemination and correct use of the knowledge produced, as well as to foster and ease communication between citizens and practitioners by providing user-friendly interfaces.

The RiskPACC Joint Exploitation Plan is also based on the Project Grant Agreement. In the latter, the Project Partners committed to explore the feasibility of setting up a Spin-Off company on a voluntary basis. In this context, a Spin-Off company would give the opportunity

to the Partners to both exploit the outputs together and protect their Intellectual Property Rights for further usage.

However, the challenge of developing a comprehensive, user friendly and safe solution is challenging. Barriers need to be addressed before its operational capabilities are reached. Indeed, the different maturity levels should be narrowed. As the project outputs, such as the RiskPACC Platform or the RiskPACC Framework are for instance under evaluation through pilots and workshops, the Joint Exploitation Plan will be further detailed in the Final Exploitation Plan.

7 CONCLUSION

For the RiskPACC Preliminary Exploitation Plan, Project Partners were asked to identify the Key Exploitable Results they produce or those produced by other Partners they consider relevant for their respective field or further usage.

The Exploitation Plan was divided into two categories: firstly, the exploitation of developed technologies and produced knowledge and, secondly, the exploitation route per partners. Indeed, this distinction between Partners is necessary as regards to the Intellectual Property Rights section of the Consortium Agreement which specified that all Partners own the results they produced.

After having identified the Key Exploitable Results, the Partners were asked to define their potential usage, either in the context of RiskPACC or for any other mean or application. To that end, the Consortium produced a Market Analysis, where the Target Audiences needs were further developed to enable the identification of gaps and competitors.

The Preliminary Exploitation Plan identified the commonalities among partners and the exploitation routes for the main project outputs: the Tools, the RiskPACC Platform, the RiskPACC Framework, the Co-Creation Methodology and the RiskPACK.

As the RiskPACC outputs are for instance tested under pilots and workshops, the inputs presented in this document should be considered as continuously evolving and the Final Exploitation Plan may differ in many ways and more specifically as regards to, for example, the Joint Exploitation Plan, the Exploitation Routes or the potential further applications of the project outputs.

8 REFERENCES

RiskPACC Grant Agreement

RiskPACC Consortium (2022), *System requirements and functional specifications – initial version*”, Deliverable D3.2

European Commission (2020) Horizon Results Platform,
<https://ec.europa.eu/newsroom/informatics/items/689551/en>

European Commission, https://intellectual-property-helpdesk.ec.europa.eu/news-events/news/exploiting-horizon-results-what-are-rules-transfers-and-licences-2022-01-28_en

https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/intellectual-property_en.htm

RiskPACC Consortium (2023), *Communication and Dissemination Strategy*, Deliverable D8.1

<https://www.horizonresultsbooster.eu/>

https://cordis.europa.eu/programme/id/H2020_SU-DRS01-2018-2019-2020

9 ANNEXES

9.1 Annex I – Horizon Results Booster Deliverable D1.1

Portfolio of Research and Innovation Results
Project Group:

Prepared Cluster –

Enhancing European disaster resilience

[LINKS]

SERVICE 1 “Portfolio Dissemination and Exploitation Strategy (PDES)”
MODULE A: Identification and creation of the portfolio of R&I project results

Lead Author (Org)	Sofia Finzi
Contributing Author(s) (Org)	
Date	12.09.2022
Version	0.2

Dissemination Level

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> | PU: Public |
| <input type="checkbox"/> | PP: Restricted to other participants of the HRB Project Group (including the Commission) |
| <input type="checkbox"/> | RE: Restricted to a group specified by the HRB Project Group (including the Commission) |
| <input checked="" type="checkbox"/> | CO: Confidential, only for members of the HRB Project Group (including the Commission) |

Document Information

Service Title	Horizon Results Booster
Service Acronym	HRB
Beneficiary Project	LINKS
Service No.	1 – PDES A
Start Date of HRB Service	02.05.2022
End Date of HRB Service	12.09.2022
HRB Website	https://workspace.horizonresultsbooster.eu/groups/links-883490

Versioning and contribution history

Version	Date	Author	Notes
0.1	18.07.2022	Sofia Finzi	
0.2	12.09.2022	Sofia Finzi	

Disclaimer

This document contains information which is proprietary to the HRB Project Group. Neither this document nor the information contained herein shall be used, duplicated or communicated by any means to a third party, in whole or parts, except with the prior consent of the HRB Project Group.

The information, views and tips set out in this publication are those of the HRB and the Project Group and cannot be considered to reflect the views of the European Commission.

Contents

1. Executive Summary	5
2. Methodology	7
3. Results and Positioning.....	9
3.1. Proposed Project Group	9
3.2. Clustering features	9
3.3. Project Group Overview	10
3.4. Project Group members	14
3.5. Collective challenges	15
3.6. State-of-the-art Analysis.....	17
3.6.1. Field overview.....	17
3.6.2. Differentiators in the field	18
3.7. Project Group Results.....	19
3.8. Main actors in the field.....	21
3.9. SWOT Analysis	23
Positioning Insights.....	24
4. Stakeholder Analysis.....	25
4.1. Target stakeholders	25
4.1.1. Stakeholder 1.....	25
4.1.2. Stakeholder 2.....	26
4.1.3. Stakeholder 3.....	28
4.1.4. Stakeholder 4.....	30
4.1.5. Stakeholder 5.....	30
4.1.6. Stakeholder 6.....	32
4.1.7. Stakeholder 7.....	32
4.1.8. Stakeholder 8.....	33
4.2. Barriers to dissemination	35
4.3. Stakeholder Relevance Analysis	39
4.4. Geographical dimension and level of engagement.....	41
5. Stakeholder & Dissemination Networks Mapping	43
5.1. Dissemination channels.....	43
5.2. Dissemination network.....	44
Insights – Channels to approach your audience.....	45

6. Conclusions and Recommendations.....	47
Annex 1 Dissemination networks.....	49
Annex 2 Project questionnaire responses.....	56

Table of Tables

Table 1 - Key results for dissemination	5
Table 2 - Proposed Project Group	9
Table 3 - The Project Group.....	10
Table 4 - Project Group members	14
Table 5 - Collective challenges.....	15
Table 6 - Most relevant differentiators	18
Table 7 - Dissemination portfolio results grid	19
Table 8 - Differentiation with key actors in the field.....	21
Table 9 - Barriers to dissemination.....	35
Table 10 - Dissemination channels.....	43

Table of Figures

Figure 1 - PDES 1A Identification and creation of the portfolio of R&I Results	7
Figure 2 - SWOT analysis for the Project Group.....	23
Figure 3 - Influence vs interest grid.....	39
Figure 4 - Geographical dimension vs. level of engagement grid	41

List of Acronyms & Abbreviations

Item	Description
HRB	Horizon Results Booster
PG	Project Group
PDES A	Portfolio Dissemination & Exploitation Strategy - Module A
PDES B	Portfolio Dissemination & Exploitation Strategy - Module B
SWOT	Strengths Weaknesses Opportunities Threat
TRL	Technology Readiness Level
Univ.	University

1. Executive Summary

Supported by the European Commission's Horizon Results Booster programme (HRB), LINKS, RESILOEC, RISKpacc, CORE, BuildERS and ENGAGE have taken the first step towards forming a Project Group (PG) based on commonalities between their work in this research field.

HRB supports effective transfer of research and innovation project results to policy makers, industry and society by offering various services as dissemination, exploitation strategy and business plan development to projects supported under the 7th Framework Programme (FP7), Horizon 2020 or HE funding schemes.

This document, the D1.1 Portfolio of Research and Innovation Project Results of the Prepared Cluster identifies the collective results of the Project Group to be disseminated, their characteristics and the target stakeholders that can benefit from these results and are ultimately the target audience for the Project Group dissemination activities.

The main objectives of the various projects that will serve in the Project Group dissemination effort are:

- Improving European disaster resilience in societies, starting from the most vulnerable groups
- Strengthen links between technologies and society by producing sustainable advanced learning on the use of social media and crowdsourcing (SMCS) in disasters.
- Leading the way for larger scale exercises involving citizens for a better interaction between formal actors and populations, and fostering the continuous improvement of society resilience
- Developing strategies, tools and innovations that help towards the increase of social resilience and disaster-responsiveness
- Reduce vulnerability, in light of the social diversity of European societies, in order to find out more about the shortcomings of different European crisis management systems.

The analysis has identified, in a snapshot, the following most relevant results as part of the Project Group's portfolio of research and innovation results.

Table 1 - Key results for dissemination

Id	Result	Result type	Project(s)	TRL	Delivery date
R3	Social Media and Crowdsourcing Technology Library	Technology library	LINKS	4-Small scale ("ugly") prototype. Built in a lab environment	05/31/2023
R4	Guidelines about the usage of SMCS technologies	Guidelines	LINKS	4-Small scale ("ugly") prototype. Built in a lab environment	05/31/2023
R6	CORE APP	App	CORE	7-Demo system. Operating in operational environment at pre-commercial scale	08/31/2024
R8	CORE policy recommendations	Recommendations	CORE	4-Small scale ("ugly") prototype. Built in a lab environment	08/31/2024
R10	ENGAGE Knowledge Platform	Platform	ENGAGE	7-Demo system. Operating in operational environment at pre-commercial scale	12/12/2023

R11	Chatbot Blueprint and Prototype	Blueprint & Prototype	ENGAGE	5-Large scale prototype. Tested in intended environment	12/31/2023
R13	RESILOC Platform	Platform	RESILOC	7-Demo system. Operating in operational environment at pre-commercial scale	11/30/2022
R20	Guidelines for Ethical considerations in research of vulnerability in disaster resilience	Guidelines	BuildERS	5-Large scale prototype. Tested in intended environment.	03/08/2022
R22	Technology prospects to improve resilience	Insights and recommendations	BuildERS	4-Small scale ("ugly") prototype. Built in a lab environment	04/30/2022

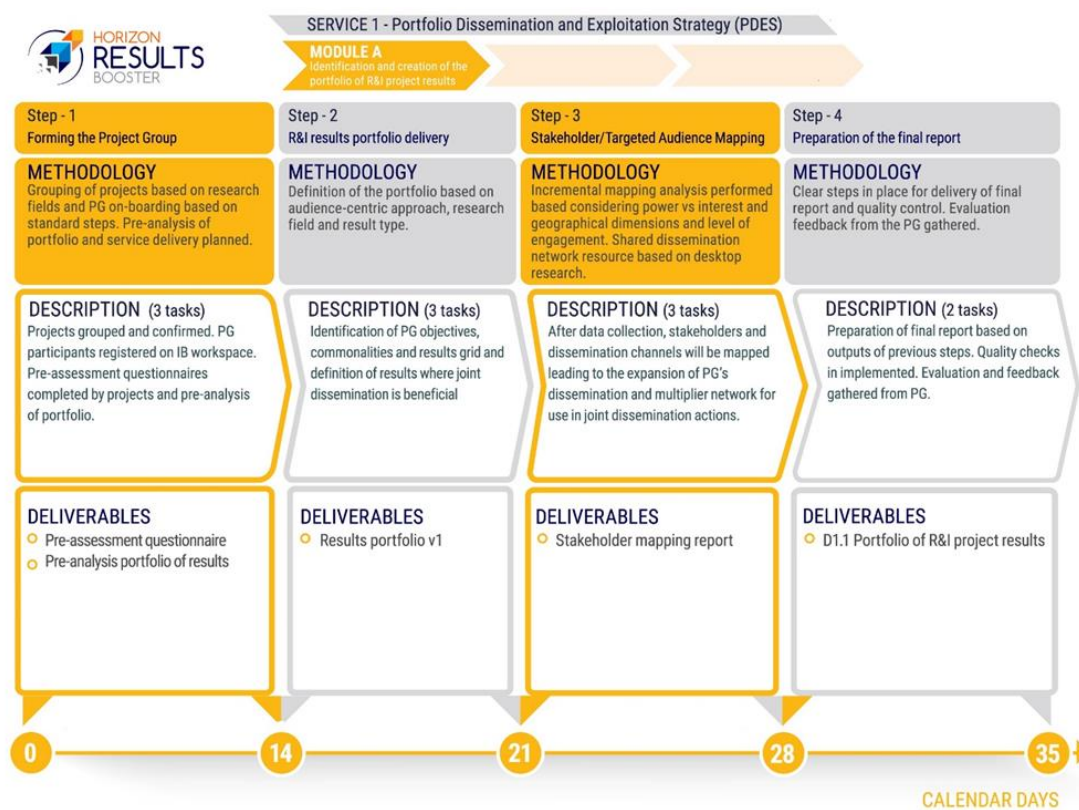
The document is organised as follows:

- Project Group overview
- State of the art analysis
- Field overview and differentiators
- Project Group results
- Positioning in the field
- Multi-dimensional positioning diagram and SWOT analysis
- Stakeholder analysis
- Dissemination channels
- Conclusions and recommendation

2. Methodology

Portfolio Dissemination & Exploitation Strategy - Module A (PDES A) identifies and forms groups of projects, or Project Groups (PG), in order to create a Portfolio of Research & Innovation Results (D1.1) that can benefit from joint dissemination from the participating projects. A key element of this process is the identification of commonalities between projects in terms of results, areas of research and target stakeholders. This is the foundation for the establishment of cohesive Project Groups. The module also includes a mapping of stakeholders/target audiences for joint dissemination actions and an identification of the best dissemination channels.

Figure 1 - PDES 1A Identification and creation of the portfolio of R&I Results



Step 1 Forming the Project Group

The service team identifies projects that could join the Project Group and sends the pre-analysis portfolio of projects and results to the main beneficiary. Following convergence with the main beneficiary the group is confirmed. Projects are then contacted and invited to join the HRB platform. Each project completes the pre-assessment questionnaire the responses to which can be found in Annex B. A first introductory call may take place.

