D9.1 ACTIVITY REPORT

Project acronym: BuildERS

Project title: Building European Communities' Resilience and Social Capital

Call: H2020-SU-SEC-2018-2019-2020/H2020-SU-SEC-2018

This project has received funding from the European Union's Horizon2020 research and innovation programme under grant agreement No. 833496

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Project no.	833496
Project acronym:	BuildERS
Project title:	Building European Communities' Resilience and Social Capital
Call:	H2020-SU-SEC-2018-2019-2020/H2020-SU-SEC-2018
Start date of project:	01.05.2019
Duration:	36 months
Deliverable title:	D9.1 Activity Report
Due date of deliverable:	April 2020
Actual date of submission:	31 May 2020
Deliverable Lead Partner :	**VTT**
Work Package:	**9**
No of Pages:	**62**
Keywords:	

Name	Organization
Merja Airola	VTT
Anna-Mari Heikkilä	VTT
Claudia Morsut	UiS
Kati Orru	UTA
Abriel Schieffeler	SAL
Pirjo Jukarainen	PUC
Ömer Ceylan	GEO
Marco Kruger	EKU

Dissemination level

PU	Public	info

History

Version	Date	Reason	Revised by
01	16/03/2020	Deliverable template provided	VTT
02	15/04/2020	Input provided by WP leaders	WP leaders

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03		Inputs merged	VTT
04		Inputs harmonised for a public deliverable	VTT
05		Further details added for WP8	GEO
06		Harmonisation and finalisation of the document	VTT
07		Feedback from the project internal review	EKU, GEO, SEI
08		Finalisation of the document based on received feedback	VTT
Final	31.5.2020	Submission of the document	VTT

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Executive Summary

The BuidERS activity report gives an overview of the activities and results achieved during the first project year. The project had a strong start: several deliverables have been submitted to the Participant Portal and all milestones have been met. Due to the COVID-19 pandemic, it has been necessary to change the deadlines of some deliverables for 2020. Some activities start or continue only when the corona situation allows them. COVID-19 have affected all WPs, and delayed their activities from the planned. The situation is monitored constantly and preventative actions have been planned into the project's processes.

During the first project year, the project has focused on building the theoretical framework and conceptual structures for comparative assessment of human vulnerabilities and risk awareness. At the same time institutional aspects of resilience management have been assessed, with especial focus on social media. Social media have been analysed as a data source as well as an information channel for authorities campaigns, but also as a source for disinformation. There are also various tools and technologies developed for the disaster management practitioners in the BuildERS context. These have been catalogued and some will be tested and evaluated later in the project.

As the BuildERS is working in close cooperation with vulnerable groups, ethical guidelines have been defined as first tasks of the project. The ethics assurance with data management are a central cornerstone of the BuildERS implementation throughout all project activities, to ensure both the rights of vulnerable individuals and the secure storage and use of collected and processed data. BuildERS have an active Advisory Board, and its members have supported the project team in the ethical questions as well as in more technical questions. The ideas have been tested with them and with other external end-users in several occasions and the feedback has guided in building the theoretical framework and in more operational issues.

The BuildERS project is heading towards case studies, when the lessons learnt from the pre-tests of the concept and related tools are to be taken into practice. To ensure smooth evaluations, the planning of the case studies has been started earlier than planned. But also the potential effects of the COVID-19 have been identified and preventative actions planned, based on when the postponed activities can continue again.

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List of Acronyms

AB	Advisory Board
BuildERS	Building European Communities Resilience and Social Capital project
COVID-19	Coronavirus disease 2019
D	Deliverable
DoA	Description of Action
DRR	Disaster Risk Reduction
EKU	The University of Tübingen
EU-GDPR	EU's General Data Protection Regulation 2016/679
GEO	Geonardo
IoT	Internet of Things
PMT	Project Management Team
R&D	Research and Development
SAL	Salvation Army
T	Task
TOI	Transportokonomisk Institutt
TRL	Technology Readiness Level
UTA	The University of Tartu
VTT	Technical Research Centre of Finland Ltd
WP	Work Package

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1 BuildERS project

The Sendai Framework for Disaster Reduction 2015-2030 points out that global evidence indicates that in all countries the exposure of people and assets to disasters has increased faster than attempts to decrease vulnerability. The Framework underlines an all-society engagement, which addresses the most vulnerable groups, whilst accounting for contextual and cultural differences. It also calls for a more explicit focus on people, their health and livelihoods, and the local level, since individuals and local communities possess their own capabilities, networks, methods, tools and means to absorb impacts and bounce back. Thus, the 'capital' that is available at the root-level deserves to be recognised and incorporated in the policies and strategies for disaster risk reduction and enhancing of resilience.

To improve the overall resilience of people, communities and thereby the whole society, the BuildERS project focuses on the most vulnerable individuals, groups, and communities. Strengthening the social capital, risk awareness and preparedness of the most vulnerable segments of the societies and communities will increase understanding on what societal resilience comprises. BuildERS will develop knowledge and insights that will device recommendations for policies, plans, strategies, and competencies for building partnerships, networks and trust for progressively fortifying the social capital and resilience against future threats, be they natural or man-induced.

The special focus on communities and in particular on the most vulnerable groups answers to the so-far unfulfilled needs of these communities. BuildERS uses several research methods such as i) Stakeholder engagement with co-design and cocreation processes, ii) Field surveying and questionnaires, iii) Comparative research, iv) Multiple case analysis.

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1. Comparative assessment of human vulnerabilities and risk awareness (WP1)

1.1. Objectives of the reporting period

The objectives of the Comparative assessment of human vulnerabilities and risk awareness, for the first year of BuildERS, are the following:

- Construct our theoretical framework of how risk awareness, social capital and distribution of vulnerability among populations connect to the overall work of resilience building
- Obtain a comprehensive and carefully disaggregated overview of variations in disaster resilience among vulnerable segments of societies
- Map how risk awareness, levels of social capital (such as trust and networks), as well as how information use patterns, such as social media usage dynamics, differ across vulnerable segments of societies and between countries
- Analyse linkages between risk awareness, social capital and vulnerability, with special reference to implications for DRR and resilience theory, policy and practice.

The following milestones foreseen for this period have been achieved:

- MS1 Draft conceptual model was specified and illustrated in D1.1 which was released in M6 (October 2019)
- MS2 Validated conceptual model through validation workshop held in WP6 in M11 (March 2020) and Howspace helped conducting the validation workshop

1.2. Summary of the progress

Table below provides a summary of the main activities achieved within WP1 for the reporting period of the project:

Table 1 Summary of progress for WP1

No: 1	WP kick off meeting
Description:	WP1 kick-off meeting has been organised during the project's kick-off in Tampere 08-10.5.2019 .
No: 2	Theoretical framework and draft conceptual structure
Description:	Constructing our theoretical framework on how risk awareness, social capital, and vulnerability are connected to the overall work of resilience building, based on literature review and synthesising the results into a coherent and visually intuitive conceptual structure or conceptual model
No: 3	Identification of segments of vulnerable populations
Description:	Assessing vulnerability means to take into account the pre-disaster social and cultural factors that engender and perpetuate inequality, exclusion, and lack of access to and control over resources. Thus, the unique

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	circumstances of these populations will be taken into account when identifying vulnerable segments of society in past disasters
No: 4	Identification of segments of vulnerable populations outside the official data
Description:	The nature and characteristics of vulnerable segments of populations not picked by pattern recognition analyses will be mapped by drawing on literature and media reports on central events occurring in Europe
No: 5	Analysis of information behaviour, including social media use among vulnerable groups
Description	The objective has been to identify vulnerable populations' trust in media sources, social media use (or not use) and proneness to be affected by disinformation

1.3. Main results

WP1 was the most theoretical work package of BuildERS and its output served both as a foundation for the following WPs, but also as a direct contribution to the existing knowledge-base on resilience building directed at vulnerable groups of society. The work done in WP1 resulted in establishing the theoretical framework for BuildERS and outlining how groups that may be considered vulnerable in disaster situations differ in respect to risk awareness, access to social capital and disaster risk-related social media usage patterns (such as obtaining early warning information or other forms of public risk outreach efforts). An important result was, as well, to include in the analysis concepts such as risk perception and disinformation, which help better nuancing the research.

Scientifically, WP1 contributed in establishing a theoretical framework and a model on how risk awareness/perception, social capital and vulnerability are connected to the overall work of resilience building. Linkages were built among concepts, such as vulnerability, resilience, social capital, risk perception and risk awareness, which are seldom explored together.

The various deliverables in this WP contain a series of reflections that will serve the policy recommendations in WP5.

Due to the COVID-19 pandemic, it was necessary to change the deadlines of the deliverables for 2020. In this way, WP1 ends a month later than foreseen in the project plan. However, the impact on other tasks in other WPs, resources and planning is assumed minimal, since COVID-19 have affected other WPs too, and delayed their activities from the planned.

1.3.1. Theoretical framework and draft conceptual structure

Constructing our theoretical framework on how risk awareness, risk perception, social capital, and vulnerability are connected to the overall work of resilience building and synthesising the results into the first draft of a coherent and visually intuitive conceptual structure or model.

The first draft of the conceptual structure and model was completed, which engaged the consortium and the Advisory Board (AB) members in a very positive and constructive manner.

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D1.2 is to be delivered in May 2020, due to the COVID-19 pandemic.

1.3.2. Identification of segments of vulnerable populations, incl. also outside the official data

These results cover two tasks that cannot be treated separately since both tasks focus on vulnerability and vulnerable groups in past crises and disasters in a sample of countries of BuildERS consortium. The aim has been to better understand how vulnerabilities are considered at the national level and which vulnerable groups are those most affected by crises.

Categorising vulnerable groups is a challenging endeavour when this phenomenon is studied through the lenses of intersectionality. The intersection of multiple social variables results in different positions of privilege and disadvantage. These different positions make the study on vulnerable groups more complex, but at the same time more nuanced and helpful for a fine-grained mapping of vulnerabilities. The report from these tasks calls for a more systematic application of intersectionality in research to study vulnerabilities and vulnerable groups to serve better targeted policies towards vulnerable groups and their needs in the field of crisis and disaster management, disaster risk reduction and emergency management.

More systematic application of the intersectionality perspective: vulnerability is shaped by a complex set of elements, where some of them are stable characteristics of a group, while some others are context specific. They interact in such ways that the idea of 'typical' or 'predefined' vulnerable groups has to be scrutinised and it would be more appropriate to consider every person as being potentially vulnerable. In this vein, intersectionality is a useful approach to assess vulnerability as a dynamic phenomenon and helps to unveil groups that fall outside the official data. It is important not to generalise or stigmatise, but to approach vulnerability in a dynamic way.