Step 2 – R&I results portfolio delivery

Using the data collected in the pre-assessment questionnaires and the first versions of the portfolio presented at a conference call, the Service Team elaborates the information to prepare the final Portfolio of R&I results.

Step 3 – Stakeholder / target audience mapping

Step 3 provides the Project Group with a full mapping of stakeholders/target audience referred to the identified Portfolio of R&I results, including specifications on how they should address them through the most effective dissemination channels and dissemination networks to leverage on.

Step 4 – Preparation of the final report

The Lead Expert will resume all results and outcomes in the final report which will include:

1. **Portfolio of R&I results**
2. **Stakeholder mapping report.**

3. Results and Positioning

3.1. Proposed Project Group

The first step of HRB Module A is to identify a number of projects that are pertinent to or have similarities with the main beneficiary project in terms of focus, research field and target stakeholder. For practical reasons, in terms of managing the Project Group and delivery of PDESA and PDESB, a limited number of projects (maximum 10) are proposed.

The proposed Project Group is shared with the beneficiary during step 1, who has the opportunity to accept or refuse the projects into the Project Group. The beneficiary can also propose other projects that they may wish to involve. This can be done both at the application stage or during step 1.

The table below provides an overview of the projects that have been contacted by the applicant. In this case, a desk research was not carried out by the service team, as the applicant already suggested projects to be invited to join the Project Group. Therefore, it was agreed with the applicant that no additional research was needed.

Table 2 - Proposed Project Group

Project	GA No.	Invited to join group	Status	Comment
RESILOC	833671	Yes	Joined group	The project has been identified and contacted by the applicant
RISKPacc	101019707	Yes	Joined group	The project has been identified and contacted by the applicant
CORE	101021746	Yes	Joined group	The project has been identified and contacted by the applicant
BuildERS	833496	Yes	Joined group	The project has been identified and contacted by the applicant
ENGAGE	882850	Yes	Joined group	The project has been identified and contacted by the applicant

3.2. Clustering features

In identifying the cluster of projects commonalities results, areas of research and target stakeholders are taken into consideration. The following summary provides the main features of the cluster proposed by the HRB experts.

At the launch of the service, the main beneficiary (LINKS project) expressed the interest in forming a Project Group with related projects with whom they were already in contact (RESILOC, RISKPacc, CORE, BuildERS, ENGAGE). Only four out of the six projects have initially completed the pre-assessment questionnaire for individual projects. After the convergence call, the Project Group requested some time (until the end of August) to integrate the D1.1 and also to allow the missing projects to complete their individual project survey.

3.3. Project Group Overview

The table below provides an overview of the projects included in the Project Group and the challenges each project is addressing.

Table 3 - The Project Group

Project Snapshot	Description	Challenges Addressed
<p>Project name: LINKS Start date: 06/01/2020 End date: 11/30/2023 Website: https://links-project.eu/ No. of Partners: 15 Funding Programme: Horizon 2020 Funding Amount: €1.162.873,75 Project Type: European Geographical Coverage: European</p>	<p>Strengthening links between technologies and society for European disaster resilience</p> <p>LINKS is a comprehensive study on disaster governance in Europe. The overall aim 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. 4 objectives:</p> <ul style="list-style-type: none"> - OBJECTIVE 1: Produce sustainable advanced learning on SMCS in disasters - OBJECTIVE 2: Achieve a consolidated understanding of SMCS in disasters - OBJECTIVE 3: Govern the diversity of SMCS in disasters - OBJECTIVE 4: Bring multidisciplinary SMCS stakeholders together 	<p>Societal Challenges Secure societies - protecting freedom and security of Europe and its citizens</p> <p>Scientific and Technological Challenges</p> <ul style="list-style-type: none"> - Absence of scientific and practical knowledge on effective uses of social media and crowdsourcing in disasters technologies in all the phases of disaster management. - Absence of a multidisciplinary approach in studying disaster risk governance (no interplay between social, technical and institutional dimensions at the local level). - Absence of a multidisciplinary approach for increasing disaster resilience at the local level through the use of social media and crowdsourcing. - Absence of formal procedures of applying social media and crowdsourcing in disasters. - Absence of best practices and peer exchange among DMOs. - Absence in consolidating knowledge on which technology to use (e.g. costs, trust). <p>Industrial Challenges Make stronger the relations between solutions providers and DMOs. Solutions providers need to understand the needs of DMOs, DMOs need to understand the landscape of solution providers (costs, trust).</p>
<p>Project name: RESILOC Start date: 06/01/2019 End date: 11/30/2022 Website: https://www.resilocproject.eu/ No. of Partners: 17 Funding Programme: Horizon 2020 Funding Amount:</p>	<p>Resilient Europe and Societies by Innovating Local Communities</p> <ul style="list-style-type: none"> • Increase the understanding of resilience in societies and local communities. • Innovate on the strategies for improving resilience. 	<p>Societal Challenges Secure societies - protecting freedom and security of Europe and its citizens.</p> <p>Scientific and Technological Challenges RESEARCH: Increase the understanding of resilience as applied to communities INNOVATION: Empower all actors to identify and assess the validity of actions to increase resilience in their communities</p>

<p>€5.281.562,50</p> <p>Project Type: European</p> <p>Geographical Coverage: European</p>	<ul style="list-style-type: none"> • Innovate on tools and solutions for improving on resilience in communities. • Communicate, demonstrate, and assess the validity of approaches, solutions, and tools in field trials. • Have an impact and define concrete steps towards a more resilient society. 	<p>SOCIETAL: Bring resilience at the forefront of the political agenda, by demonstrating the validity and the potential of the approach</p> <p>POLITICAL: RESILOEC legacy for further activities.</p> <p>Industrial Challenges</p> <p>Develop and successfully position a user-friendly IT platform that can be used by community decision-makers to assess resilience and develop strategies to increase it.</p>
<p>Project name: CORE</p> <p>Start date: 09/01/2021</p> <p>End date: 08/31/2024</p> <p>Website: https://www.euproject-core.eu</p> <p>No. of Partners: 19</p> <p>Funding Programme: Horizon 2020</p> <p>Funding Amount: €4.971.091,25</p> <p>Project Type: European</p> <p>Geographical Coverage: European</p>	<p>sScience and human factOr for Resilient sociEty</p> <p>CORE will develop a harmonized vision of crisis management awareness and capability through a transdisciplinary collaboration between environmental and social science communities. CORE consortium was established to define common metrics with respect to the different natural and man-made disaster scenarios, and how to measure, control and mitigate the impact on the populations. Particular attention and focus will be given to vulnerable groups. CORE will identify and use best practice and knowledge from certain countries, i.e., Japan which experienced high levels of seismic, volcanic and tsunami risks but with high-risk awareness. CORE will also devote great attention to education in schools.</p>	<p>Societal Challenges</p> <p>Europe in a changing world - inclusive, innovative, and reflective societies.</p> <p>Scientific and Technological Challenges</p> <p>CORE has the goal to lead the way for larger scale exercises involving citizens and to foster the continuous improvement of society resilience monitoring the effectiveness of many initiatives based on CORE legacy.</p> <p>Industrial Challenges</p> <p>The challenge will be to engage industry community and will be aware of the project possible benefits also for this sector. Indeed, CORE solutions could diminish the possibility of disruption in case of disastrous events.</p>
<p>Project name: ENGAGE</p> <p>Start date: 06/01/2020</p> <p>End date: 12/31/2023</p> <p>Website: https://www.project-engage.eu/</p> <p>No. of Partners: 15</p> <p>Funding Programme: Horizon 2020</p>	<p>Engage Society for Risk Awareness and Resilience</p> <p>Societal resilience is necessary to enhance successful responses to unexpected emergencies, but there is a gap between the formal effort of public authorities and the voluntary support provided by</p>	<p>Societal Challenges</p> <p>Secure societies - protecting freedom and security of Europe and its citizens</p> <p>Scientific and Technological Challenges</p> <ul style="list-style-type: none"> • Investigating societal resilience in situations and identifying key contextual elements; generalising into a model of societal resilience.

<p>Funding Amount: €5.000.000</p> <p>Project Type: European</p> <p>Geographical Coverage: European</p>	<p>citizens during emergencies. ENGAGE aims to improve societal resilience through better interaction between formal actors and populations.</p> <p>The project investigates how citizens are involved during emergencies as well as tools and strategies to bring the population closer to rescuers and authorities. We validate our solutions with real users ensuring that they can be transferable to different contexts and can produce actionable knowledge and validated risk management guidelines.</p>	<ul style="list-style-type: none"> • Describing existing solutions to better involve the public in a content-rich and easy to navigate catalogue. This effort includes especially capturing contextual elements of locations in which solutions were successfully applied, in order to support their identification and implementation in other contexts. • Defining a process to validate the project’s proposed approach and the usefulness of the catalogue of solutions. • Investigating opportunities and challenges of AI-based communication technology to offload emergency centres while maintaining public trust and developing a blueprint for such capabilities. <p>Industrial Challenges</p> <ul style="list-style-type: none"> • Clarifying the value-added and ensuring the usefulness of a new content repository, the ENGAGE Knowledge Platform, for actors of disaster management. • Accounting for a large variety of needs and use contexts for the project’s results. • Ensuring the sustainability of the Knowledge Platform after the project period, i.e. the continued access to and updating of its content.
<p>Project name: BuildERS</p> <p>Start date: 05/01/2019</p> <p>End date: 04/30/2022</p> <p>Website: https://buildersproject.eu/</p> <p>No. of Partners: 17</p> <p>Funding Programme: Horizon 2020</p> <p>Funding Amount: € 5.076.900,00</p> <p>Project Type: European</p> <p>Geographical Coverage: European</p>	<p>Building European Communities' Resilience and Social Capital</p> <p>Together with first-aid responders, citizens, and other key actors, we developed tools and innovations that help towards the increase of social resilience and disaster-responsiveness.</p> <p>Objective 1 Providing an understanding of and how the most vulnerable people exposed to risks and threats understand risks, prepare for and behave individually and collectively in crisis.</p> <p>Objective 2</p>	<p>Societal Challenges Secure societies - protecting freedom and security of Europe and its citizens,</p> <p>Scientific and Technological Challenges BuildERS aims to find out more about who are the most vulnerable in European societies and for which reasons. This is done based on the assumption that a) risk awareness, b) social capital and c) preparedness are core aspects influencing to vulnerability.</p> <p>Acknowledging the diversity of sources of vulnerability and powerlessness, BuildERS scrutinizes existing approaches, strategies, technologies and tools to measure and reduce vulnerability, in light of the social diversity of European societies and in order to find out more about the shortcomings of different European crisis management systems. In doing so, BuildERS does not eliminate vulnerability as such – this is neither possible nor feasible, given the opportunity costs linked to building</p>

	<p>Creating knowledge to empower and activate first-responders, policy makers, administrators, public and private service providers and citizens.</p> <p>Objective 3 Analysing and providing insights on how new technologies and media could improve disaster resilience of societies.</p> <p>Objective 4 Providing policy recommendations to the relevant stakeholders to maximize the usability and reliability of social media in disasters and recovery processes.</p>	<p>resilience and vulnerability rooted in life itself. However, BuildERS does seek to mitigate vulnerability caused by discrimination and neglect of essential needs, intrinsic potential and special life contexts.</p> <p>BuildERS offer alternative approaches, strategies, and new technologies to measure and reduce vulnerability and give recommendations on how to achieve them. These engage different actors from all levels of European disaster management (EU/national/local), with a focus on policymaking officials, first responders, and civil society groups involved in crisis management activities. Furthermore, these recommendations unfold an innovative potential for all phases of the crisis management cycle.</p> <p>Industrial Challenges</p> <p>BuildERS has evaluated emerging technological opportunities for improving risk awareness and resilience of vulnerable people in disasters, aiming to estimate the innovation potential, utility, importance, applicability, risks for vulnerable people, and ethical acceptability of novel technologies. The evaluation was based on a survey, end-user evaluation, and co-creative workshops on technologies.</p>
<p>Project name: RiskPACC Start date: 09/01/2021 End date: 08/31/2024 Website: https://www.riskpacc.eu/ No. of Partners: 20 Funding Programme: Horizon 2020 Funding Amount: € 5.460.791,25 Project Type: European Geographical Coverage: European</p>	<p>Integrating Risk Perception and Action to enhance Civil protection-Citizen interaction</p> <p>Building disaster resilience helps ensure that countries and their citizens are better prepared to deal with and recover from disasters such as earthquakes, wildfires, or flood events. The EU-funded RiskPACC project aims to increase disaster resilience in society by understanding and closing the risk perception action gap (RPAG) using a co-creation approach to risk communication. In doing so, the project will facilitate greater interaction between citizens and civil protection agencies to collaboratively identify their needs and develop potential procedural and technical</p>	<p>Societal Challenges</p> <p>Secure societies - protecting freedom and security of Europe and its citizens.</p> <p>Climate action, environment, resource efficiency and raw materials.</p> <p>Europe in a changing world - inclusive, innovative, and reflective societies.</p> <p>Scientific and Technological Challenges</p> <p>Publications in the past highlighted that increasing the communication between civil protection agencies and citizens, especially in post-disaster periods, is a key to increase risk perception. In particular, studies emphasized that many of the classical one-way communications of civil protection agencies is not sufficient to increase risk perception and a more regular two-communication and genuine involvement of citizens is required. Technology is one way to facilitate such two-way communications and while civil protection</p>

	<p>solutions to build enhanced disaster resilience. The work of the project will not only lead to a framework and methodology to understand and close the RPAG, but also to the design and prototype of novel digital and community-centred solutions.</p>	<p>agencies did typically test one or a few of such communication technologies, these are largely unknown to citizens. They thus have very limited impact, as RiskPACC found.</p> <p>Industrial Challenges</p> <p>The main challenge that civil protection agencies are facing across Europe currently is the Risk Perception Action Gap that is at the core of the RiskPACC project. While civil protection agencies do have a certain understanding of the risks concerning the region or nation, they are responsible for, they do not always act accordingly and, much more severely, they do struggle to communicate the risks in a way that the target audience, citizens, have a similar perception. Finally, citizens do not act according to their own risk perception. All these gaps are targeted specifically by RiskPACC as a project.</p>
--	--	--

3.4. Project Group members

The following individuals have participated in PDES1A. This includes the following types of activities:

- registering on the HRB platform
- participation on conference calls
- completion of pre-analysis questionnaire.

Table 4 - Project Group members

Project	Name	Organisation	email
LINKS	Antonio Opromolla Nathan Clark Filippo Giacinti	Link Campus University Vrije Universiteit Amsterdam European Organisation for Security	<i>a.opromolla@unilink.it</i> <i>n.e.clark@vu.nl</i> <i>f.giacinti@eos-eu.com</i>
RESILOC	Karsten Uhing Uberto Delprato	Fraunhofer Institute IES Solutions	<i>karsten.uhing@iml.fraunhofer.de</i> <i>u.delprato@iessolutions.eu</i>
RISKpacc	Giacomo Bianchi Sascha Dueerkop	European Organisation for Security Fraunhofer Institute	<i>giacomo.bianchi@eos-eu.com</i> <i>sascha.dueerkop@int.fraunhofer.de</i>
CORE	Raffaella Russo Paolo Capuano	Università di Salerno Università di Salerno	<i>rarusso@unisa.it</i> <i>pcapuano@unisa.it</i>
BuildERS	Anna-Mari Heikkilä	VTT Technical Research Centre of Finland	<i>Builders.coordinator@vtt.fi</i>
ENGAGE	Matthieu Branlat	SINTEF	<i>Matthieu.Branlat@sintef.no</i>

The following conference calls were carried out with the group

- Introductory call: 11 April 2022
- Convergence call: 25 July 2022

3.5. Collective challenges

The main challenges tackled by the Project Group are summarised in the following table.

Table 5 - Collective challenges

Type of Challenge	Complementary Challenge and Description
Societal	Secure societies - protecting freedom and security of Europe and its citizens (LINKS, RESILOC, ENGAGE, BuildERS, RiskPACC).
	Europe in a changing world - inclusive, innovative and reflective societies (CORE, RiskPACC).
	Climate action, environment, resource efficiency and raw materials (RiskPACC)
Scientific and Technological	<p>LINKS</p> <ul style="list-style-type: none"> • Absence of scientific and practical knowledge on effective uses of social media and crowdsourcing in disasters technologies in all the phases of disaster management. • Absence of a multidisciplinary approach in studying disaster risk governance (no interplay between social, technical and institutional dimensions at the local level). • Absence of a multidisciplinary approach for increasing disaster resilience at the local level through the use of social media and crowdsourcing. • Absence of formal procedures of applying social media and crowdsourcing in disasters. • Absence of best practices and peer exchange among DMOs. • Absence in consolidating knowledge on which technology to use (e.g., costs, trust).
	<p>RESILOC</p> <ul style="list-style-type: none"> • RESEARCH: Increase the understanding of resilience as applied to communities. • INNOVATION: Empower all actors to identify and assess the validity of actions to increase resilience in their communities. • SOCIETAL: Bring resilience at the forefront of the political agenda, by demonstrating the validity and the potential of the approach. • POLITICAL: RESILOC legacy for further activities.
	<p>CORE</p> <p>CORE has the goal to lead the way for larger scale exercises involving citizens and to foster the continuous improvement of society resilience monitoring the effectiveness of many initiatives based on CORE legacy.</p>
	<p>ENGAGE</p> <ul style="list-style-type: none"> • Investigating societal resilience in situations and identifying key contextual elements; generalising into a model of societal resilience. • Describing existing solutions to better involve the public in a content-rich and easy to navigate catalogue. This effort includes especially capturing contextual elements of locations in which

	<p>solutions were successfully applied, in order to support their identification and implementation in other contexts.</p> <ul style="list-style-type: none"> Defining a process to validate the project’s proposed approach and the usefulness of the catalogue of solutions. Investigating opportunities and challenges of AI-based communication technology to offload emergency centres while maintaining public trust and developing a blueprint for such capabilities
	<p>BuildERS</p> <p>BuildERS aims to find out more about who are the most vulnerable in European societies and for which reasons. This is done based on the assumption that a) risk awareness, b) social capital and c) preparedness are core aspects influencing to vulnerability.</p> <p>Acknowledging the diversity of sources of vulnerability and powerlessness, BuildERS scrutinizes existing approaches, strategies, technologies and tools to measure and reduce vulnerability, in light of the social diversity of European societies and in order to find out more about the shortcomings of different European crisis management systems. In doing so, BuildERS does not eliminate vulnerability as such – this is neither possible nor feasible, given the opportunity costs linked to building resilience and vulnerability rooted in life itself. However, builders does seek to mitigate vulnerability caused by discrimination and neglect of essential needs, intrinsic potential and special life contexts.</p> <p>BuildERS offer alternative approaches, strategies and new technologies to measure and reduce vulnerability and give recommendations on how to achieve them. These engage different actors from all levels of European disaster management (EU/national/local), with a focus on policymaking officials, first responders, and civil society groups involved in crisis management activities. Furthermore, these recommendations unfold an innovative potential for all phases of the crisis management cycle.</p>
	<p>RiskPACC</p> <p>Publications in the past highlighted that increasing the communication between civil protection agencies and citizens, especially in post-disaster periods, is a key to increase risk perception. In particular, studies emphasized that many of the classical one-way communications of civil protection agencies is not sufficient to increase risk perception and a more regular two-communication and genuine involvement of citizens is required. Technology is one way to facilitate such two-way communications and while civil protection agencies did typically test one or a few of such communication technologies, these are largely unknown to citizens. They thus have very limited impact, as RiskPACC found.</p>
Industrial	<p>LINKS</p> <p>Make stronger the relations between solutions providers and DMOs. Solutions providers need to understand the needs of DMOs, DMOS need to understand the landscape of solution providers (costs, trust).</p>
	<p>RESILOC</p> <p>Develop and successfully position a user-friendly IT platform that can be used by community decision-makers to assess resilience and develop strategies to increase it.</p>
	<p>CORE</p> <p>The challenge will be to engage industry community and will be aware of the project possible benefits also for this sector. Indeed, CORE solutions could diminish the possibility of disruption in case of disastrous events.</p>
	<p>ENGAGE</p>

- Clarifying the value-added and ensuring the usefulness of a new content repository, the ENGAGE Knowledge Platform, for actors of disaster management.
- Accounting for a large variety of needs and use contexts for the project's results.
- Ensuring the sustainability of the Knowledge Platform after the project period, i.e., the continued access to and updating of its content.

BuildERS

BuildERS has evaluated emerging technological opportunities for improving risk awareness and resilience of vulnerable people in disasters, aiming to estimate the innovation potential, utility, importance, applicability, risks for vulnerable people, and ethical acceptability of novel technologies. The evaluation was based on a survey, end-user evaluation, and co-creative workshops on technologies.

RiskPACC

The main challenge that civil protection agencies are facing across Europe currently is the Risk Perception Action Gap that is at the core of the RiskPACC project. While civil protection agencies do have a certain understanding of the risks concerning the region or nation, they are responsible for, they do not always act accordingly and, much more severely, they do struggle to communicate the risks in a way that the target audience, citizens, have a similar perception. Finally, citizens do not act according to their own risk perception. All these gaps are targeted specifically by RiskPACC as a project.

3.6. State-of-the-art Analysis

3.6.1. Field overview

Recent disasters related either to natural causes (including climate-related hazards) or to terrorist attacks have shown gaps in the level of preparedness of European society for disasters, and therefore highlighted the importance of increasing risk awareness, and hence resilience among people and decision-makers in Europe¹.

The topic of disaster risk reduction (DRR) is addressed internationally by the Sendai Framework on Disaster Risk Reduction, adopted in 2015. Its objective is to "*prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.*"² The Sendai Framework covers not only natural hazards, but also technological ones, such as chemical/industrial hazards and radiological, nuclear, biological.

Also, the 2030 Agenda for Sustainable Development recognizes the need to reduce risks related to disasters: not only reducing disaster risk is an opportunity to achieve some of the Sustainable Development Goals (SDGs), but also several SDGs and targets can contribute to reducing disaster risk and building resilience³.

¹ https://cordis.europa.eu/programme/id/H2020_SU-DRS01-2018-2019-2020

² <https://unece.org/sendai-framework>

³ <https://sdgs.un.org/topics/disaster-risk-reduction>

The projects in the Project Group have been funded under the same EU research-topic “*Human factors, and social, societal, and organisational aspects for disaster-resilient societies*”⁴. This call aims at promoting actions that will enable “a better understanding and implementation of new technologies, media and tools, and their capacity to raise disaster risk awareness, to improve citizen understanding of risks, the building of a culture of risks in society, an effective response from affected populations, improving functional organisation in most fragile and vulnerable environments, and increasing the resilience of health services, social services, education, and governance, in line with target of the Sendai Framework”⁵.

New technologies, especially social media, will allow governments, decision makers, local administrations, private companies, citizens and a number of other stakeholders to assess risks in advance in order to prevent them and to respond properly to emergencies in real time. Moreover, also civil protection agencies and first responders will be supported and facilitated in their activities and operations of search-and-rescue. In addition, these projects also aim at educating and training the civil society to improve their awareness about risk disasters and their response capacity to emergencies, therefore recognizing their important role in the response to disasters.

3.6.2. Differentiators in the field

The most relevant differentiators in the field of European resilience during and after disasters and possessed by the Project Group are summarised in the following table.

Table 6 - Most relevant differentiators

Differentiator	Description
Focus on the benefits of social media and crowdsourcing	LINKS Differences with BUILDERS: LINKS considers vulnerability as accessibility specifically regarding social media and crowdsourcing. Differences with ENGAGE: LINKS is specific on the use of social media and crowdsourcing on prevention and risk awareness. LINKS Community Center as a platform allows the interaction among the same stakeholders but focusing on the benefits of social media and crowdsourcing. Differences with RESILOC: LINKS enables DMOs to build strategy to improve resilience through LINKS Community Center and LINKS Framework (focus on social media and crowdsourcing) Differences with DG ECHO: LINKS and the other projects are developing online platforms which could be integrated in the DG ECHO knowledge network.
n/a	RESILOC n/a
Transdisciplinary collaboration involving the environmental and social science communities	CORE The CORE peculiarity relies on the transdisciplinary collaboration involving the environmental and social science communities that will deliver a crisis modelling framework that will take into account Human factor Social and societal Organizational aspects Cascading effects variables.
Support to organisations in	ENGAGE

⁴ https://cordis.europa.eu/programme/id/H2020_SU-DRS01-2018-2019-2020

⁵ https://cordis.europa.eu/programme/id/H2020_SU-DRS01-2018-2019-2020

identifying whether solutions might apply to their situation	Similar to other repositories, the ENGAGE project provides stakeholders with a catalogue of potentially relevant solutions. Through the type of information and the way it is provided, the project also aims to facilitate the identification, selection, implementation and use of relevant solutions. Considerable effort is spent understanding the needs and context of use of such resource and supporting organization in identifying whether solutions might apply to their situation. Solutions of the catalogue are described in-depth, providing information such as elements of context or lessons learned from previous applications. The project postulates that such information allows organizations to understand whether and how a solution that was used successfully elsewhere can be adapted to their own environment.
Focus on most vulnerable groups	BuildERS BuildERS focused especially on those considered most vulnerable in various crises. These include those marginalised groups that are less studied in this context but also not especially covered in current crisis management plans. It was also recognised that most vulnerable groups vary based on a crisis and its nature.
Repository of digital, procedural and physical innovations	RiskPACC The main innovation of RiskPACC is to not re-invent the wheel by developing entirely new products or services out of the box, but instead bundling, evaluating, presenting and teaching all available tools to civil protection agencies that require them. The repository of digital, procedural and physical innovations that already exist or are developed within RiskPACC will thus be the key output of the project. It will enable civil protection agencies to choose the right tool for the right problem at the right time and educate and train citizens and employees to be fit and prepared for the risks they face.

3.7. Project Group Results

A synthesis view of the main results from the projects in the Project Group is provided in the table below, as the basis for future service definition and stakeholder mapping.