1.3.3. Analysis of information behaviour, including social media use among vulnerable groups

To fulfil the analysis of information behaviour, including social media use among vulnerable groups, a sample of European populations' information behaviour and social media use was analysed, paying particular attention to vulnerable groups. In addition, issues related to proneness to be affected by misinformation and disinformation were studied by analysing cross-country survey data and case studies, such as the 2018 tsunami in Indonesia; the 2011 terrorist attacks in Norway; the 2013 floods in Central Europe; the 2018 drinking water poisoning in Nousiainen, Finland.

D1.4 reviewed research findings about vulnerabilities related to the situational conditions in which people receive and respond to information about crises, and to attributes of communication about hazards. It identified individual, social/structural, and situational factors of vulnerability that shape how people access, understand and act upon information about risks or crises. D1.4 indicates that, while traditional information sources remain relevant during certain crises and for certain types of public, the landscape of crisis communication is being transformed by the increasing use of social media. This has created new venues for building resilience, such as communication between crisis managers and affected groups and organisation of support networks online. But some vulnerabilities have also deepened, such as broad and instant diffusion of false information during crises, digital divide and possible discrimination of some disadvantaged groups.

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1) It is crucial that policy makers better address socio-economic inequalities and marginalisation as the key impediments of trust-building and collaboration with authorities in responding to crisis communication.

2) It is crucial that policy makers invest in better understanding of how local communities keep themselves informed and through which means (more traditional and/or social media): for instance, acknowledging the existence and, thus, the inclusion of existing social networks as info sources can improve crisis communication.

3) There is the need of a better understanding of the causes and processes of spreading of rumours of false information (both as misinformation and disinformation).

4) Skills and tools to evaluate the credibility of social media information need to be further developed.

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2 Comparative assessment of institutional aspects of resilience management (WP2)

2.1. Objectives of the reporting period

WP2 looks into the institutional side of resilience management by analysing and comparing the institutional arrangements, structures and processes in several countries. The results will be interesting when compared to the conceptual structures integrating characteristics of vulnerable populations, social capital structures, as well as the use of social media. This work package aims to:

- Assess the institutional functioning (organisations, processes, resources, tools/assets, guidelines) for resilience management in sample countries and clarify the determinants of effective disaster-resilient systems.
- Catalogue the most relevant current tools, technologies, and media and communication channels for preparedness and disaster management.
- Identify the role of citizens, unofficial networks and volunteer communities in disaster management, as well as the conditions conducive for emergence of volunteers and institutional arrangements for their effective employment.
- Describe the practices of government social media campaigns and how they are received and spread by audience and provide good practices and recommendations on effective responses in cases where disinformation interferes with official messages.

WP2 have feed to the MS1 Draft conceptual model that was specified and illustrated in D1.1 and released in M6 (October 2019)

2.2. Summary of the progress

Table below provides a summary of the main activities achieved within WP2 for the reporting period of the project:

Table 2 Summary of progress for WP2

No: 1	WP kick off meeting May 2019
Description:	WP kick off meeting in Tampere Initial meeting with the core group of T2.1-2.2 to start drafting the Study Protocol
No: 2	The study protocol
Description:	Preparation of the study protocol. The study protocol (D2.1, a confidential report) was prepared to analyse the institutional aspects of resilience management
No: 3	Protocol for analysis of responses to social media campaign
Description:	Elaboration of the protocol for analysis of responses to social media campaign: Protocol entails schemes for coding the preparedness campaign related media

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	articles, social media responses to articles, social media posts and response posts.
No: 4	Protocol for analysis of alert systems and fresh emergencies for social media use
Description:	Elaboration of the protocol for analysis of alert systems and fresh emergencies for social media use. Protocol entails categories for analysis of alert systems, new communication tools. The emergencies were to be analysed particularly in relation to the use of social media
No:5	Country case study analysis
Description	Country case study analysis. Following the study protocol, BuildERS partners gathered information on the institutional aspects of resilience management in Estonia, Finland, Sweden, Norway, Germany, Belgium, Italy and Hungary.
No:6	Protocol for cataloguing tools and technologies
Description	Elaboration of the protocol for cataloguing tools and technologies. Protocol was elaborated to categorise the tools and technologies, their market-readiness and usability for vulnerability reduction.
No:7	Emergencies and social media use in the case studies
Description	Case studies of emergencies and social media use in them. The case studies were conducted following a common protocol in Finland, Sweden, Estonia, Norway, Italy and Hungary
No:8	Analysis of social media campaign responses, alert systems in various countries, social media use and handing of misinformation
Description	Preparing and conducting the analysis of social media campaign responses, alert systems in various countries, and social media use and handing of misinformation in all BuildERS partner countries.

2.3. Main results

For carrying out the country studies, guidelines for desk-based research and interviews were elaborated in a study protocol. The study protocol foresaw exploring the following aspects: 1) Background on threats, structure of crisis management, and resilience approaches; 2) Addressing vulnerable groups; 3) The role of social support networks and volunteers; and 4) the role of misinformation and social media in resilience management 5) Case studies of actual crises. The study protocol was tailored in a way that would gather also some background information for social media use rules and practices and handling misinformation.

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2.3.1. Analysis of resilience management systems' functioning and the effect of internal and contextual pressures in partner countries

Based on reading through related literatures five key themes were identified as crucial for understanding the resilience management systems in our country studies:

- Background on threats, structure of crisis management, and resilience approaches
- Addressing vulnerable groups in resilience management
- The role of social support networks and volunteers in resilience management
- The role of misinformation and social media in resilience management
- Case studies of actual crises

For carrying out the country studies, guidelines for desk-based research were elaborated. Guidelines for carrying out expert interviews, including choice of relevant interviewees and ethical considerations were laid out. In addition, a guide for drafting the country study report as well as storing and referencing the gathered data were elaborated. In the study protocol, we paid particular attention to the ethical dimension of the study, including informing our interviewees and conditions for receiving an informed consent. The study protocol was carefully studied and approved by all the partners involved in the task.

A study protocol was elaborated to gather information in BuildERS countries on the institutional aspects of resilience management in Estonia, Finland, Sweden, Norway, Germany, Belgium, Italy and Hungary in September 2019-January 2020.

2.3.2. Risks and strengths of using volunteer communities and individuals in disaster management

Following the study protocol, BuildERS partners gathered information on the institutional aspects of resilience management in Estonia, Finland, Sweden, Norway, Germany, Belgium, Italy and Hungary in September 2019-January 2020. Before the start of the interviews, each partner applied for the ethical consent by the respective authorities in their countries. Altogether over 45 interviews were carried out in case study countries, many of them were group interviews. Based on the data gathered in desk-based research and interviews Excel template sheets were filled and narrative reports were prepared following the study questions in each case study country.

The cross-country analysis of resilience management systems started in January 2020. Comparative analysis followed the study questions set forth in the Study protocol. The analysis resulted in report D2.2 submitted by the end of February 2020.

Highlights on the cross-country analysis of resilience management are following:

- In studied BuildERS countries, societal resilience tends to be mainly fostered through information campaigns that shed the responsibility for preparation on individual, with little scrutiny of the scope of necessary capacities for coping in crisis.

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- The ways of approaching individual vulnerabilities must be seen as dynamic and open, evolving together with the societal threats faced by a community.
- Efforts to respond to the needs of vulnerable individuals are concentrated on the municipal level. Yet they tend to have limited guidance on how to assess individual vulnerability.
- There is no systematic approach to building or engaging social support networks as part of resilience management.

2.3.3. Social media as an information channel for authorities' campaigns and as a data source

A protocol was elaborated for the analysis of responses to social media campaigns on crisis preparedness. The protocol foresees the coding schemes for media articles, social media responses to articles, social media posts and response posts related to the crisis preparedness campaigns in Estonia, Sweden and Norway. Following the coding scheme, the quantity of themes and sentiments appearing in articles and responses were measured; and prevailing beliefs and attitudes were explored.

The developed protocol for analysing the alert systems and new communication tools can be applied for risk and crisis communication to reach the various population groups, including the vulnerable people. Following the joint protocol, country studies of alert systems were conducted in Finland, Sweden, Estonia, Norway, Italy and Hungary. We elaborated a protocol for analysing fresh emergency cases. We selected examples of emergencies in the following participating project country: Finland, Sweden, Norway, Estonia, Hungary, and Italy. Data was collected from relevant social media channels as well as from news and reports. The special viewpoints of the analysis were to:

- Uncover observations relating to alerting people of danger and people's reactions to it,
- Gather indications and ideas to improving local resilience, and
- Uncover different kinds of unconstructive use of social media and behaviour in social media.

In cross-country analysis we explored the use of social media and handling of misinformation by the state institutions in Estonia, Finland, Sweden, Norway, Germany, Belgium, Italy and Hungary. Comparative analysis followed the study questions.

A confidential joint report D2.3 was prepared on the analysis of social media campaign responses, alert systems in various countries and social media use and handing of misinformation.

Highlights on social media campaigns for preparedness are following:

- News stories on the launch of the preparedness campaign triggered very few public response comments in Sweden and Norway and more comments in Estonia, where all media outlets allow user commenting.
- Facebook is seen as the main social media platform for social media campaign.

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- The overall engagement with the official Facebook posts in all the countries was not particularly significant. Mainly Facebook users who were already following respective public service pages engaged with the campaign posts (commented, liked, shared).
- Using a variety of social media tools, such as videos, hashtags, games etc. can attract more visibility and broader engagement to the preparedness campaign.
- The communication between the public authority and the general public was rather limited as it seems that currently the general audience is imagined to passively receive authority-made information.
- The majority of user comments in all the cases expressed irony and sarcasm; rather than tried to extend a constructive discussion on the topic of crises preparedness.
- Facebook responses triggered also concrete questions and provided constructive feedback to the campaign managers related to the distribution, content and formatting of the campaigns.

Highlights on alert systems are following:

- Emergency alerting apps are not widely in use but their availability and use are increasing
- There is interest for versatile apps with personal health information
- The requirements for the reliability of the app are high: all relevant alerts need to be delivered and no extra ones.
- Individuals are important in sharing emergency alerts in Twitter (Finland).
- Social media was widely used by authorities and individuals
- Unconstructive use of social media included making jokes about alerts and sharing falsified messages.
- Social tensions or experiences of unfair support in earlier emergencies popped up as unconstructive use.
- Practical skills of communicating on social media in emergencies were inadequate both for authorities and individuals.
- Facebook was the most important social media channel of those with public information.

Highlights on social media use in crisis management are following:

- While only a few countries use social media in crisis management context (Finland, Belgium, Hungary), the majority of the studied countries have guidelines for using social media in the context of crisis management.
- Even though social media use by the members of public is on the rise, the authorities need to use other channels to reach the population groups that are not online, and in cases where the functioning of social media is interrupted (e.g. failure of infrastructure).

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- The social media based geolocation (e.g. the cross referencing of the hashtags referring to areas and incidents) could be further employed for more detailed identification of the affected population and targeting them through guidelines.

2.3.4. The analysis of challenges of responses to disinformation

In the cross-country analysis, the handling of misinformation by the state institutions were explored in Estonia, Finland, Sweden, Norway, Germany, Belgium, Italy and Hungary. Comparative analysis followed the study questions.

The study in 8 BuildERS countries indicates that in several countries (Sweden, Norway, Finland, and Estonia) the dissemination of false information is often associated with malicious foreign influence activities and the terms 'disinformation' and 'information operations' are used to refer to these instances. Misinformation in the analysed crisis cases was mainly caused by the lack of (timely provision of) correct official information. Formal guidelines or regulations for dealing with misinformation in the context of resilience and crisis management exist in Sweden, Norway, Estonia and Finland. Official responding to misinformation is organised relatively loosely in Estonia, Finland, Norway Germany, Italy and Hungary and more strictly in Sweden and Belgium.

Highlights on handling of misinformation are the following:

- It is not possible to eliminate all unintentional misinformation spread by the officials or by the members of the public. Thus, it is advised to invest in media literacy training and information awareness campaigns
- Authorities monitoring social media use (gathering local insights), direct "fact-checking" help-lines by the authorities and being available for dialogue during the crises helps to detect relevant issues and stop the spreading of possible misinformation.
- The appointment of specialised communication support teams may improve monitoring and tackling false information on social media. Not bound to any particular crisis management institution, the teams can be called to action in any crisis case regardless of its location in a country.

The results have been presented in the confidential report D2.3.

2.3.5. Catalogue of tools and technologies for disaster management

Following the objectives of the task for analysing the technologies and tools (T&T) for preparedness and disaster management with emerging opportunities, the task group has applied iterative methods to catalogue T&T and analyses emerging opportunities for preparedness and disaster management. The following subtasks have been under work in each of the two iterations:

- Analysis of related EU (H2020 and other frameworks projects) projects and especially the results related to T&T for preparedness and disaster management.

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- Defining an applicable set of categories for establishment of common basis for describing the aspects related to T&T, and analysis of the results via categorization and technological survey.
- To look for needs, requirements and gap areas in the technological framework for analysing the emerging opportunities that are arising via technological development especially arising from recent advances in tracking the location of people, use of drones, use of social media with artificial intelligence and machine learning, communications over 5G, interaction with Internet of Things (IoT) assets and sensors.

The main achieved results of the task are following:

- The technological framework and landscape related to standardization and state of the practice related to preparedness and disaster management has been analysed and described as the starting point and context of the T&T analysis.
- A taxonomy and categorization of T&T has been defined to establish a common basis for describing the aspects related to individual tools and technologies.
- Analysis of the results of 41 EU and other R&D frameworks projects, from which ~89 tools have been found (indexing still ongoing when writing this report) and categorised in terms of tool or technology type, purpose, owner, potential users/customers, level of use, TRL levels and applicable crisis/disaster lifecycle phase. The key findings from the analysis are just now under crystallization.
- Analysis of emerging opportunities from three related perspectives: technological, importance and applicability.
- The technological perspective can be considered as the enabler for the opportunity. The technological analysis has been focused especially to location based services, use of social media, satellite imaging, and IoT. In addition, short analysis on use of drones/robots, 5G, artificial intelligence and machine learning with big data and blockchain technology have been carried out.
- The importance analysis has been carried out by discussing the needs of the involved key disaster management stakeholders that are taking part of the Builders consortia.
- The applicability analysis has been carried out by discussing the potential meaning of the opportunities in different disaster life cycle phases.
- When writing this report, final combining, integration of the results and crystallization of the findings are under work. In the last step of the research, the COVID19 pandemic was strongly spreading globally and in Europe. Therefore, some known applicable tools that help citizens and authorities are also to be included and discussed in the analysis as much as possible within the available in the limits of the resources.

A joint report D2.4 clarifying the achieved results is just now in final working, integration and conclusions phase.

Highlights on the task are following:

- The technological landscape related to preparedness and disaster management

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- A taxonomy and categorization of technologies and tools for preparedness and disaster management
- Results of 41 EU and other R&D frameworks projects analysed. 89 potentially applicable tools for preparedness and disaster management have been found and categorised.
- Emerging opportunities analysed from three related perspectives: technological, importance and applicability.
- The technological analysis has been focused especially to location-based services, use of social media, satellite imaging, and IoT. In addition, short analysis on use of drones/robots, 5G, artificial intelligence and machine learning with big data and block chain technology have been carried out.
- Discussion on the importance of technological opportunities for the involved key disaster management stakeholders that are taking part of the Builders consortia.
- Discussion on the applicability and potential meaning of the technological opportunities in different disaster life cycle phases.

2.3.6. Synthesis on results

This task consists a synthesis on results from previous tasks in WP2. The synthesis is ongoing and clarifies the interrelations between the characteristics of vulnerable populations, social capital as well as the institutional support structures across the BuildERS country cases when compared to the conceptual structures.

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3 Vulnerability of severely disadvantaged population segments (WP3)

3.1. Objectives of the reporting period

The main objective is that the research sample of severely disadvantaged population will encompass recipients of social aid, care and charity services provided by Salvation Army's and other civic society and humanitarian organizations.

Objectives during this period of work has been to create knowledge baseline for the selection of geographical areas and socio-economic indicators allowing to identify and locate the different groups of severely disadvantaged people whose representatives would be included in respondent samples and queried by future survey interviews. The sub-objectives included 1) identification of natural and/or man-made hazards that occurred during 2013-2018 and their discharge areas in Europe, 2) create map overlays of hazard discharge on locations with high population density, 3) identify geo-spatial locations of the different cohorts of disadvantaged people, and 4) assess how these subpopulations have been affected by the hazards identified.

Another objective for this reporting period has been to develop a research instrument for enhancing our understanding of how the most vulnerable people have coped with natural and/or man-mad hazards such as weather extremes, earthquakes, floods and fires plus and became affected by these adversities. The sub-objectives included:

1. Elaboration and devise of conceptual model with factors that might influence the ability of highly disadvantaged people for immediate coping, and the consequences imposed on their cohorts in medium and/or long-terms,

2. Assessment of shortcomings in care and social services provided to such vulnerable sub-populations by European regions;

3. Devising the survey methodology, including the sampling frame, techniques for interview performance, collecting of written data and retrieval of questionnaire responses collected through web-based questionnaires.

4. Trainings of the pilot interviewers on protection of personal information and data received from interviews; completion of pilot interviews in three test countries and revisions of survey instrument and technical survey manual in accordance with pilot findings.

WP3 have feed to the MS2 Validated conceptual model by validating the survey instrument.

3.2. Summary of the progress

Table below provides a summary of the main activities achieved within WP3 for the reporting period of the project:

Table 3 Summary of progress for WP3

No: 1	WP kick off meeting in Tampere

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Description:	WP 3 kick off discussion meeting laid out the initial vulnerability criteria and survey of disadvantaged groups
No: 2	Hazard mapping criteria
Description	Definition of criteria for mapping geophysical and climate-related hazards
No: 3	Hazards mapping
Description |1	Severe hazards that affected the BuildERS countries during 1980-2019 were identified and summarised in Excel table and their discharge areas mapped in ArcGIS application. The population density maps, GDP data and SAL operation cities were added as layers to help in selection of the geographical areas where high concentrations of highly fragile people were located. Separate extracts of table and maps were provided for Tallinn and Brussels areas.
No.4	Fatalities and socio-economic loses imposed by natural hazards on European population over 1980-2017
Description 2	Compilation of information, statistics and data on human fatalities, physical damage and countries most severely hit by extreme weather, hydrological, fire and geophysical disasters.
No.5	Links between atmospheric variability, economic and social marginalization and population mortality in selected BuilDERS countries
Description 3	Medical, socio-economic and meteorological evidence and research findings were collected to assess how climatic change, and specifically higher temperature variability in addition to severe natural hazards (floods and fires), did increase population mortality, and particularly, its most fragile cohorts encompassing individuals and groups living below national poverty lines, and those socially marginalised such as homeless people.
No: 6	Interview questionnaire
Description:	Preparing the interview questionnaire and technical interview manual for the pre-test in three pilot countries, Estonia, Belgium and Norway Finalization of interview and interviewer manual based on feedback from ethics committees, Salvation Army, and internal ethics committee.
No:7	Online survey instrument
Description	Creation of online survey instrument in English, and then translating the survey into Estonian and French
No:8	Ethical trainings
Description	Interview pre-trial ethical trainings Ethical trainings by EKU, UTA, TOI, and SAL with Salvation Army interviewers in Estonia, Norway, and Belgium
No:9	Pre-trials
Description	Starting pre-trials in Norway, Estonia, and Belgium, but the interviews were abruptly halted by to COVID-19 pandemics on 13/03.

3.3. Main results

3.3.1. Locating the areas and vulnerable populations under significant (relative to the country) risks

Identification of several social groups which have been designated as socially, economically and medically fragile and therefore their representatives should be interviewed by BuildERS-survey to assess how these sub-populations coped with climate-induced, hydrological and geophysical disasters.

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Highlights of the task are:

- Creation of knowledge base that allowed to inventory, localise and categorise natural and geophysical hazards in Europe in terms of fatalities, economic damage and frequency.
- The above knowledge base allowed to establish that long-term climate change in the form of higher temperature variability which usually is not considered as life-threatening hazard is associated with higher population mortality, and in addition to abrupt natural disasters, affects particularly those who suffer from pre-existing health conditions such as most homeless people.

There are some deviations that have impact on other tasks:

1. The D3.1 analyses timeline was extended backward to 1980-2017 and forward to 2015-2019 for more detail chronicle of the most severe geophysical, hydrological and climate- related hazards and these events' social, economic and humanitarian impacts.
2. Hazard maps with locations of severely vulnerable groups and positioning of the Salvation Army social infrastructures has not been published because of ethical sensitivity concerns. However, this information was provided to Salvation Army social service apparatus in the BuildERS survey countries.

3.3.2. Development and validation of survey instruments through field pre-tests in Norway, Italy, and Belgium

Objectives during this period of work has been to create knowledge baseline for the selection of geographical areas and socio-economic indicators allowing to identify and locate the different groups of severely disadvantaged people whose representatives would be included in respondent samples and queried by future survey interviews. The sub-objectives included 1) identification of natural and/or man-made hazards that occurred during 2013-2018 and their discharge areas in Europe , 2) create map overlays of hazard discharge on locations with high population density, and 3) identify geo-spatial locations of the different cohorts of disadvantaged people, and 4) assess how these subpopulations have been affected by the hazards identified. Vulnerable groups to a range of extreme events that have raged Europe. The respondents will comment more extensively on an extreme event that they have found the most straining. The survey explores key factors that may shape the coping outcomes of this event: the support networks and community, economic engagement, living arrangements, socio-demographic background. As outcome variables, the survey measures health effects, post-traumatic stress and growth.