Table 7 - Dissemination portfolio results grid

Id	Result	Result type ⁶	Project(s)	TRL	Delivery date
R1	LINKS Framework	Tool	LINKS	3-Applied research. First laboratory tests completed; proof of concept.	11/30/2023
R2	LINKS Community Center	Platform	LINKS	4-Small scale ("ugly") prototype. Built in a lab environment	05/31/2023
R3	Social Media and Crowdsourcing Technology Library	Technology library	LINKS	4-Small scale ("ugly") prototype. Built in a lab environment	05/31/2023

⁶ Results types are: Blueprint; Commercial solution; Data set / data pool; Demonstrator; Feasibility study; Framework (e.g. software environment, policy document, legal framework); Hardware (e.g. chip, appliance, drone, sensor, system); Infrastructure (e.g. IT infrastructure, transport infrastructure, energy infrastructure, water infrastructure, building etc.); Methodology; Model (e.g. risk model, mathematical model, data model, physical model, business model etc.); Patent (e.g. utility, design patents and plant patents); Policy report; Prototype; Proxy/broker service; Research and/or virtual environment; Scientific publication (Refereed); Scientific publication (Non-refereed); Software (e.g. routine, integrated platform, library, plugins); Standard (e.g. norms, policies); Taxonomy / Ontology; Tool / Toolkit / toolbox; Training (e.g. learning tools, services, modules); White paper or similar publication; *Other – please specify.*

R4	Guidelines about the usage of SMCS technologies	Guidelines	LINKS	4-Small scale ("ugly") prototype. Built in a lab environment	05/31/2023
R5	Including citizens Handbook	Handbook	LINKS	2-Technology formulation. Concept and application formulated	10/31/2023
R6	CORE APP	App	CORE	7-Demo system. Operating in operational environment at pre-commercial scale	08/31/2024
R7	Safety culture measurement toolkit	Toolkit	CORE	4-Small scale ("ugly") prototype. Built in a lab environment	02/28/2023
R8	CORE policy recommendations	Recommendations	CORE	4-Small scale ("ugly") prototype. Built in a lab environment	08/31/2024
R9	CORE legacy: ethical recommendation	Recommendations	CORE	4-Small scale ("ugly") prototype. Built in a lab environment	04/30/2024
R10	ENGAGE Knowledge Platform	Platform	ENGAGE	7-Demo system. Operating in operational environment at pre-commercial scale	12/12/2023
R11	Chatbot Blueprint and Prototype	Blueprint & Prototype	ENGAGE	5-Large scale prototype. Tested in intended environment	12/31/2023
R12	Model for Assessing and Methods for Improving Societal Resilience	Model and Methods	ENGAGE	2-Technology formulation. Concept and application formulated	12/31/2023
R13	RESILOC Platform	Platform	RESILOC	7-Demo system. Operating in operational environment at pre-commercial scale	11/30/2022
R14	RESILOC inventory	Inventory	RESILOC	n/a	n/a
R15	Method for assessing resilience	Method	RESILOC	n/a	n/a
R16	Approach to the perception of risk	Approach	RESILOC	n/a	n/a
R17	Engagement of civil society	Approach	All projects	n/a	n/a
R18	BuildERS' theoretical framework and model	Framework and Model	BuildERS	3-Applied research. First laboratory tests completed; proof of concept.	09/10/2020
R19	BuildERS Policy Recommendations	Recommendations	BuildERS	3-Applied research. First laboratory tests completed; proof of concept.	04/30/2022

R20	Guidelines for Ethical considerations in research of vulnerability in disaster resilience	Guidelines	BuildERS	5-Large scale prototype. Tested in intended environment.	03/08/2022
R21	Guidance to enhance disaster resilience	Tools and guidelines	BuildERS	4-Small scale ("ugly") prototype. Built in a lab environment	04/30/2022
R22	Technology prospects to improve resilience	Insights and recommendations	BuildERS	4-Small scale ("ugly") prototype. Built in a lab environment	04/30/2022
R23	Gaps between CPA and citizens - RPAG	Analysis and Roadmap	RiskPACC	1-Basic research. Principles postulated, no experimental proof available.	04/27/2022

3.8. Main actors in the field

This table identifies the elements of differentiations of the results of the Project Group with respect to the main players, similar research initiatives or competitors that are currently working in this field.

Table 8 - Differentiation with key actors in the field

Result ID	Differentiator	Closest Competing/Related Actors
R1-R5	<p>LINKS</p> <p>Differences with BuildERS: LINKS considers vulnerability as accessibility specifically regarding social media and crowdsourcing.</p> <p>Differences with ENGAGE: LINKS is specific on the use of social media and crowdsourcing on prevention and risk awareness. LINKS Community Center as a platform allows the interaction among the same stakeholders but focusing on the benefits of social media and crowdsourcing.</p> <p>Differences with RESILOC: LINKS enables DMOs to build strategy to improve resilience through LINKS Community Center and LINKS Framework (focus on social media and crowdsourcing)</p> <p>Differences with DG ECHO: LINKS and the other projects are developing online platforms which could be integrated in the DG ECHO knowledge network.</p>	<p>BuildERS project focuses on disaster resilience with vulnerable groups in general terms.</p> <p>ENGAGE project focuses on prevention and on formal and informal strategies and guidelines for bringing citizens into DRM. The project creates a specific platform (similar to LCC) that allows the interaction between practitioners, NGOs, Virtual Operations Support Teams, scientists, researchers and citizens' representatives.</p> <p>RESILOC project focuses on building localised strategy for resilience through a cloud-based platform.</p> <p>DG ECHO is developing a knowledge network as an online platform to promote project results.</p> <p>NONE are direct "competitors" but we could be strengthening individual approaches by working more closely together.</p>
R6-R9	<p>CORE</p> <p>The CORE peculiarity relies on the transdisciplinary collaboration involving the environmental and social</p>	<p>EU BuildERS project</p> <p>EU RiskPACC project</p> <p>EU RESILOC project</p>

	science communities that will deliver a crisis modelling framework that will take into account Human factor Social and societal Organizational aspects Cascading effects variables.	
R10-R12	<p>ENGAGE</p> <p>Similar to other repositories, The ENGAGE project provides stakeholders with a catalogue of potentially relevant solutions. Through the type of information and the way it is provided, the project also aims to facilitate the identification, selection, implementation and use of relevant solutions. Considerable effort is spent understanding the needs and context of use of such resource and supporting organization in identifying whether solutions might apply to their situation. Solutions of the catalogue are described in-depth, providing information such as elements of context or lessons learned from previous applications. The project postulates that such information allows organizations to understand whether and how a solution that was used successfully elsewhere can be adapted to their own environment.</p>	<p>Other solution platforms:</p> <ul style="list-style-type: none"> • Driving Innovation in Crisis Management for European Resilience (Driver+) • Building European Communities' Resilience and Social Capital (BuildERS) • Espresso Project
R13-R16	<p>RESILOC</p> <p>n/a</p>	n/a
R18-R22	<p>BuildERS</p> <p>BuildERS focused especially on those considered most vulnerable in various crises. These include those marginalised groups that are less studied in this context but also not especially covered in current crisis management plans. It was also recognised that most vulnerable groups vary based on a crisis and its nature.</p>	Other projects in DRS-01 Cluster and in related Horizon Europe calls
R23	<p>RiskPACC</p> <p>The main innovation of RiskPACC is to not re-invent the wheel by developing entirely new products or services out of the box, but instead bundling, evaluating, presenting and teaching all available tools to civil protection agencies that require them. The repository of digital, procedural and physical innovations that already exist or are developed within RiskPACC will thus be the key output of the project. It will enable civil protection agencies to choose the right tool for the right problem at the right time and educate and train citizens and employees to be fit and prepared for the risks they face.</p>	<p>RiskPACC develops a digital platform that will provide a framework and methodology to assess the Risk Perception Action Gap, the technical tools developed in RiskPACC, training material and a repository of best practices. RiskPACC seeks links to related platforms, especially the platform of the Union Civil Protection Knowledge Network.</p> <p>Three competitors are:</p> <p>IT Alert GenovaAlert PadovaPartecipa</p>

3.9. SWOT Analysis

In the figure below, a preliminary SWOT analysis for the Project Group has been prepared, to support the envisaged Project Group dissemination activities.

Figure 2 - SWOT analysis for the Project Group

<p>Strengths</p> <ul style="list-style-type: none"> • Bring resilience at the forefront of the political agenda, by demonstrating the validity and the potential of the approach. (RESILOC). • Strengthen links between technologies and society. (LINKS) • Develop a harmonized vision of crisis management awareness and capability (CORE) • Give attention and focus on vulnerable groups (CORE). • Improve societal resilience through better interaction between formal actors and populations. (ENGAGE) • Focus on most vulnerable groups in European societies (BuildERS). • Understand and close the risk perception action gap (RPAG) using a co-creation approach to risk communication. (RiskPACC) 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Difficulty in translating the topics of the projects, realised by researchers, in something useful for other stakeholders, especially the general public. • It is difficult to share the project’s results with the scientific community, policy makers, practitioners and civil society (CORE). • Civil Protection Agencies struggle to communicate the risks in a way that the citizens have a similar perception of it.
<p>Opportunities</p> <ul style="list-style-type: none"> • Strengthen the relations between solutions providers and Disaster Management Organisations (DMOs) and therefore strengthen the response to disasters. • Engage industry community and diminish the possibility of disruption in case of disastrous events. • Collaboration between sister projects. • Increase the understanding of resilience importance in societies and local communities. • Train young people on a correct emergency response through schools. • Reducing disaster risk is an opportunity to achieve some of the Sustainable Development Goals. • Build a culture of risks awareness/ management in society. 	<p>Threats</p> <ul style="list-style-type: none"> • Absence of scientific and practical knowledge on effective uses of social media and crowdsourcing in disasters technologies (both threat and opportunity). • Covid-19 pandemic affected C&D activities, forcing to stop participation in events. • Too many projects working on the same issue may be perceived as a non-efficient use of resources. • The results of the projects do not reach the civil society and citizens enough.

Having assessed the above elements, the Project Group should promote its strengths (which will therefore be highlighted in the dissemination activities), mitigate its weaknesses wherever possible, and leverage on the available opportunities while taking into accounts any potential threat.

Positioning Insights

By analysing the state of the art, actors in the field, the Project Group's differentiators, the market positioning diagram and the SWOT analysis, we reach the following conclusions:

- The group consists of six projects which are conducting research and fostering innovation in improving European disaster resilience.
- Their research intends to have a direct and concrete impact on Europe's resilience and awareness of disaster risks, impacting society, policy makers, and researchers.
- Points of strength resulting from this collaboration should be fostered, while limiting the possible threats represented by a potentially low understanding of how beneficial the topic can be for its target audience and its acceptance of the results.
- The challenges are linked to strong societal aspects, especially to the creation of a safe and resilient European society.
- The barriers are similar, mostly related to the difficulty of reaching non-academic and non-technical audiences. The identified stakeholders need to build consensus and trust towards the proposed solutions or technologies.
- There are many potential competitors due to the presence of many projects working on the same topics and that could represent a threat for the Project Group.
- The potential of the ongoing research is very valuable and up to date, thanks to the professional and interdisciplinary skills of partners involved and the peculiarity of the topics of the research and the objectives of the projects are relevant to the society as a whole.
- The audiences are broad and, therefore, not easy to reach and engage, but potentially highly interested in such research and results.
- The specific audiences deserve to be targeted with tailored dissemination activities and a professional tone of voice. This is again an added value, but also a possible source of weakness.
- Therefore, special attention to how to convey the message and the results to specific audiences must be paid and this can lead to high interest from all the targets identified. In the light of Europe's objectives linked to its ability to react to emergency situations, this topic is of particular interest to the EU.

4. Stakeholder Analysis

4.1. Target stakeholders

Stakeholders are parties that will be affected by operations, objectives and results of the Project Group. Stakeholders that are relevant for each project in the group are categorised and mapped according to several different perspectives including their geographical broadness, domains, type of activity, interest in the portfolio of results, and level of influence.

The information here was collected from the questionnaire results and the conference call with Project Group. The main primary stakeholders for Prepared Cluster are identified below in order of importance and relevance to the dissemination objectives of the group.

4.1.1. Stakeholder 1

Description	Practitioners' organisations/actors for disaster management (authorities, emergency organisations)
Projects	LINKS, ENGAGE, RESILOC
How stakeholders can benefit from the Project Group results	<p>LINKS</p> <ul style="list-style-type: none"> • <i>LINKS Framework</i> - The main target group is represented by "Practitioners organisations for disaster management". The LINKS Framework is a strategic planning tool that guides practitioners to apply social media and crowdsourcing in disasters. It provides both access to ad-hoc products (e.g., the Including Citizens Handbook) and "templates" for thinking around specific thematic topics, as well as practice examples. Demo versions of the LINKS Framework are realised and validated during the project lifetime. • <i>LINKS Community Center</i> - The main target group is represented by "Practitioners organisations for disaster management". The LCC is an online platform that makes the relevant results of LINKS accessible in a tailored fashion, focusing on actionable information with the LINKS Framework (which is embedded in the LCC). It also facilitates contact to other stakeholders and networks working with social media and crowdsourcing for disaster risk reduction. • <i>Social Media and Crowdsourcing Technology Library</i> - The main target group is represented by "Practitioners organisations for disaster management". The Social Media and Crowdsourcing Technology Library provides a highly needed overview about the market, gathers and structures the relevant information about these technologies and thus guides the selection and the application of a suitable technology for disaster management organizations. It is embedded with the LCC and is part of the Framework. • <i>Guidelines about the usage of SMCS technologies</i> - The main target group is represented by the Policy Makers and Practitioner organisations. The guidelines about the usage of social media and crowdsourcing technologies provide a systematic overview about guidelines, policies, procedures, SOPs etc. which deal with uses of SMCS in disasters. It is embedded with the LCC and is part of the Framework. • <i>Including citizens Handbook</i> - The Including citizens handbook should guide practitioners in promoting more inclusive procedures in DRM and in disaster communication using SMCS, such as in developing more inclusive apps or CS platforms. It is accessible through the LCC.