Second, survey methodology was produced, including sampling frame, carrying out interviews, collecting and storing written data and those gathered through web questionnaire. The study population was defined, where the respondents would be invited from among the homeless or the clients of temporary shelter, being 18 years or above, and having lived in the city for at least a year. A study manual was elaborated that specifically defined procedures for field research, including definition of the study population, ethical aspects of approaching the potential respondents, obtaining

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their informed consent, presenting questions and recording answers on paper or through web survey instrument.

Third, the SAL centres were contacted and asked to carry out pre-trial interviews. There were trainings organised, in which the purpose of the interviews was introduced as well as the key concepts; the ethical considerations including how to approach the potential interviewees and obtaining their informed consent and securing records anonymity, and review of the written and web-retrieved data. Trainings were carried out in Tallinn on 29th January; Oslo 31st January, and in Brussels 20th February.

Pre-trials were halted on 13th March due to the COVID-19 pandemic outbreak. The pre-trials will be continued when the isolation restrictions are lifted. For drawing reliable conclusions from the pre-trials, a minimum of 10 interviews should be conducted and data recorded.

Highlights of the task are:

1. The conceptual model entailing factors that shape the coping, the immediate and long-term consequences of those extreme events to the most vulnerable groups in Europe was elaborated.

2. The survey methodology, including approach to sampling, carrying out interviews, collecting and storing data in pen-and-paper version as well as in a web questionnaire format were developed.

3. Trainings of the pilot interviewers were carried out in Tallinn, Oslo and Brussels.

T3.2 faced a delay due to the ongoing changes made to the questionnaire, which resulted in multiple applications for ethical approval from the Belgian ethical committee. There was not sufficient time between that date and the deliverable submission deadline to complete the necessary trainings for Salvation Army staff on the material and ethical components and complete the pre-trial interviews. To prevent an unnecessary burden on Salvation Army staff, the postponement was planned so as to only marginally affect following tasks.

A further delay came as a result of the current COVID-19 crisis. The activities involving interviewing vulnerable groups were halted on 13 March 2020. Due to the crisis, Salvation Army service centres had minimal staff contact with clients to prevent infection and halted any non-essential activities. The Salvation Army, in agreement with the BuildERS consortium, decided to postpone WP3 until safety of staff and clients could be guaranteed, with the earliest possible re-start date being May 2020. The situation will continue to be closely monitored by The Salvation Army EU Affairs Office, as well as the individual territories of The Salvation Army where WP3 activities are scheduled to take place. This postponement will delay all work in upcoming tasks and deliverables but is absolutely necessary in order to prioritise the health and safety of The Salvation Army staff and clients. The Salvation Army is collecting input from territories in the EU on the effect of the crisis on their clients on an on-going basis. This information can potentially be used to support results from the planned BuildERS research.

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4 Case Studies: Practices and innovations reducing vulnerability (WP4)

WP 4 performs seven case studies producing innovations reducing social vulnerability of the population at-risk of natural and man-made hazards, and devise strategies and measures for transferability of innovative solutions to hazard prevention in other eco-locations and contexts.

Although the start month of WP4 is M16, some preparatory planning has been already started in case studies. E.g. the availability of some learning facilities have forced to start drafting of exercises and required technologies and other details earlier than originally planned.

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5 Recommendations to improve resilience and risk awareness (WP5)

WP5 will provide an internal and external quality-check of the project's overall results and will synthesise the findings of the project and will translate them into outputs. This WP has not yet started.

However, representatives of WP5 keep in regular contact with other WP leaders to promote reliable, valid results that can be distilled into policy-relevant findings.

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6 Co-design and co-development with Stakeholders (WP6)

WP6 aims for an increased co-design and co-development activities with Stakeholders. Here iteratively new knowledge is produced for use in other activities of the project. It is a co-creative pillar that throughout the project lifecycle considers the feedback from the monitoring mechanisms of WP 7, responsible of ethics management, quality assurance and EU-GDPR compliance.

6.1. Objectives of the reporting period

Objectives of the reporting period were the following:

- Information exchange among the vulnerable populations – Online and offline discussions with the stakeholders and questionnaire for the citizens and communities to validate the theoretical framework established in the WP1 on how risk awareness, social capital and different forms of vulnerability connect to disaster resilience, and utilises and validates the results of WP2.
- Table-top exercises and workshops on the challenges of disinformation and misinformation that contributes to the analysis of challenges of responses to disinformation in WP2.
- End-user evaluation of new tools and technologies for disaster management that produces the end-user evaluations of the new technologies identified in the Catalogue of tools and technologies for disaster management and evaluates the technological innovations of WP4 case studies.

There are no milestones for this period.

6.2. Summary of the progress

Table below provides a summary of the main activities achieved within WP6 for the reporting period of the project:

Table 4 Summary of progress for WP6

No: 1	Preparation of a working plan for co-design and co-development with stakeholder forum
Description:	WP6 is an iterative work package that derives its sources from other WPs and feeds information to them. The working plan (document and slides) detail the source materials for iteration (i.e. background data) and the outputs of validation and co-creation, including the specific tasks, where the activities are feeding to and should consider the results. In the working plan WP6 was divided into 7 thematic modules, which integrate WP6 with another WPs: 1. Validating WP1 theoretical model and key concepts 2. Increasing risk awareness & improving risk perception — tackling mis-/disinformation 3. Strengthening social capital — building on social support networks & volunteers

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	4. Addressing vulnerability in building resilience 5. Evaluation of supportive technological tools and innovations 6. Evaluation of social innovations and recommendations for investment strategies 7. Research colloquiums on resilience
No: 2	Planning and setting up online co-creation platform
Description:	The BuildERS project uses an online platform (Howspace) for co-creation with the Stakeholder Forum and validation of project results. The online tool complements interviews, exercises and face-to-face workshops. D6.1 documented the technical features and user management procedures of the Howspace -platform, methods of recruitment of participants and an overview of how the Howspace-platform will be used in different WP6 tasks.
No: 3	Validation of the theoretical framework established in the WP1
Description:	The Advisory Board (AB) members, first responder project partners and external stakeholders discussed the interlinkages between risk awareness, risk perception, social capital and vulnerability and resilience with the Task 1.1 leader and contributors. Validation of the 1st draft of concepts and theoretical model took place in two rounds. First round was a series of internal conference calls with the AB and partners. Second round was organised as an online workshop via Howspace -platform.
No: 4	Co-creation based on the WP1 and WP2 results - Theme: Crisis communication
Description:	Three table-top exercises/workshops on crisis communication were arranged to take further the WP1 and WP2 results. Two exercises were held online via the Howspace-platform in April: first in Finland and later in Germany. The invited participants were members of NGOs, first responders, municipalities and other authorities. The third exercise/workshop is arranged in May 2020, in Estonia.

6.3. Main results

6.3.1. Information exchange among the vulnerable populations

T6.1 has supported T1.1 and the writing process of two deliverables D1.1 (October 2019) and D1.2 (May 2020) by helping the validation of the theoretical framework established in the WP1 on how risk awareness, risk perception, social capital and vulnerability connect to disaster resilience.

The two main results provided by T6.1 were two so-called validation workshops. The first one was organised between the 3rd and 4th week of October 2019, with the members of the AB and the stakeholders of the BuildERS consortium. The first validation workshop consisted of conversations based on a set of questions about the draft of the BuildERS model, which showed the correlations of the concepts used in the theoretical framework of the project.

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The second validation workshop was organised online via the Howspace -platform between 9th and 27th of March 2020. This workshop engaged a wider range of stakeholders, belonging to relevant organizations within the consortium's home countries and in third countries. Unfortunately, the launch of the second validation workshop coincided with the COVID-19 outbreak. Due to their other commitments, most of the stakeholders were not able to engage in the platform, resulting a small number of responses.

Both validation rounds, however, helped to improve both the visualization and overall quality of the BuildERS theoretical model.

6.3.2. Table-top exercises on the challenges of disinformation

In Finland with the Regional State Authority, a face-to-face table-top exercise was organised on crisis communication. The exercise focused in particular on finding ways to tackle mis/disinformation and identifying strategic partnerships in crisis communication. The exercise was planned to take place in April in two locations, in an urban centre and with the stakeholders of a rural community. Unfortunately, this planning stopped after the outbreak of the COVID-19 pandemic. However, a thematically similar online exercise was organised in April via the Howspace-platform. This event engaged communication and/or crisis preparedness experts of first responders (rescue services, police), municipalities, the National Emergency Supply Agency, the Emergency Services Academy Finland, Network of multicultural associations and the Finnish National Rescue Association.

In Germany, a two-week-long, online exercise was organised on the issue of crisis information in April 2020. The Howspace–platform was used to design and create activities and content based on the BuildERS deliverables on main concepts and the theoretical framework (D1.1); communication behaviour in Europe and vulnerabilities (D1.4); and case country analyses and a comparative analysis of the functioning of disaster resilience systems (D2.2). The final material was translated into German. The participants were invited from the German Red Cross, the Bavarian Red Cross and the Fire Brigade City Dortmund.

The development of material for both exercises was monitored from an ethical perspective. Participants were instructed about content, form and time of the exercise.

A similar online exercise was designed on the Howspace -platform to be held in mid-May 2020 in Estonia. Originally, this exercise was supposed to be a face-to-face workshop, but due to the critical phase of COVID-19 epidemic in Estonia, the face-to-face exercise was postponed to be held in the autumn. An Estonian exercise planning team was formed by the BuildERS partners in Estonia. As key stakeholders, experts from the Ministry of Economics and Communication were consulted in planning of the exercise. Between October 2019 and March 2020 the scenario and tasks to be solved over the table-top exercise were prepared and agreed on, the scope of participants was determined and initial agreements with the participants were made. Table-top exercise with more than 25 participants was first planned to be held on 9th April 2020.

All exercises/workshops were refocused on COVID-19 pandemic, by collecting participating stakeholders' experiences and opinions on COVID-19 related awareness raising and tackling of false information.

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Before the COVID-19 outbreak, the organizing Consortium of EU MODEX was contacted to enable the participation of two observers from the BuildERS in their 2020 exercise in Italy. Due to the COVID-19 outbreak, this exercise was cancelled and postponed to be held in March 2021.

6.3.3. End-user evaluation of new tools and technologies for disaster management

Background data for this task has been prepared in the T2.5 Catalogue of tools and technologies for disaster management. One tool that is included in the catalogue has been tested with the citizens of different ages aside a scientific and technological event: this was an awareness raising simulation game called 72-hours created by the Finnish National Rescue Association (SPEK) in cooperation with the Finnish preparedness organisations, NGOs, municipalities and other authorities. There were approximately 4000 participants in the event and the feedback of the tool was generally positive.

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7 Ethics, Societal Issues, Quality, GDPR (WP7)

7.1. Objectives of the reporting period

Objectives of the WP7 were following:

- Ethics assessment for the empirical work within WP 2 and WP 3 (to be finalised in M14); Submission of D 7.1
- Ethics assessment for the empirical work within WP 4 (to be finalised in M14)
- Ethics monitoring of the first steps of the stakeholder participation in WP 6
- Establishment of a quality assurance process for the whole project consortium

There are no milestones for this period.

7.2. Summary of the progress

Table below provides a summary of the main activities achieved within WP7 for the reporting period of the project:

Table 5 Summary of progress for WP7

No: 1	Development of ethical categories for analysis
Description:	Ethics categories that are important for the work of the BuildERS consortium were developed based on the state of the art in research ethics and security/disaster ethics.
No: 2	Analysis of WP 2 activities (finalised and submitted in D7.1)
Description:	The work plan of WP 2 was analysed using the previously defined and described categories. The ethical implications of the work in WP 2 have been identified and communicated to the consortium.
No: 3	Analysis of WP 3 and WP 4 activities
Description:	Based on the ethics categories, the analysis identifies ethical issues of the work conducted in WP 3 (D7.2) and WP 4 (D.7.3). The confidential deliverables are progressing and will be published at the end of June 2020.
No: 4	Establishment of a quality assurance process
Description:	Establishment of a quality assurance process
No: 5	Monitoring of empirical WP 6 activities
Description:	The deployment of the Howspace platform as well as data protection issues of potential participants have been monitored and will feed into the development of deliverable D7.4 which is a confidential report.

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No: 6	Ethics Workshop
Description:	A workshop on the developed ethical categories and their implications for the work in WP 2 and 3 was held at the project meeting in February 2020 in Budapest.

7.3. Main results

In the first project year, a central result of WP 7 was the definition of ethical categories for the subsequent analysis of the project work. The categories have been presented in form of a workshop during the project meeting in February. Based on these categories, ethics standards for the work in BuildERS are outlined. The ethics monitoring of the work in WP 2 was accomplished. The monitoring of the WPs 3 and 4 is work in progress and will be finalised by the end of June 2020. The monitoring of the work in WP 4 started early to ensure the timely provision of ethics feedback in the first phase of the case studies. Finally, the work of WP 7 finally facilitated the submission of the several WP 10 deliverables by providing ethics input and reviewing ethics applications etc. if wanted by the respective partners.

7.3.1. Ethics Assurance, data management

The main purpose of T7.1 is to monitor the data management processes within the BuildERS project. Since the European Commission added WP10 to the work plan, most activities of T7.1 were carried out in WP 10. Thereby, T7.1 has mainly been a consulting task to facilitate the work process in WP 10 in the first project year. In this context, partners were advised, where necessary and wanted, in setting up the application process for the national ethics committees. The development of measures to ethically comply with privacy standards (see: EU-GDPR), the identification of ethics issues linked to the use of (personal) data as well as the empirical research with human beings and the identification of challenges linked to the inclusion of new technologies (e.g., social media) have been part of this task. As a central achievement, the development of data protection standards contributed to the successful submission of the WP 10 deliverables. However, T7.1 serves a cross-cutting purpose and thus influences the work in the ethics assessment of the empirical WPs (2, 3, 4 and 6) in the course of the whole project. While the first results of T7.1 fed into the development of the data management plan, the continuous monitoring process of the applied routines for data mining and processing (including its deletion) will last for the whole project duration. In this context, a result of T7.1 was the development of an informed consent form (also for WP10) and a template for a task-specific project information for potential participants in the research process.

7.3.2. Ethics Assurance – Interviews and Surveys in WP2 and WP3

T7.2 was the first out of three ethics assurance tasks. In those tasks, an ethical analysis of procedures and activities in the empirical work packages was conducted. More precisely, T7.2 analysed ethics issues linked to WP 2 and WP 3. Therefore, the results of the ethics analysis are split into two deliverables. The resulting deliverables D7.1 and D7.2 consist of a general description on the role of ethics in the BuildERS project. In this part, central values that are supposed to be relevant for BuildERS are briefly introduced and explained. EKU, as ethics partner, transferred the complex

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debates around these values to the particular context of the research project BuildERS and grouped them to the following categories:

- Justice and participation
- Responsibility and accountability
- Freedom of choice and autonomy
- Trust and transparency
- Non-maleficence and beneficence
- Privacy and data protection

Starting from this, all tasks of WP2 were analysed with regard to potential conflicts and problems in the aforementioned ethics categories. To increase the action ability of the ethics analysis, task-specific tables were generated to display ethically important topics (T) as well as potential issues (I). Ethically important topics were those points within the BuildERS workplan that link to ethical debates in this research field. For the sake of maximising both, the societal added-value and the ethical acceptability of the research, it was advised to take the identified topics during the empirical research of the WP into account. In so far, ethically important topics are those that might be of interest for the BuildERS project and thus worth examining. Moreover, the deliverable defines issues. Issues are potential challenges to be address, mitigated or resolved to grant the project's research process as well as its results ethical acceptability. The main identified issue in WP2 was the upholding of the privacy of the interviewees. Particularly in those situations, in which only a very limited number of persons were eligible as national experts in the respective field. A detailed feedback on ethically important topics and potentially problematic issues was given to WP 2. Moreover, it functioned as the foundation for the associated national ethic applications for the studies. The work influenced the shaping of the research plan for WP 2 with regard to the enactment of the empirical work. Furthermore, check memos were developed to facilitate the review process of the deliverables in WP2.

Secondly, T7.2 will result in analyses the specific tasks of WP3. Building on the aforementioned structure of the introductory core chapters on ethics and important value perspectives in BuildERS, the focus is the survey on vulnerability and resilience of homeless persons in several European countries conducted by the Salvation Army's national branches. The main topic here is the consideration of vulnerable study populations. The preparations included the basis for national ethics applications for the studies, the ethical assurance of the questionnaire, the conduction and the evaluation process. In this course three ethics workshops are performed with the interviewing Salvation Army offices. As the task is still ongoing, no signed check memos were developed so far.

WP 3 required substantial ethics consulting due to its sensitive study design and the vulnerable target group of the users of the Salvation Army's services and facilities. In this context, ethical requirements for the pre-test questionnaire were developed. These informed the ethics monitoring and co-design undertaken in the course of WP 3 (e.g. the training and the manual for Salvation Army staff for the work in task 3.2).

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7.3.3. Ethics Assurance – Case Studies in WP4

Building on the structure and content of T7.21 and T7.2, T7.3 analyses the work rate of WP4. The result of T7.3 is an overview of the developed ethical categories and an analysis of the work carried out in the case studies of WP4. The structure mirrors deliberately this of the ethics assurance deliverables for WP 2 and WP 3 to increase the comparability between the work packages and to lend the project an overarching ethics scheme.

Therefore, a general introduction on the role of ethics and important value perspectives and subsequently analyses the specific tasks of WP 4 has been described – according to the scheme of the WPs 2 and 3. The results are displayed in task-specific tables, which, again comprises the identified ethically important topics and potential issues. Main subject here are interview standards and guidelines, ethics standards in the development of case studies as well as ethical considerations on the use of pre-existing (social media) data. As the task is still ongoing no signed check memos were developed so far.

The task has been started early in order to assure a timely ethics assessment of the single case studies. The complex task of assessing several fully-fledged cases required this slight amendment of the initial plan.

7.3.4. Ethics Assurance – Stakeholder Forum in WP6

Building on the structure and content of T7.1 and T7.2, T7.4 monitors the use and analysis of personal data in the course of the stakeholder participation. The exercise and assurance of data protection and privacy issues of the users of the Howspace platform is a central part of this task. Furthermore, ethical input has been provided regarding the table-top study protocol as well as the acquisition routines of participants. Although the finalization of T7.4 is scheduled for project month 34, the long-term monitoring process has already started in the first project year.

7.3.5. Quality Assurance

To assure the quality of the project work, a review scheme was developed in T7.5. According to the review scheme, every public deliverable needs to be reviewed by EKU (ethics review), GEO (dissemination review) and a principle reviewer. The principal reviewer is meant to carry out the main review based on the review template for public deliverables. The main reviewer is selected according to the specific expertise of the institution. Confidential deliverables are reviewed by one partner based on the review scheme for confidential deliverables.

To assure a consistent quality of the reviews, a review scheme was set up and quality standards have been developed. Therefore, guidelines of how to conduct a review and a timeline for the review process were created. Moreover, a review template for public and a separate template for confidential deliverables were developed. Since public deliverables are reviewed by three partners, including the ethics and the dissemination partner of the consortium, the actual review scheme is restricted to quality and content issues of the deliverable. The dissemination and ethics reviews are always carried out by the same partner. Consequently, no project-wide template is used in that case. Confidential deliverables, in contrast, are reviewed by only one partner. Thus, the review template contains also questions on ethics and dissemination issues.

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Compliance to the review scheme is monitored by VTT and EKU. Therefore, the review obligations of the partners in the next month are communicated in every project management meeting at the end of a month.

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8 Dissemination, communication and sustainability (WP8)

WP8 runs across the entire duration of the project, aiming to support the implementation of the project activities, promotion of the project results and supporting the partners' dissemination efforts regarding the project

8.1. Objectives of the reporting period

WP8 is set on successfully addressing the following objectives:

- Maximising the visibility and outreach of the project's objectives, achievements and results
- Creating and engaging with a network that is actively following and participating in the project's activities
- Raising awareness of society on risk prevention and disaster resilience on national and European level
- Supporting the activities of other work packages (especially WP3, WP4, WP5 and WP6)
- Supporting the long-term sustainability of the project's results
- Ensuring societal acceptance of the new tool/solution developed

During the first period, the BuildERS project has made considerable progress towards the first four objectives, while also creating favourable conditions for the start of the other objectives in the next period of the project.

There are no milestones for this period.

8.2. Summary of the progress

The table below provides a summary of the main activities achieved within WP8 for the reporting period of the project:

Table 6 Summary of progress for WP8

No: 1	Launching the project press release
Description:	During M1 the BuildERS project press release was launched and widely disseminated via the partners networks. The press release was also uploaded on the project website.
No: 2	Creating the project visual identity
Description:	Establishing the project visual identity including Word and PowerPoint templates, and creating a Dissemination and communication reporting template. A project visual identity guide was created for describing the visual and graphical components and providing guidelines to the consortium for their usage. The visual identity guide was created in M3.
No: 3	Creating the project social media channels and website
Description:	Social media channels were created for the project on Facebook, Twitter and Linkedin. In addition, a project website was created to act as a gateway

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	for the dissemination of project results and informing the public about the project activities. These tasks were completed in M3.
No: 4	Establishing communication and cooperation with similar initiatives
Description:	Since the start of the project, other related projects and initiatives have been monitored to establish cooperations with them. The cooperation will be continued and new activities with other projects will be established in the future as well. One of the first cooperating initiatives is the one done with the RESILOC project, suggested by the EU.
No.5	Production of project dissemination materials
Description:	Project posters, brochures and banners were produced and distributed among the consortium partners to be used for the promotion of the project in other events.
No.6	Production of a project video
Description	A video describing the project scope, objectives and activities was created by Geonardo with support of other partners.
No7.	Revision of BuildERS deliverables
Description:	All public project deliverables are reviewed also by the WP8 leader.