	<p>ENGAGE</p> <ul style="list-style-type: none"> • <i>ENGAGE Knowledge Platform</i> - The Knowledge Platform is a set of resources informing actors of disaster management about public involvement. A central result is a catalogue of solutions that collects tools, strategies or processes which aim to improve the interaction between authorities/first responders and citizens, thereby positively affecting societal resilience. Compared to other repositories, the Knowledge Platform intends to convey additional information like lessons learned and context factors that are assumed to influence the success of the implementation and use of the presented solutions.
Engagement to date	<p>Supportive (Aware of project & impacts and supportive to change) LINKS</p> <p>Leading (Aware of project & impacts and actively engaged in ensuring the project is a success) ENGAGE</p>

4.1.2. Stakeholder 2

Description	Policy makers, Funding Agencies including EU & national digital agencies
Projects	LINKS, CORE, RESILOC, BuildERS, RiskPACC
How stakeholders can benefit from the Project Group results	<p>LINKS</p> <ul style="list-style-type: none"> • <i>LINKS Framework</i> - The main target group is represented by "Practitioners organisations for disaster management". The LINKS Framework is a strategic planning tool that guides practitioners to apply social media and crowdsourcing in disasters. It provides both access to ad-hoc products (e.g., the Including Citizens Handbook) and "templates" for thinking around specific thematic topics, as well as practice examples. Demo versions of the LINKS Framework are realised and validated during the project lifetime. • <i>LINKS Community Center</i> - The main target group is represented by "Practitioners organisations for disaster management". The LCC is an online platform that makes the relevant results of LINKS accessible in a tailored fashion, focusing on actionable information with the LINKS Framework (which is embedded in the LCC). It also facilitates contact to other stakeholders and networks working with social media and crowdsourcing for disaster risk reduction. • <i>Guidelines about the usage of SMCS technologies</i> - The main target group is represented by the Policy Makers and Practitioner organisations. The guidelines about the usage of social media and crowdsourcing technologies provide a systematic overview about guidelines, policies, procedures, SOPs etc. which deal with uses of SMCS in disasters. It is embedded with the LCC and is part of the Framework. <p>CORE</p> <ul style="list-style-type: none"> • <i>CORE APP</i> - Thanks to the students' involvement, an application will be delivered to understand and metabolize all the strategies to improve the resilience capacity of communities. The APP content will include: useful information about how to behave in emergency situations and suggestions on how to increase preparedness. • <i>Safety culture measurement toolkit</i> - practical tools to execute a safety culture survey and to implement a human centeredness assessment campaign of disaster management plans and operations • <i>CORE policy recommendations</i> - best practices to be implemented in all the pre and post emergency phases

- *CORE legacy: ethical recommendation* - ethical principles to be followed before, during and after an emergency

RESILOC

- n/a

BuildERS

- *BuildERS Policy Recommendations* - In order to increase the resilience of European communities in the face of disasters, the BuildERS project recommends that policymakers and practitioners take action in three key areas: (1) improving disaster planning and management for vulnerable people; (2) making risk and crisis communication more inclusive of vulnerable people; and (3) building social capital as a long-term strategy for resilience. Recommendations were developed in collaboration with practitioners, policymakers, and BuildERS partners.
 - To ensure best usability, the recommendations are structured in terms of: (a) a summary of key findings, (b) an outline of essential new perspectives to encourage transformational change, and (c) a list of concrete key actions to be taken in that direction.
 - In broad strokes, the aim of these policy recommendations is to improve the effectiveness of existing efforts to reduce
 - vulnerabilities, build social capital, and enhance risk awareness. Thus, the direct target group is policy makers at the local, national, and EU-level. However, the end goal is for the policies to be implemented in order to help the indirect target groups of:
 - People in vulnerable situations
 - Intermediaries of people in vulnerable situations
 - First responders
 - Practitioners responsible of disaster risk assessment, preparedness and contingency planning
 - Experts in the fields of risk and crisis communication, disaster management, and civil protection
 - Teachers and trainers of safety and security
 - Academic communities and RDI-networks
 - Technology developers (of data analytics, mobile positioning, crowdsourcing, unmanned aerial vehicles, satellite imaging, mobile applications)
- *Guidelines for Ethical considerations in research of vulnerability in disaster resilience* - Within BuildERS, a dedicated approach has been used for constant Ethical considerations throughout the project activities. These guidelines are recommended for all-inclusive RDI projects.
 - Guidelines provides its user with:
 - Fundamentals on Ethics in the research on vulnerability
 - Threefold ethics approach in the BuildERS project
 - Some key findings and policy recommendations related to ethical considerations in research
- *Guidance to enhance disaster resilience* - BuildERS has provided tools and guidance on how to enhance disaster resilience in socially diverse European societies, based on

	<p>results and views gained in co-creation activities with many stakeholders. These cover e.g.:</p> <ul style="list-style-type: none"> ○ A dynamic scenario-based social vulnerability analysis tool for imaging and analysing future risks ○ The inclusive crisis communication canvas ○ Training for the first responders to improve their risk and crisis communication ○ Board Game ○ Guidelines for collaborating with the social media influencers <ul style="list-style-type: none"> ● <i>Technology prospects to improve resilience</i> - BuildERS has provided insight on possibilities to improve resilience by technology solutions which have been evaluated in practitioner workshops and case studies. The highlights covered include: <ul style="list-style-type: none"> ○ New ways to collect data in disaster situations, focusing on a) technologies and tools for disaster management and b) end-user evaluations of technologies and tools ○ Using historical mobile phone positioning data in disaster management, explaining why historical mobile positioning data is valuable and how it could be used in disaster management in a beneficial way ○ "Save My Life" application improving resilience and disaster preparedness, by a) determining the prioritisation for victims in an earthquake disaster using fuzzy logic and decision tree approach, b) optimizing search and rescue personnel allocation in a disaster emergency response using fuzzy logic, c) increasing the disaster victim survival rate ○ Recommendations on resource allocation for addressing risks <p>RiskPACC</p> <ul style="list-style-type: none"> ● n/a
<p>Engagement to date</p>	<p>Neutral (Aware of projects yet neither supportive nor resistant) LINKS, BuildERS Supportive (Aware of project & impacts and supportive to change) CORE n/a RESILOC Resistant (Aware of projects and potential impacts and resistant to change) RiskPACC</p>

4.1.3. Stakeholder 3

<p>Description</p>	<p>Researchers & Academia</p>
<p>Projects</p>	<p>LINKS, RESILOC, CORE, ENGAGE, BuildERS</p>
<p>How stakeholders can benefit from the Project Group results</p>	<p>LINKS</p> <ul style="list-style-type: none"> ● <i>LINKS Framework</i> - The main target group is represented by "Practitioners organisations for disaster management". The LINKS Framework is a strategic planning tool that guides practitioners to apply social media and crowdsourcing in disasters. It provides both access to ad-hoc products (e.g., the Including Citizens Handbook) and "templates" for thinking around specific thematic topics, as well as practice examples. Demo versions of the LINKS Framework are realised and validated during the project lifetime. ● <i>LINKS Community Center</i> - The main target group is represented by "Practitioners organisations for disaster management".

	<p>The LCC is an online platform that makes the relevant results of LINKS accessible in a tailored fashion, focusing on actionable information with the LINKS Framework (which is embedded in the LCC). It also facilitates contact to other stakeholders and networks working with social media and crowdsourcing for disaster risk reduction.</p> <ul style="list-style-type: none"> • <i>Guidelines about the usage of SMCS technologies</i> - The main target group is represented by the Policy Makers and Practitioner organisations. The guidelines about the usage of social media and crowdsourcing technologies provide a systematic overview about guidelines, policies, procedures, SOPs etc. which deal with uses of SMCS in disasters. It is embedded with the LCC and is part of the Framework. <p>RESILOC</p> <ul style="list-style-type: none"> • n/a <p>CORE</p> <ul style="list-style-type: none"> • n/a <p>ENGAGE</p> <ul style="list-style-type: none"> • <i>Model for Assessing and Methods for Improving Societal Resilience</i> - Provides guidance to assess societal resilience and facilitates an understanding of how solutions can be re-used in other contexts than the ones in which they originally proved successful. This knowledge will be represented in an interactive eBook that will support the assessment of societal resilience and the identification of areas of improvement, considering all phases of disaster management. <p>BuildERS</p> <ul style="list-style-type: none"> • <i>BuildERS' theoretical framework and model</i> - BuildERS' theoretical framework highlights the interconnectedness of resilience and vulnerability, two of the central research <ul style="list-style-type: none"> ○ concepts of the project together with social capital and risk awareness. ○ Societal resilience heavily depends on how citizens behave individually and collectively and how international organisations and states design and implement policies for mitigating risks, preparing for, reacting to, overcoming and learning from crises and disasters. Thus, societal resilience should be a shared achievement between the ability of individuals to adapt to crises and disasters and bounce back when a disaster strikes and the ability of institutions to absorb external shocks. ○ BuildERS Framework and model supports in analysing the complex interdependencies in real world situation, when studying resilience, vulnerability, social capital and risk awareness. And especially when less studied elements like marginalised groups are included.
<p>Engagement to date</p>	<p>Supportive (Aware of project & impacts and supportive to change) LINKS, RESILOC, CORE Leading (Aware of project & impacts and actively engaged in ensuring the project is a success) ENGAGE BuildERS n/a</p>

4.1.4. Stakeholder 4

Description	ICT Operators/Service Providers
Projects	LINKS, ENGAGE
How stakeholders can benefit from the Project Group results	<p>LINKS</p> <ul style="list-style-type: none"> <i>LINKS Community Center</i> - The main target group is represented by "Practitioners organisations for disaster management". The LCC is an online platform that makes the relevant results of LINKS accessible in a tailored fashion, focusing on actionable information with the LINKS Framework (which is embedded in the LCC). It also facilitates contact to other stakeholders and networks working with social media and crowdsourcing for disaster risk reduction. <i>Social Media and Crowdsourcing Technology Library</i> - The main target group is represented by "Practitioners organisations for disaster management". The Social Media and Crowdsourcing Technology Library provides a highly needed overview about the market, gathers and structures the relevant information about these technologies and thus guides the selection and the application of a suitable technology for disaster management organizations. It is embedded with the LCC and is part of the Framework. <p>ENGAGE</p> <ul style="list-style-type: none"> <i>Chatbot Blueprint and Prototype</i> - The chatbot Blueprint is based on an in-depth analysis of the functionalities, advantages and pitfalls of 45 existing chatbots. The prototype focuses specifically on creating a chatbot that can be used during public warnings. When a public alert is sent out via push notification, this chatbot is meant to assist with the increasing number of citizens calling emergency response centers and asking for information about the incident they have been warned about. The blueprint serves as a set of requirements and architecture for the development of such technical capability.
Engagement to date	n/a LINKS, ENGAGE

4.1.5. Stakeholder 5

Description	Policy Experts & Activists
Projects	CORE, BuildERS
How stakeholders can benefit from the Project Group results	<p>CORE</p> <ul style="list-style-type: none"> <i>CORE APP</i> - Thanks to the students' involvement, an application will be delivered to understand and metabolize all the strategies to improve the resilience capacity of communities. The APP content will include: useful information about how to behave in emergency situations and suggestions on how to increase preparedness. <i>CORE policy recommendations</i> - best practices to be implemented in all the pre and post emergency phases <i>CORE legacy: ethical recommendation</i> - ethical principles to be followed before, during and after an emergency <p>BuildERS</p> <ul style="list-style-type: none"> <i>BuildERS Policy Recommendations</i> - In order to increase the resilience of European communities in the face of disasters, the BuildERS project recommends that

policymakers and practitioners take action in three key areas: (1) improving disaster planning and management for vulnerable people; (2) making risk and crisis communication more inclusive of vulnerable people; and (3) building social capital as a long-term strategy for resilience. Recommendations were developed in collaboration with practitioners, policymakers, and BuildERS partners.

- To ensure best usability, the recommendations are structured in terms of: (a) a summary of key findings, (b) an outline of essential new perspectives to encourage transformational change, and (c) a list of concrete key actions to be taken in that direction.
- In broad strokes, the aim of these policy recommendations is to improve the effectiveness of existing efforts to reduce
- Vulnerabilities, build social capital, and enhance risk awareness. Thus, the direct target group is policy makers at the local, national, and EU-level. However, the end goal is for the policies to be implemented in order to help the indirect target groups of:
 - People in vulnerable situations
 - Intermediaries of people in vulnerable situations
 - First responders
 - Practitioners responsible of disaster risk assessment, preparedness and contingency planning
 - Experts in the fields of risk and crisis communication, disaster management, and civil protection
 - Teachers and trainers of safety and security
 - Academic communities and RDI-networks
 - Technology developers (of data analytics, mobile positioning, crowdsourcing, unmanned aerial vehicles, satellite imaging, mobile applications)
- *Guidelines for Ethical considerations in research of vulnerability in disaster resilience* - Within BuildERS, a dedicated approach has been used for constant Ethical considerations throughout the project activities. These guidelines are recommended for all-inclusive RDI projects.
 - Guidelines provides its user with:
 - Fundamentals on Ethics in the research on vulnerability
 - Threefold ethics approach in the BuildERS project
 - Some key findings and policy recommendations related to ethical considerations in research
- *Guidance to enhance disaster resilience* - BuildERS has provided tools and guidance on how to enhance disaster resilience in socially diverse European societies, based on results and views gained in co-creation activities with many stakeholders. These cover e.g.:
 - A dynamic scenario-based social vulnerability analysis tool for imaging and analysing future risks
 - The inclusive crisis communication canvas
 - Training for the first responders to improve their risk and crisis communication
 - Board Game
 - Guidelines for collaborating with the social media influencers

	<ul style="list-style-type: none"> • <i>Technology prospects to improve resilience</i> - BuildERS has provided insight on possibilities to improve resilience by technology solutions which have been evaluated in practitioner workshops and case studies. The highlights covered include: <ul style="list-style-type: none"> ○ New ways to collect data in disaster situations, focusing on a) technologies and tools for disaster management and b) end-user evaluations of technologies and tools ○ Using historical mobile phone positioning data in disaster management, explaining why historical mobile positioning data is valuable and how it could be used in disaster management in a beneficial way ○ “Save My Life” application improving resilience and disaster preparedness, by a) determining the prioritisation for victims in an earthquake disaster using fuzzy logic and decision tree approach, b) optimizing search and rescue personnel allocation in a ○ disaster emergency response using fuzzy logic, c) increasing the disaster victim survival rate ○ Recommendations on resource allocation for addressing risks
Engagement to date	n/a CORE, BuildERS