8.3. Main results

- Creation of a Dissemination and Communication plan and Visual guidelines for the consortium.
- Creation of templates for internal and external project communication.
- Creation of various print and virtual communication materials.
- Established cooperation with projects with related research goals.
- As certain tasks and work packages will be delayed due to COVID-19, dissemination related actions will be also postponed.

8.3.1. Dissemination, communication plan and visual identity

The Dissemination and Communication Plan aimed to enhance awareness of the project, identify the responsibilities of partners as well as provide analysis of the main target groups and create key messages on relevant communication channels.

The major target groups were identified as:

- The general public and most vulnerable groups
- Civil society organisations active in resilience building, first responders and security responders
- EU, national, regional, local and city authorities
- Policy makers
- Research community: scholars and students

Content about the project's progressions has been shared regularly (at least twice per week) by providing general, research/ educational and policy related messages in visually appealing manner. An example can be seen in Figure 1.

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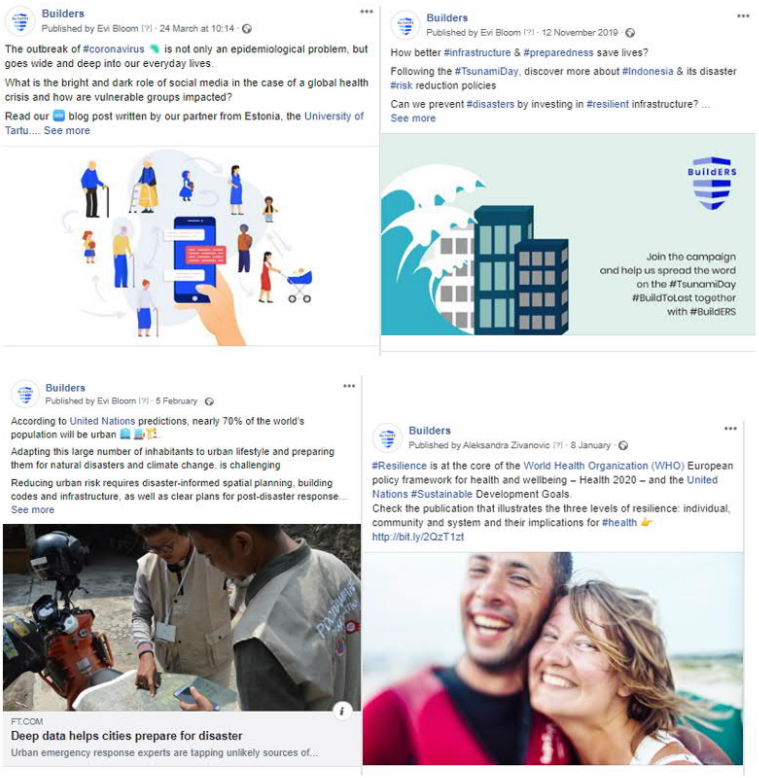

Figure 1 Examples of BuildERS related messages

For the BuildERS project, a distinctive visual identity for branding purposes has been created, as well as project templates for internal and external communication usage, like deliverable and PowerPoint-templates. Visual identity guidelines have been shared with all partners. This included the project logo (Fig. 2) as well as a dedicated colour palette was created to create coherence and uniformity on the project visual communication.

Figure 2 BuildERS logo versions

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8.3.2. Dissemination tools and materials

For disseminating and communicating project's results, a responsive website was developed and has been launched in June, 2019. The link to the website is: https://buildersproject.eu/

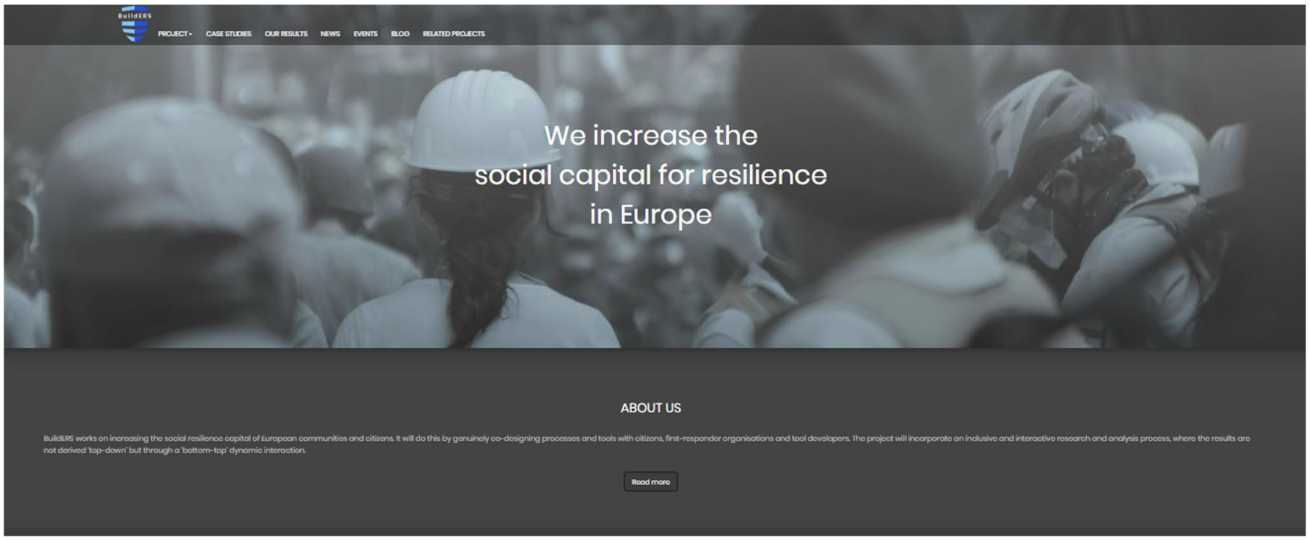

Figure 3 A snapshot of the BuildERS website

The website highlights all the specifics of the project and it is evolving together with the project. The analytics show an increase of visitors with certain peaks related with events (Fig. 4).

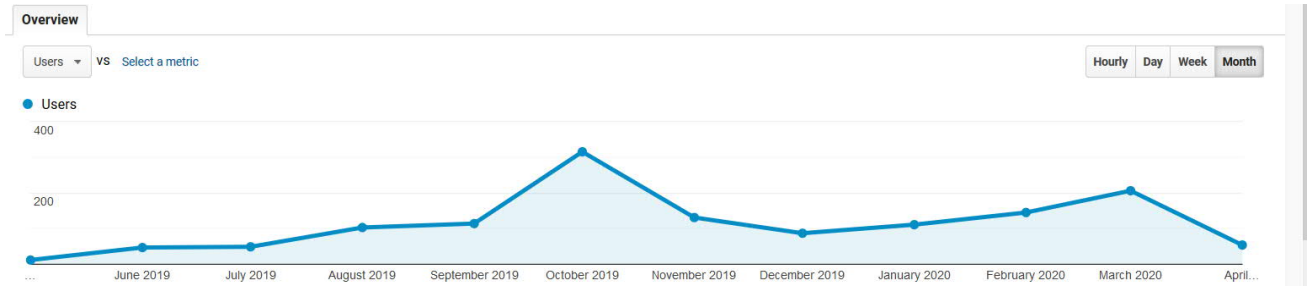

Figure 4 The analytics showing the number of visitors on the BuildERS website

Likewise, for disseminating purposes, a project promo video (01:45) has been produced and it has been widely shared at the end April 2020. The video has been shared e.g. in social media channels and website, and through all partners own channels. The link to the video read: https://youtu.be/F-SklnKoFxs

In addition to the website and video, branded information materials have been prepared, such as banners and leaflets, which can be utilised by the partners and presented during relevant events. The link to the leaflet is: https://buildersproject.eu/press-kit

From the beginning of the project, three social media accounts have been set up, and they have garnered over 200 followers and this number continues to rise.

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- Facebook. Since the beginning of the project, we already shared 80 posts and will intensify our efforts in the upcoming period to increase the number of followers by organising promotional campaigns. Link: https://www.facebook.com/H2020Builders/
- Twitter. The BuildERS twitter account has 206 followers, 103 tweets, 79 retweets and average engagement rate 0.9%. Link: https://twitter.com/BuildERS_EU
- LinkedIN. On LinkedIN, BuildERS has 24 followers and 75 posts. Link: https://www.linkedin.com/company/builders-h2020/

8.3.3. Joint dissemination actions

The BuildERS's website includes an interactive blog that is connected to all social media platforms to ensure broader visibility. During the first year, on the blog, there are six blog posts. Some of these blog posts have been created in collaboration with our partners and sister projects.

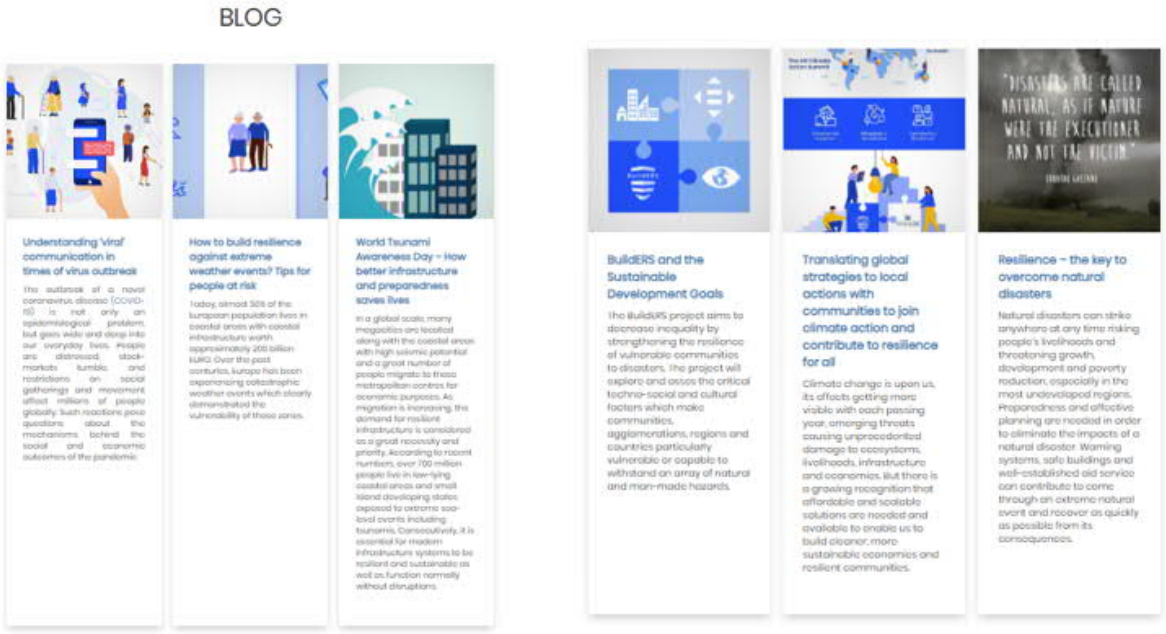

Figure 5 A snapshot of the BuildERS blog site.