4.1.6. Stakeholder 6

Description	Local decision makers i.e., Community leaders (ultimately civil society)
Projects	RESILOC
How stakeholders can benefit from the Project Group results	<p>RESILOC</p> <ul style="list-style-type: none"> • <i>RESILOC Platform</i> - The RESILOC Platform (Solution) will empower local communities to assess their resilience against a particular hazard. Based on the assessment the local decision makers will have the opportunity to develop and implement resilience strategies to protect their communities from the impact of those hazards on the functioning of their community caused by hazard conditions. The platform integrates important expert knowledge at the often-lower equipped community level. It allows local users to develop a holistic view on possible impact scenarios.
Engagement to date	Leading (Aware of project & impacts and actively engaged in ensuring the project is a success) RESILOC

4.1.7. Stakeholder 7

Description	Start-ups & SMEs, Large enterprises
Projects	BuildERS
How stakeholders can benefit from the Project Group results	<p>BuildERS</p> <ul style="list-style-type: none"> • <i>Technology prospects to improve resilience</i> - BuildERS has provided insight on possibilities to improve resilience by technology solutions which have been evaluated in practitioner workshops and case studies. The highlights covered include: <ul style="list-style-type: none"> ○ New ways to collect data in disaster situations, focusing on a) technologies and tools for disaster management and b) end-user evaluations of technologies and tools

	<ul style="list-style-type: none"> ○ Using historical mobile phone positioning data in disaster management, explaining why historical mobile positioning data is valuable and how it could be used in disaster management in a beneficial way ○ “Save My Life” application improving resilience and disaster preparedness, by a) determining the prioritisation for victims in an earthquake disaster using fuzzy logic and decision tree approach, b) optimizing search and rescue personnel allocation in a ○ disaster emergency response using fuzzy logic, c) increasing the disaster victim survival rate ○ Recommendations on resource allocation for addressing risks
Engagement to date	BuildERS n/a

4.1.8. Stakeholder 8

Description	Civil Society, NGOs, Citizens
Projects	LINKS, CORE, ENGAGE, RESILOC, BuildERS, RiskPACC
How stakeholders can benefit from the Project Group results	<p>LINKS</p> <ul style="list-style-type: none"> • <i>LINKS Framework</i> - The main target group is represented by "Practitioners organisations for disaster management". The LINKS Framework is a strategic planning tool that guides practitioners to apply social media and crowdsourcing in disasters. It provides both access to ad-hoc products (e.g., the Including Citizens Handbook) and “templates” for thinking around specific thematic topics, as well as practice examples. Demo versions of the LINKS Framework are realised and validated during the project lifetime. • <i>LINKS Community Center</i> - The main target group is represented by "Practitioners organisations for disaster management". The LCC is an online platform that makes the relevant results of LINKS accessible in a tailored fashion, focusing on actionable information with the LINKS Framework (which is embedded in the LCC). It also facilitates contact to other stakeholders and networks working with social media and crowdsourcing for disaster risk reduction. • <i>Including citizens Handbook</i> - The Including citizens handbook should guide practitioners in promoting more inclusive procedures in DRM and in disaster communication using SMCS, such as in developing more inclusive apps or CS platforms. It is accessible through the LCC. <p>CORE</p> <ul style="list-style-type: none"> • <i>CORE APP</i> - Thanks to the students’ involvement, an application will be delivered to understand and metabolize all the strategies to improve the resilience capacity of communities. The APP content will include: useful information about how to behave in emergency situations and suggestions on how to increase preparedness. • <i>Safety culture measurement toolkit</i> - practical tools to execute a safety culture survey and to implement a human centeredness assessment campaign of disaster management plans and operations • <i>CORE policy recommendations</i> - best practices to be implemented in all the pre and post emergency phases • <i>CORE legacy: ethical recommendation</i> - ethical principles to be followed before, during and after an emergency

ENGAGE

n/a

BuildERS

- *BuildERS Policy Recommendations* - In order to increase the resilience of European communities in the face of disasters, the BuildERS project recommends that policymakers and practitioners take action in three key areas: (1) improving disaster planning and management for vulnerable people; (2) making risk and crisis communication more inclusive of vulnerable people; and (3) building social capital as a long-term strategy for resilience. Recommendations were developed in collaboration with practitioners, policymakers, and BuildERS partners.
 - To ensure best usability, the recommendations are structured in terms of: (a) a summary of key findings, (b) an outline of essential new perspectives to encourage transformational change, and (c) a list of concrete key actions to be taken in that direction.
 - In broad strokes, the aim of these policy recommendations is to improve the effectiveness of existing efforts to reduce
 - Vulnerabilities, build social capital, and enhance risk awareness. Thus, the direct target group is policy makers at the local, national, and EU-level. However, the end goal is for the policies to be implemented in order to help the indirect target groups of:
 - People in vulnerable situations
 - Intermediaries of people in vulnerable situations
 - First responders
 - Practitioners responsible of disaster risk assessment, preparedness and contingency planning
 - Experts in the fields of risk and crisis communication, disaster management, and civil protection
 - Teachers and trainers of safety and security
 - Academic communities and RDI-networks
 - Technology developers (of data analytics, mobile positioning, crowdsourcing, unmanned aerial vehicles, satellite imaging, mobile applications)
- *Guidelines for Ethical considerations in research of vulnerability in disaster resilience* - Within BuildERS, a dedicated approach has been used for constant Ethical considerations throughout the project activities. These guidelines are recommended for all-inclusive RDI projects.
 - Guidelines provides its user with:
 - Fundamentals on Ethics in the research on vulnerability
 - Threefold ethics approach in the BuildERS project
 - Some key findings and policy recommendations related to ethical considerations in research
- *Guidance to enhance disaster resilience* - BuildERS has provided tools and guidance on how to enhance disaster resilience in socially diverse European societies, based on

<p>results and views gained in co-creation activities with many stakeholders. These cover e.g.:</p> <ul style="list-style-type: none"> ○ A dynamic scenario-based social vulnerability analysis tool for imaging and analysing future risks ○ The inclusive crisis communication canvas ○ Training for the first responders to improve their risk and crisis communication ○ Board Game ○ Guidelines for collaborating with the social media influencers <ul style="list-style-type: none"> ● <i>Technology prospects to improve resilience</i> - BuildERS has provided insight on possibilities to improve resilience by technology solutions which have been evaluated in practitioner workshops and case studies. The highlights covered include: <ul style="list-style-type: none"> ○ New ways to collect data in disaster situations, focusing on a) technologies and tools for disaster management and b) end-user evaluations of technologies and tools ○ Using historical mobile phone positioning data in disaster management, explaining why historical mobile positioning data is valuable and how it could be used in disaster management in a beneficial way ○ “Save My Life” application improving resilience and disaster preparedness, by a) determining the prioritisation for victims in an earthquake disaster using fuzzy logic and decision tree approach, b) optimizing search and rescue personnel allocation in a disaster emergency response using fuzzy logic, c) increasing the disaster victim survival rate ○ Recommendations on resource allocation for addressing risks <p>RiskPACC</p> <ul style="list-style-type: none"> ● <i>Gaps between CPA and citizens – RPAG</i> - It examines the gaps between the State of the art and current practices that are ongoing by both citizen groups and CPAs in case study areas. It provides information on gaps in practices as well as provide a roadmap for addressing these gaps in the next phase of RiskPACC. 	<p>Engagement to date</p> <p>n/a LINKS</p> <p>Supportive (Aware of project & impacts and supportive to change) CORE, BuildERS</p> <p>Leading (Aware of project & impacts and actively engaged in ensuring the project is a success) ENGAGE</p> <p>Resistant (Aware of projects and potential impacts and resistant to change) RiskPACC</p>
--	--

4.2. Barriers to dissemination

The table below outlines the main barriers to successful dissemination actions that have been identified and considerations such as possible initial recommendations.

Table 9 - Barriers to dissemination

Id	Stakeholder group	Description	Considerations
B1	Practitioners’ organisations for disaster management	LINKS The main challenge is represented by the possibility to translate the	Talk about the advantages and positive influence of your results on the stakeholders’ lives and/or work. Non-academic audiences are more interested on the concrete impact of technologies on their everyday life or professional life, rather than on the technological developments themselves. When

	<p>Policy makers, Funding Agencies including EU & national digital agencies</p> <p>Researchers & Academia</p>	<p>topics of the project (that are realised especially by researchers) in something that can be useful to our main target groups (especially practitioners and policy makers).</p>	<p>devising a dedicated communication, dissemination and exploitation strategy, focus on messages and contents centred around the specific needs of the stakeholders addressed, thus, designing a value proposition “demand-oriented”, rather than only supply-originated propositions.</p> <p>To successfully reach policy makers, consider drafting a policy brief, a concise document to explain your research results, sharing lessons learned and recommendations; describe the impacts of the key exploitable results to address the identified issues. The objective of the policy report is for the policy makers to have the instruments allowing them to evaluate and facilitate the uptake of the proposed solutions. The best policy briefs are clear and concise documents, usually tackling a single topic and providing insightful recommendations.</p> <p>Moreover, you could also organise specific events for policy makers, both at local and at regional level, to inform them about the results of your project and how these will tackle specific issues.</p> <p>To reach practitioners, consider the organisation of dedicated events or workshops during which your target stakeholders can directly test the proposed technologies. Also, participate to specific fairs in which you can present your solutions and liaise with people in the field.</p>
B2	<p>Policy makers, Funding Agencies including EU & national digital agencies</p> <p>Researchers & Academia</p> <p>Civil Society, NGOs, Citizens</p>	<p>CORE</p> <p>To let scientific community, policy makers, practitioners and civil society aware about the project results</p>	<p>See barrier B1</p> <p>Content is king: firstly, focus on the production of very targeted messages and build value-propositions centred around the needs of your target audiences. As a next step, package those messages into tailored dissemination formats (such as infographics, datasets, fact sheet, policy briefs), suitable to the targeted audience.</p> <p>Consider issuing a press release every time new results are available to ensure maximum dissemination. To increase visibility, distribute your editorial multimedia products to news multipliers. Engage professional journalists to write on a topical issue linked to your project and its context to gain visibility among non-specialised audiences.</p> <p>Additionally, in order to raise the awareness about your project among the civil society, be constant on social media. To maximise your audience’s engagement, post interactive contents and ask for your follower’s participation and feedbacks; consider organising contests on social media to grow your contacts list or to improve the engagement of your followers. Lastly, make your website more interactive by creating a platform with searchable tags or keywords.</p>
B3		RESILOC	n/a
B4	Actors of disaster management	<p>ENGAGE</p> <p>1. One of the major drawbacks that affected the communication and</p>	<p>1. In 2022 face-to-face interactions have slowly started to take place again. To allow an increased participation almost events take place in a hybrid mode and the public is now used to this type of events and activities. Hence, consider this option when organising workshops or</p>

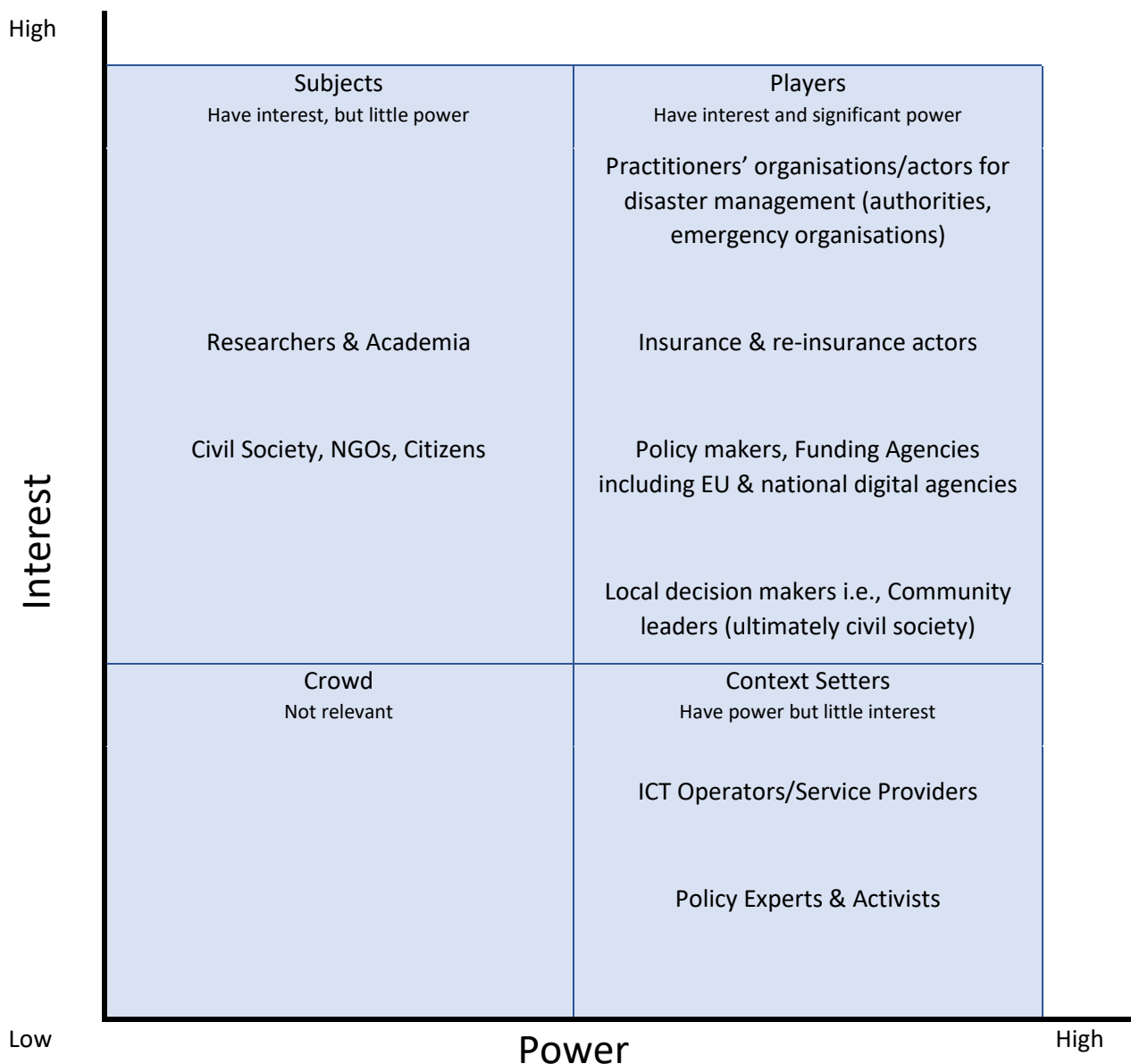
	<p>Research & Academia</p> <p>Civil Society, NGOs and Citizens</p>	<p>dissemination activities of the first year of the project was the COVID-19 pandemic. The measures put in place to stop the spread of the virus led to reduced participation in events, most of which were cancelled or postponed.</p> <p>2. Some research results reach stakeholders (niche target) faster and more efficiently than the wider population, as the project has a certain complexity. Work has been done to deconstruct scientific jargon and create more interactive content, e.g., infographics, videos etc.</p>	<p>events. of organising live demo sessions on social media and YouTube to show and explain the advantages of your products for the targeted audiences. Prepare a free beta version of the platform to be available only for selected users to gather inputs and feedbacks concerning user experience. Moreover, find influencers/testimonials that can reach towards specific audiences, such as citizens through social media. During the event, to increase the engagement of your audience, you can also use tools such as Slido.</p> <p>2. Social media are a very effective way to reach the general public, especially Instagram or Facebook. LinkedIn instead is a good tool to reach a specialised audience. To help you in translating the scientific jargon into a simpler language for the general public, define key messages and keywords that you want to share with them. Then, package them into specific dissemination formats. To be memorable, your contents must produce emotions, as well as showing the potential benefits. Furthermore, consider making use of graphic elements and storytelling tools for web and social media to reach the general public, inviting them to make use of your services. Also, produce collaterals to be used at dedicated public events, to maximise public understanding.</p>
<p>B5</p>	<p>Policy makers, Funding Agencies including EU & national digital agencies</p> <p>Civil Society, NGOs, Citizens</p> <p>Policy Experts & Activists</p>	<p>BuildERS</p> <p>BuildERS has been very productive in scientific publishing throughout the project, but:</p> <p>1. Due to the Covid19, some activities were delayed due to the lockdowns and restrictions, reducing the time for finalising the outcome of the whole project. Thus, there were very little opportunities and time to disseminate final outcomes before the end of the project.</p> <p>2. Due to the Covid19, there has been very little possibilities to present the findings in conferences and stakeholder events. F2F discussions and activities would have</p>	<p>See barrier B4.</p>