In addition, on the BuildERS website, there is a dedicated section where "related projects" like RESILOC project (Resilient Europe and Societies by Innovation and Local Communities) is featured. The partnership with RESILOC, has been announced on BuildERS social media platforms.

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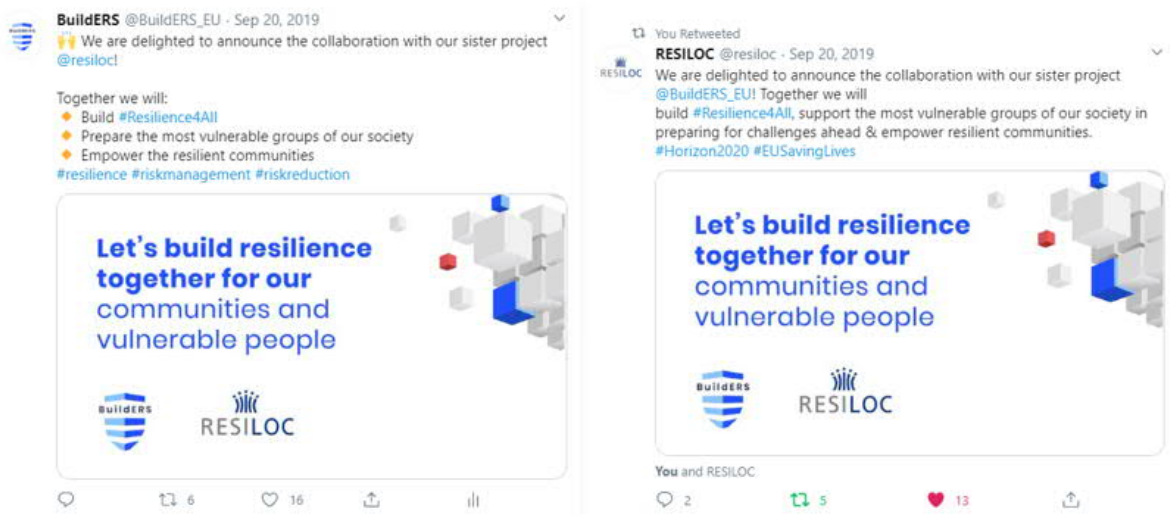

Figure 6 A snapshot of social media channels

Another further joint action was the cooperation for the International Day for Disaster Reduction. Together with RESILOC, BuildERS launched a 7-day social media campaign, creating a dedicated infographic and co-writing a blog post. Further joint actions have been discussed for communication and dissemination to maximise outreach of both projects for instance jointly going to events, organizing online campaigns, contributing to upcoming blog posts etc.

To support the activities of the other relevant projects, BuildERS re-shared key information and updates on its social media feed, especially on Twitter (Fig. 7).

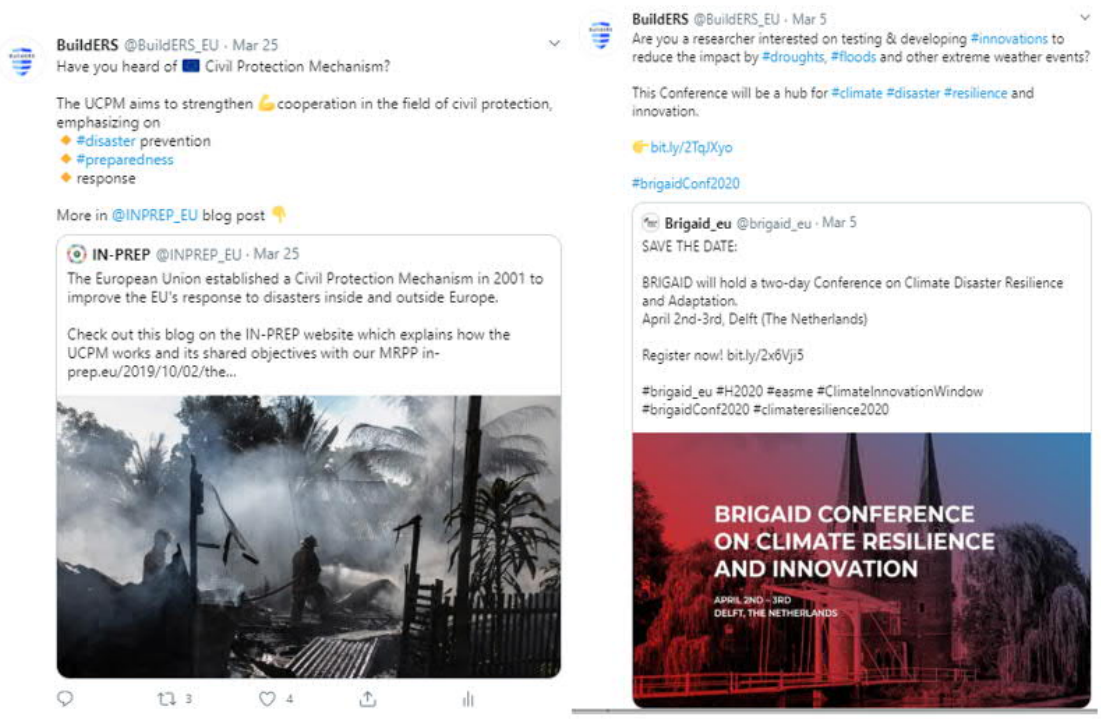

Figure 7 Snapshots of tweets by BuildERS related to similar projects

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In addition, responding to important international days or specific awareness events, BuildERS prepared promotional campaigns across all social media channels, Facebook, Twitter and LinkedIn, which conveyed the purpose of the campaign and enhanced the project's visibility.

In the past months, partners contributed to eleven local, national and European events and workshops where they promoted BuildERS's objectives and activities. These events are:

1. European Workshops in International Studies
2. EISA Early Career Researcher workshop
3. EISA's Pan-European Conference
4. Colloquium of the International Center for Ethics in the Sciences and Humanities, University of Tübingen
5. Valtakunnallinen Turvallisuusseminaari 2020 (National security seminar 2020)
6. Tiedon Valoa - Smart City Week Tampere 2020
7. H2020 "Secure Societies" Project to Policy Kick-Off Seminar
8. Civil Security in Horizon Europe: Quo vadis?
9. MODEX 2020 Preliminary Meeting
10. Seminar in Hanken Business School in Helsinki
11. Security Research Event 2019

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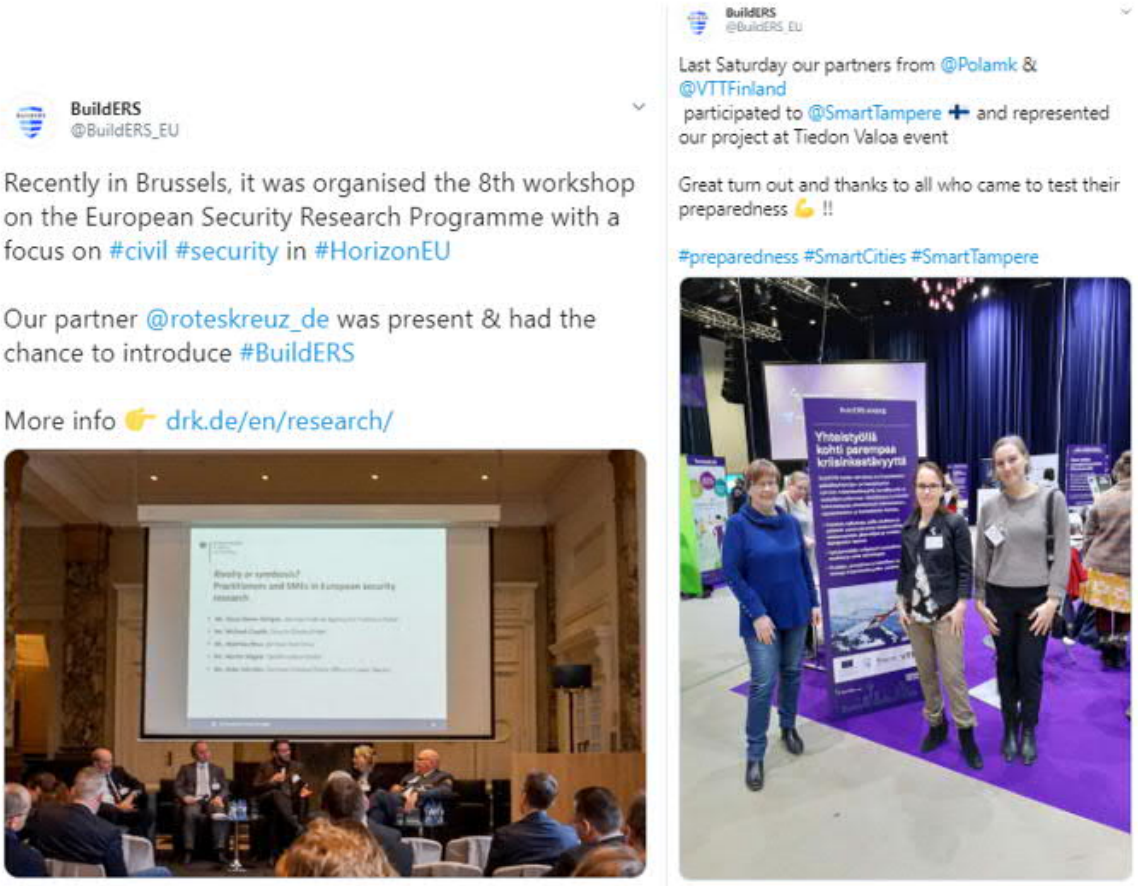

Figure 8 Snapshots of events BuildERS partners have participated during the first 12 months.