		been crucial for the active dissemination of the results.	
B6	<p>Policy makers, Funding Agencies including EU and national digital agencies</p> <p>Civil Society, NGOs and Citizens</p>	<p>In the field of dissemination, one of the challenges we encounter is the one posed by the Commission. The guidelines, communication and dissemination now approved for all projects is an obstacle to overcome. Websites, social media channels such as twitter and LinkedIn, project news, newsletters, are all useful tools for the dissemination of project results and information, but at the same time fail to give originality to the dissemination process. The biggest challenge is to be able to do "something different and impactful", which allows to properly disseminate the contents and at the same time to attract more and more people interested in the research of the project.</p>	<p>The originality in dissemination does not lie in the process, but in the contents that are being disseminated: therefore, it is crucial to create a Unique Value Proposition (UVP) which focuses on the originality of your project and its results. Based on it, focus on the production of targeted messages, centred around the needs of your target audiences. HRB's training package "strategy" (module B) will give you the instruments to identify key messages, how to communicate them effectively and to the right stakeholder.</p> <p>In addition, an original visual identity and the use of graphic elements will help catching the attention of your target audiences.</p>

4.3. Stakeholder Relevance Analysis

The influence and interest of each stakeholder group is now considered in order to define their strengths in terms of supporting the uptake of the groups result. This will help the Project Group understand where to invest effort to maximise dissemination activities.

Figure 3 - Influence vs interest grid



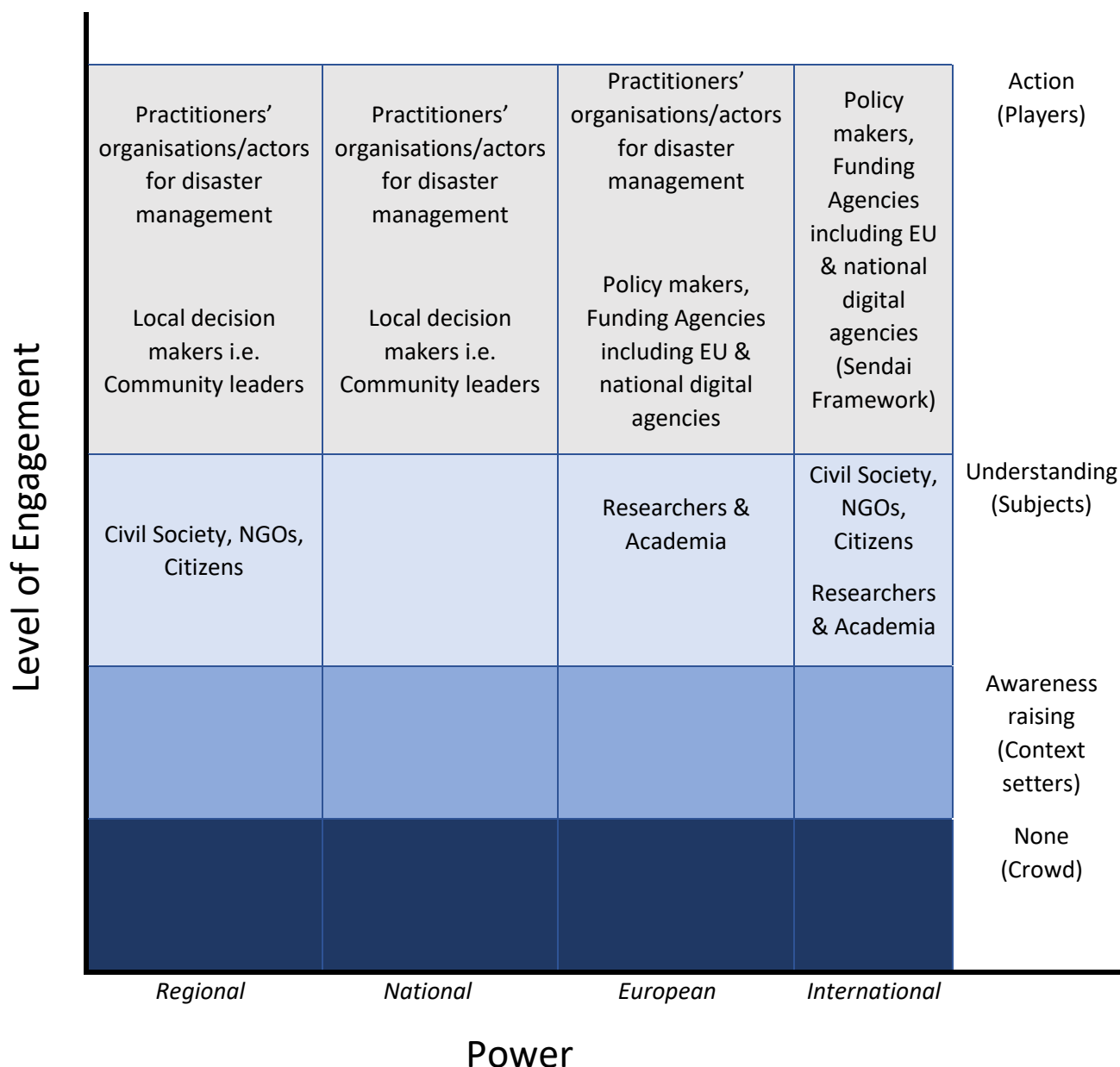
- Players:** the stakeholders falling into this quadrant hold maximum power and express the greatest interest in the Project Group's results. Practitioners' organisations/actors for disaster management (authorities, emergency organisations), Policy makers, Funding Agencies including EU & national digital agencies and Local decision makers i.e., Community leaders (ultimately civil society) represent the priority target for the Project Group to be addresses in order to boost impacts of their results through common dissemination activities.

- **Subjects:** the stakeholders falling into this quadrant hold high interest but low power. Within the Project Group, Research & Academia, Civil society, NGOs & Citizens are highly interested into the Project Group results but bear little influence on unleashing the uptake of Project Group's results.
- **Context setters:** ICT Operators/Service Providers and Policy Experts & Activists are positioned as stakeholders setting the context, meaning, they bear high power to spur impact and they represent the key stakeholder setting the framework and its conditions within whom the research and innovation activities of the Project Group are positioned

4.4. Geographical dimension and level of engagement

In this section we map the stakeholder groups according to geographical dimension and current levels of engagement between the projects in the group.

Figure 4 - Geographical dimension vs. level of engagement grid



The Project Group focusses mainly on entities (Practitioners' organisations/actors for disaster management and decision makers) which work on disaster resilience, both at regional and national level. However, the European level is also relevant, as there are also European institutions and policy makers who are targeted. Finally, there is also an international dimension, linked to the Sendai Framework, within which the Project Group is operating.

With the analysis of the current state of engagement and importance of the stakeholders now known along with new general goals set, the Project Group can now identify the right dissemination channels they can use and can be easily referenced when they draw up their Portfolio Dissemination Plan.

5. Stakeholder & Dissemination Networks Mapping

5.1. Dissemination channels

Based on the desired level of engagement and the dissemination network, the diagram below maps the stakeholders with the most appropriate dissemination channel to use to create the greatest impact.

Table 10 - Dissemination channels

	Practitioners' organisations / actors for disaster management (authorities, emergency organisations)	Policy makers, Funding Agencies including EU & national digital agencies	Researchers & Academia	ICT Operators/ Service Providers	Policy Experts & Activists	Local decision makers i.e. Community leaders	Civil Society, NGOs, Citizens
Demos and Videos	X	X	X	X	X	X	X
Website Pages and Blogs	X	X	X	X	X	X	X
Newsletters	X		X		X	X	
Social: Twitter	X	X	X	X		X	X
Social: LinkedIn	X	X	X	X	X	X	X
Press Releases and Kits	X	X	X	X	X	X	
Collaterals: Flyers, Banners, Posters	X	X	X	X	X	X	X
Events and Workshops	X	X	X	X	X	X	X
Presentations	X	X	X	X	X	X	X
Infographics	X	X	X	X	X	X	X
Datasets and insights	X	X	X	X	X	X	
Policy Briefs		X	X		X	X	

5.2. Dissemination network

Based on the analysis on target stakeholders, the HRB service delivery team identified a dissemination network with 50 contacts and related social media channels identified across the stakeholder groups. All information gathered is publicly available. This can serve as an important basis for future dissemination activities.

Organizations/networks identified are divided according to the main stakeholders' categories emerged from the surveys, namely emergency organisations, Policy makers, Funding Agencies including EU & national digital agencies. Also, some contacts from the academic sector have been added to the list. The main contacts indicated in the network are from entities such as NGOs, think tanks, citizen organisations and academics, mostly based in Europe.

The full network can be found in Annex 1.

Insights – Channels to approach your audience

By analysing your collective target stakeholders, we recommend the following channels to approach your audience:

- **Horizon Results Platform:**
 - It is strongly suggested for Dissemination purposes that projects upload their respective key Exploitable result on the EC Horizon Results Platform: <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-results-platform>
 - The platform provides a new resource for projects and their partners to showcase results, network and forge partnerships, and be discovered by investors seeking opportunities, and where policy makers can get valuable insights.
 - The platform improves project exploitation opportunities, proactively promoting project results and can be a source of opportunities connecting you to new stakeholders.
- **CORDIS Results Packs:**
 - Create an account here: <https://cordis.europa.eu/>
 - Work together to package your complementary results in a way that is easily understandable by professionals in the field of European disaster resilience. There are plenty of examples online here (CORDIS Results Packs): <https://cordis.europa.eu/results-packs/en> . Once the article is ready and checked also by your communication/dissemination partners, publish and promote it.
- **Demos and videos** – Develop tailored videos and demos that directly address the challenges of practitioners’ organisations/ actors for disaster management, policy makers, local authorities and civil society and show how the Project Group’s results can benefit them. Consider developing different versions (i.e., shorter video pills for social media, longer ones for the website or events) and consider making joint videos
- **Website pages** – Either create a joint website or mini-site that showcases the collective results within the Project Group, or each project should create one page in each of their project websites containing the joint results, who they benefit and how. Make sure to have pages that directly address each stakeholder through special pages or sections (one for practitioners’ organisations/ actors for disaster management, policy makers, local authorities and civil society, etc) and content should be tailored.
- **Twitter** – identify popular hashtags (both specific to your field such as #riskperception, but also more general but related hashtags such as #civilprotection #crisismanagement) and influencers and exploit them in posts. Consider creating a joint account as a Project Group. Each post should have an objective (page visits, signups for registration, download of a report, views for a video etc.)
- **LinkedIn** – Start by coming up with a list of top 50 entities that you would like to engage with. After, use LinkedIn to connect with them and message them directly to explore collaborations. Join existing groups that already deal with energy crops, renewable energy etc. and initiate discussions and connect with the members there.
- **Press releases** – Research the type of news published by the press and media identified in the dissemination networks. See what topics they write often and have a feel for their style or what type of information they like to post then write press releases that cover those. When sending press releases to media outlets, consider offering an exclusive interview with either the head of research, business developer, or policy expert (depending on what the media outlet’s audience is).
- **Infographics** – Design multiple infographics for each stakeholder. Focus on interesting statistics and facts. Dimensions of the infographics should make it optimal for sharing online, particularly social

media (i.e., think landscape layouts instead of portrait). They can also be used as images in website pages, press releases and inserted in videos when appropriate.

- **Policy briefs** – Create a unified policy position or a position paper on how Europe can increase its disaster resilience. Be creative in repurposing policy briefs. Even if they are in a downloadable format, they should be introduced by easily digestible content linking to the policy briefs such as blogs, a social media post that has an infographic attachment or a YouTube video.
- **Newsletters** – First, design a stakeholder journey that will help you collect subscribers. Have a way for subscribers to sign up (usually in a website). Recommend viewers of stakeholder targeted content to subscribe to your newsletter. Consider segmenting newsletters as well so you can also consider sending tailored newsletters to specific stakeholder groups i.e. an SME newsletter can't just have specific updates from the projects but also latest developments in the general field or industry.
- **Flyers, banners, posters** – Develop different printed material for each stakeholder group and ensure you have tailored message for each, particularly for fliers. Consider designing flyers that can also be shared digitally so you can repurpose flyers for social media.
- **Presentations** – Have tailored presentations for each stakeholder group. Consider uploading into SlideShare. You can also embed them in special web pages that target your stakeholder.
- **Datasets and insights** – If the project has available and interesting datasets and insights from its activities, consider showcasing them in your websites by embedding them in blogs or website pages. You can also create infographics based on them.

6. Conclusions and Recommendations

Following an in-depth analysis of the we conclude that:

- The Project Group's results deliver innovations in the field of European disaster resilience.
- The Project Group's stakeholders are:
 - Practitioners' organisations/actors for disaster management (authorities, emergency organisations)
 - Policy makers, Funding Agencies including EU & national digital agencies
 - Researchers & Academia
 - ICT Operators/Service Providers
 - Policy Experts & Activists
 - Local decision makers i.e., Community leaders (ultimately civil society)
 - Civil Society, NGOs, Citizens
- The barriers to dissemination are
 - LINKS: The main challenge is represented by the possibility to translate the topics of the project (that are realised especially by researchers) in something that can be useful to our main target groups (especially practitioners and policy makers).
 - CORE: To let scientific community, policy makers, practitioners and civil society aware about the project results.
 - ENGAGE: 1- One of the major drawbacks that affected the communication and dissemination activities of the first year of the project was the COVID-19 pandemic. The measures put in place to stop the spread of the virus led to reduced participation in events, most of which were cancelled or postponed. 2- Some research results reach stakeholders (niche target) faster and more efficiently than the wider population, as the project has a certain complexity. Work has been done to deconstruct scientific jargon and create more interactive content, e.g., infographics, videos etc.
- The recommended dissemination channels to be used by the Project Group to reach its newly identified common stakeholders are
 - Demos and Videos
 - Websites Pages and Blogs
 - Newsletters
 - Social: Twitter
 - Social: LinkedIn
 - Press Releases and Kits
 - Collaterals: Flyers, Banners, Posters
 - Events and Workshops
 - Presentations
 - Infographics
 - Datasets and Insights
 - Policy Briefs

The HRB service delivery team recommends

- **To continue the collaboration** between project and to carry out recommendations in this report, the HRB team strongly advises the group to [apply for HRB Service 1 Module B Helping projects from the portfolio to design and execute a portfolio dissemination plan](#). The service will provide

direct support to the Project Group to carry out joint dissemination activities including effort from the HRB experts to do this. By working collectively, the projects can leverage each other's results and networks to increase impact. This can also sustain the group at an initial stage and could be the springboard for continued collaboration. We suggest that the lead project LINKS makes the application on behalf of the Project Group. Please note that when making the application you should apply as "A Project Group" and not as "An individual project" on the application form.

- The Project Group should consider the recommendations in the document and HRB experts will be more than happy to give advice before the application. In Module B there is actually time and a call dedicated to discussing the right way forward and to agree on a dissemination plan together.

Annex 1 Dissemination networks

Based on the analysis in target stakeholders, the HRB service delivery team identified a dissemination network with 50 contacts and related social media channels identified across the stakeholder groups to start engaging with. This can serve as an important basis for future dissemination activities.

Beside this, the EC recently published a “Social media guide for EU funded R&I projects” listing several social media pages and profiles to follow and engage with. The guide is available at http://ec.europa.eu/research/participants/data/ref/h2020/other/grants_manual/amga/soc-med-guide_en.pdf

1. Intermunicipality Community of Coimbra Region

- Website: <https://igcat.org/>
- Twitter: <https://twitter.com/IGCAT2>
- LinkedIn: <https://www.linkedin.com/in/igcat-org-720924118/>

2. Comune di Messina

- Website: <https://comune.messina.it/>
- Twitter: https://twitter.com/di_messina
- LinkedIn: n/a

3. Zagreb Office for Emergency Management

- Website: <https://zagreb.hr/en/oem-city-office-of-emergency-management/2009>
- Twitter: <https://twitter.com/wwwzagrebhr>
- LinkedIn: n/a

4. INSPECTORATUL DE POLITIE JUDETEAN TIMIS

- Website: <https://tm.politiaromana.ro/>
- Twitter: n/a
- LinkedIn: n/a

5. FOI - Swedish Defence Research Agency

- Website: <https://www.foi.se/>
- Twitter: <https://twitter.com/FOIresearch>
- LinkedIn: <https://www.linkedin.com/company/foi/>

6. BfR - Federal Institute for Risk Assessment

- Website: <https://www.bfr.bund.de/en/home.html>
- Twitter: <https://twitter.com/bfren>
- LinkedIn: n/a

7. VVSG - Association of Flemish Cities and Towns

- Website: <https://www.vvsg.be/>
- Twitter: <https://twitter.com/vvsg>
- LinkedIn: n/a.

8. Protezione civile italiana

- Website: <https://www.protezionecivile.gov.it/it/>
- Twitter: <https://twitter.com/dpcgov>
- LinkedIn: n/a

9. Protection civile française

- Website: <https://www.protection-civile.org/>
- Twitter: <https://twitter.com/ProtecCivilefr>
- LinkedIn: <https://www.linkedin.com/company/protection-civile-fran%C3%A7aise/>

10. Bundesamt für Bevölkerungsschutz und Katastrophenhilfe

- Website: https://www.bbk.bund.de/DE/Home/home_node.html
- Twitter: https://twitter.com/bbk_bund
- LinkedIn: n/a

11. Bundesamt für Bevölkerungsschutz

- Website: <https://www.babs.admin.ch/de/zs.html>
- Twitter: https://twitter.com/BABS_OFPP_UFPP
- LinkedIn: <https://www.linkedin.com/company/babs-ofpp-ufpp/>

12. Dirección General de Protección Civil y Emergencias

- Website: <https://www.proteccioncivil.es/>
- Twitter: <https://twitter.com/proteccioncivil>
- LinkedIn: n/a

13. Department of Civil Protection and Emergency Management

- Website: <https://www.almannavarnir.is/english/>
- Twitter: <https://twitter.com/almannavarnir>
- LinkedIn: n/a

14. General Secretariat for Civil Protection

- Website: <https://www.civilprotection.gr/en>
- Twitter: https://twitter.com/GSCP_GR
- LinkedIn: n/a

15. Ministry of Economic Affairs and Climate Policy

- Website: <https://www.government.nl/ministries/ministry-of-economic-affairs-and-climate-policy>
- Twitter: n/a

- LinkedIn: n/a

16. Swedish Civil Contingencies Agency (MSB)

- Website: <https://www.msb.se/en/>
- Twitter: <https://twitter.com/msbse>
- LinkedIn: <https://www.linkedin.com/company/swedish-civil-contingencies-agency-msb/>

17. Danish Emergency Management Agency

- Website: <https://brs.dk/en/>
- Twitter: n/a
- LinkedIn: n/a

18. Office of emergency planning

- Website: <http://www.emergencyplanning.ie/>
- Twitter: n/a
- LinkedIn: n/a

19. Disaster and emergency management presidency

- Website: <https://en.afad.gov.tr/>
- Twitter: <https://twitter.com/afadbaskanlik>
- LinkedIn: n/a

20. European civil protection and humanitarian aid operations

- Website: https://ec.europa.eu/echo/what/civil-protection_en
- Twitter: https://twitter.com/eu_echo
- LinkedIn: n/a

21. Autoridade Nacional de Emergência e Proteção Civil

- Website: <http://www.prociv.pt/en-us/Pages/default.aspx>
- Twitter: <https://twitter.com/ProteccaoCivil>
- LinkedIn: n/a

22. Civil Defense, Civil Protection, and Disaster Management in Austria

- Website: https://www.bmi.gv.at/204_english/start.aspx
- Twitter: https://twitter.com/bmi_oe
- LinkedIn: n/a

23. IAEA – International Atomic Energy Agency

- Website: <https://www.iaea.org/>
- Twitter: <https://twitter.com/iaeaorg>
- LinkedIn: <https://www.linkedin.com/company/iaea/>

24. ENSREG – European Nuclear Safety Regulators Group

- Website: <http://www.ensreg.eu/>
- Twitter: n/a
- LinkedIn: n/a

25. EGEC - European Geothermal Energy Council

- Website: <https://www.egec.org/>
- Twitter: https://twitter.com/EGEC_geothermal
- LinkedIn: <https://www.linkedin.com/company/european-geothermal-energy-council/>

26. Global Geothermal Alliance

- Website: <https://www.globalgeothermalalliance.org/>
- Twitter: n/a
- LinkedIn: n/a

27. EPOS – European Plate Observing System

- Website: <https://www.epos-eu.org/>
- Twitter: <https://twitter.com/EPOSeu>
- LinkedIn: <https://www.linkedin.com/company/eposeu/>

28. United Nations office for Disaster Risk Reduction

- Website: <https://www.undrr.org/>
- Twitter: <https://twitter.com/undrr>
- LinkedIn: n/a

29. World Bank

- Website: <https://www.worldbank.org/en/home>
- Twitter: <https://twitter.com/worldbank>
- LinkedIn: <https://www.linkedin.com/company/the-world-bank/>

30. Disaster Preparedness and Prevention Initiative for Southeastern Europe

- Website: <http://www.dppi.info/>
- Twitter: n/a
- LinkedIn: n/a

31. Center for Disaster Management and Risk Reduction Technology

- Website: <https://www.cedim.kit.edu/english/13.php>
- Twitter: n/a
- LinkedIn: n/a

32. Global Facility for Disaster Reduction and Recovery (GFDRR)

- Website: <https://www.gfdrr.org/en>
- Twitter: <https://twitter.com/GFDRR>
- LinkedIn: n/a

33. Copernicus

- Website: <https://www.copernicus.eu/en/about-copernicus>
- Twitter: <https://twitter.com/CopernicusEU>
- LinkedIn: n/a

34. FirstNet

- Website: www.firstnet.com
- Twitter: <https://twitter.com/firstnet>
- LinkedIn: n/a

35. The European Forum for Disaster Risk Reduction

- Website: <https://efdr.undrr.org/>
- Twitter: <https://twitter.com/UNDRREurope>
- LinkedIn: n/a

36. Caritas Europe

- Website: <https://www.caritas.eu/>
- Twitter: <https://twitter.com/caritaseuropa>
- LinkedIn: n/a

37. European Police Association

- Website: <https://europeanpolice.net/en>
- Twitter: n/a
- LinkedIn: n/a

38. Federation of European fire officers

- Website: <https://www.f-e-u.org/>
- Twitter: <https://twitter.com/feuorg>
- LinkedIn: n/a

39. European Society for Emergency Medicine

- Website: <https://eusem.org>
- Twitter: <https://eusem.org/>
- LinkedIn: n/a

40. Red Cross Europe

- Website: <https://redcross.eu/>
- Twitter: <https://twitter.com/RedCrossEU>
- LinkedIn: n/a

41. PreventionWeb

- Website: <http://www.preventionweb.net/>
- Twitter: <https://twitter.com/PreventionWeb>
- LinkedIn: n/a

42. European Emergency Number Association

- Website: <https://eenaconference.org/>
- Twitter: n/a
- LinkedIn: n/a

43. The International Emergency Management Society

- Website: <https://tiems.info/>
- Twitter: https://twitter.com/TIEMS_ORG
- LinkedIn: n/a

44. The Critical Communications Associations

- Website: <https://tcca.info/>
- Twitter: <https://tcca.info/>
- LinkedIn: n/a

45. Public Safety Communications Europe Forum

- Website: <http://www.psc-europe.eu/>
- Twitter: https://twitter.com/psc_e
- LinkedIn: n/a

46. University of Copenhagen -Master of Disaster Management

- Website: <https://www.mdma.ku.dk/>
- Twitter: n/a
- LinkedIn: n/a

47. International Forum to Advance First Responder Innovation

- Website: <http://www.internationalresponderforum.org/>
- Twitter: <https://twitter.com/ifafri1?lang=en>
- LinkedIn: n/a

48. Universidad de Oviedo -Master's Degree in Emergency and Disaster Analysis and Management

- Website: <https://www.uniovi.es/en/-/master-universitario-en-analisis-y-gestion-de-emergencia-y-desastre>
- Twitter: n/a
- LinkedIn: n/a

49. Hatay Mustafa Kemal University -EMERGENCY AID AND DISASTER MANAGEMENT DEPARTMENT

- Website: <https://www.mku.edu.tr/departments.aspx?birim=21&icerik=331>
- Twitter: n/a
- LinkedIn: n/a

50. Crisis Management Innovation Network Europe

- Website: <https://www.cmine.eu/>
- Twitter: https://twitter.com/cmine_eu
- LinkedIn: n/a

Annex 2 Project questionnaire responses

At the start of Module A, all participating projects are requested to complete a questionnaire. All responses can be found at this link:

https://workspace.horizonresultsbooster.eu/system/files/7939/modulea_pre_assessment_questionnaire_for_individual_project.xlsx

booster@meta-group.com
www.horizonresultbooster.eu



The RiskPACC Consortium