Furthermore, BuildERS produced a press release on the BuildERS project, which was in seven different media outlets from the partners' networks as well as two publications:

1. Optimizing Search and Rescue Personnel Allocation in Disaster Response using Fuzzy Logic by the University of Indonesia published in the International Journal of Technology
2. Determining the Prioritized Victim of Earthquake Disaster Using Fuzzy Logic and Decision Tree Approach, by the University of Indonesia published in the Evergreen Journal

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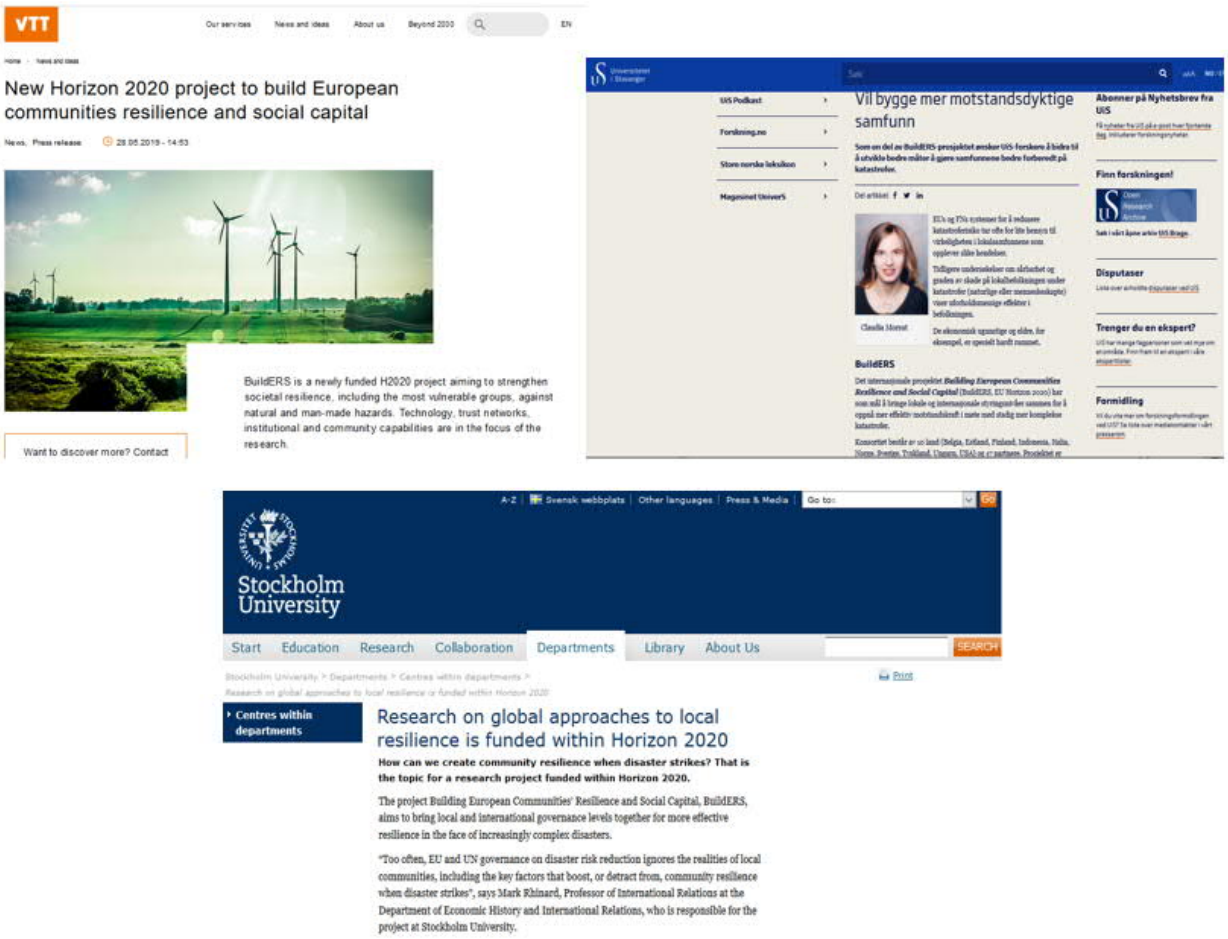

Figure 9 Examples from published press releases by BuildERS partners

In addition, in the past months, the BuildERS project has been featured in nine different media and news portals in Indonesia and one in Estonia.

The Indonesian newspapers are the following:

- Berita Satu – Epaper;
- Media Indonesia Newspaper;
- Medcom.id;
- Depok News;
- Virtuco.co.id;
- Harian Sederhana;
- HeadTopics.com;
- VIVA Newstainment;
- Good news from Indonesia.

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Figure 10 Featuring the visibility in Indonesian media.

In Estonia, Kati Orru from the University of Tartu was invited by the Estonian radio KUKU to talk about the COVID-19 experiences and responses in world, Estonia and the BuildERS project.

Siiri Silm and Kati Orru (UTA) had a longer discussion on how the society could win from the use of mobile positioning data in getting an up-to-date overview about the individuals in pandemic-affected (or other emergency-affected regions) in one of the major newspapers in Estonia "Postimees". This reflects the core of BuildERS activities in Estonia. There is also a video with some explanations linked to the story online, but unfortunately, it is not accessible without subscribing as the reader of "Postimees"

https://leht.postimees.ee/6951548/tu-teadlased-kuidas-uhiskond-mobiilpositsioneerimisest-voidaks?_ga=2.231456541.369709989.1587873564-731254478.1490880959

Likewise, Kati Orru (UTA) wrote an opinion piece on the opportunity of growing into a more solidaristic society as the result of crisis in the second major newspaper in Päevaleht.

https://epl.delfi.ee/arvamus/sotsioloog-praegune-kriis-on-voimalus-oiglasema-uhiskonnakorralduse-loomiseks?id=89520003

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9 Coordination & management (WP9)

9.1. Objectives of the reporting period

This work package covers the management of the project to ensure the completion of all deliverables in time and within the assigned budget. Specific objectives include:

- Managing the overall legal, contractual, financial and administrative aspects of the consortium; preparing administrative reports on project progress as specified in agreements.
- Ensuring timely outputs of the project and supporting the delivery of the various results according to the project plan and following good research practices; managing deviations from the plans.
- Managing the consortium agreement between the partners.
- Ensuring ethics, quality and security aspects by monitoring and supporting activities of the work programme and managing contingencies.
- Coordinating and hosting the Advisory Board.
- Managing the risks.
- Informing and liaising with the Commission and other relevant stakeholders about the progress and performance of the project.

There are no milestones for this period.

9.2. Summary of the progress

The table below provides a summary of the main activities achieved within WP9 for the reporting period of the project:

Table 7 Summary of progress for WP9

No: 1	Organising and supporting regular collaboration practises and platform
Description:	This covered: • Planning and organising kick off and consortium meetings and the first General Assembly • Organizing monthly PMT Meetings for WP leaders assess and support progress of the project • Planning and organising two Advisory board meetings • Creating and maintaining and supporting usage of TEAMS platform for information sharing, data collection and storing, and communication with the consortium and Advisory Board
No: 2	Ensuring ethics, quality and security
Description:	This covered: • Creating project manual including security assurance

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	• Creating and updating Risk Assessment and Progress Report templates to guide and monitor project activities, progress and finances • Creating Data Management Plan in close collaboration with WP7 (Ethics Assurance) and WP10 (Ethical deliverables)
No: 3	Ensuring, monitoring and supporting progress of the project
Description:	This covered: • Monitoring and supporting WP and Task leaders' activities via emails, planned and ad hoc- online-meetings and collecting information via templates. • Submitting the deliverables on time and communicating request approval for all the deviations related to postponing a deliverable in advance with PO

9.3. Main results

Main results of WP9 consist of implementing and updating basic management guidelines, practises and platforms for monitoring and supporting the progress of the project. Two consortium and advisory board meetings and one General Assembly have been held, as well as regular, monthly Project Management meetings for Work Package Leaders facilitated by coordination team. In addition, the TEAMS platform has been created and support is provided for internal information sharing, data collection and communication. The internal project manual including security assurance and a Data Management Plan has been published.

9.3.1. Legal and administrative project coordination

T9.1 manages the overall legal, contractual, financial and administrative aspects of the consortium. During the first twelve months, the following has been reached:

- Grant agreement has been signed
- Legal and contractual aspects were introduced in the kick off meeting
- Financial principles were introduced in the kick off meeting and practical support is provided for the partners by the coordinator.
- Coordinating team and overall project guidelines were introduced in the kick off meeting
- The first General Assembly was held in February 2020
- This first Activity Report for M12 (April 2020) has been prepared

9.3.2. Project planning and management

T9.2 concerns project planning and management. The main results of the task in the period included:

- Planning and organizing kick of meeting in May 2019 and Consortium meeting in February 2020. These meetings included the discussions and the development of the shared project vision.

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- BuildERS Project Manual with explicit rules and procedures has been developed and accepted by the consortium partners.
- Risk assessment template has been created and regularly updated. Especially COVID-19 risks have been actively estimated among partners, and iterative plans to reduce risks and impacts were established and implemented.
- Regular Monthly PMT meeting have been held to assess and support the progress of the project
- Progress report templates have been created and reports were updated regularly by the partners.
- Submission of deliverables has been on time, unless a late submission has been agreed with the Project Officer

9.3.3. Security Assurance

The Security Assurance ensures that all the security aspects are taken into account in each work package including data collection and use. The security assurance procedure has been introduced and described in the BuildERS project manual. Risk assessment on safety and security of the vulnerable groups and the individuals to be approached by BuildERS partners have been prepared and followed in WP3.

9.3.4. Advisory Board Coordination

The BuildERS Advisory Board is hosted by the Coordinator. The main results of the tasks by the end of the first project year were:

- Advisory Board members have been attending the kick off meeting and consortium meeting in order to guide the project's research activities and monitor the achieved progress.
- For the collaboration and information sharing, a dedicated TEAMS-platform was introduced for the Advisory Board.
- Three Advisory Board meetings were held in May and November 2019, during the physical plenary meetings and as a telco. This approach has given the AB members direct access to the BuildERS plans and discussions, and their comments and feedback has supported in both scientific and practical decision-making.

9.3.5. Data Management

The BuildERS Data Management Plan (DMP) describes the data management life cycle for all datasets that will be collected, processed or generated by the research project. The document outlines how research data will be handled during BuildERS and after its completion, describing: What data will be collected, processed or generated?; What methodology and standards is to be followed?;

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Whether and how this data will be shared and/or made open?; How it will be curated and preserved. VTT has created the plan with the support and collaboration of the research partners.

9.3.6. Innovation & IPR management

The Innovation & IPR management have included to following activities during the first twelve months of the project:

- Foreground and background IPR were explicitly defined in the Consortium Agreement
- IPR issues are introduced and guidelines given in the kick off-meeting

VTT has also professional staff experienced in IPR issues that are ready to support and protect partners IPR rights.

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10 Ethics requirements (WP10)

10.1. Objectives of the reporting period

WP10 presents ethical challenges and the ethical principles of the BuilDERS-project. These principles include:

- Procedures and criteria on how to identify the participants.
- Informed consent procedures for the participation of humans in the BuildERS research
- Measures to minimise stigmatization of informants
- Opinions of the national or organizational Ethics committees
- Host institutions Data Protection Officers or data protection policy
- Description of the relevant data and their use
- Techniques to safeguard the rights of research participants
- Personal data transfer between EU and non-EU countries
- Informed consent procedures with regard to data processing and privacy statement.
- Profiling - the automated processing of personal data for evaluating the personal aspects of an individual
- Use of previously collected human data
- Evaluation of ethic risks
- Transferred materials of material or data will be imported to/exported from the EU to non-EU countries
- Fair benefit sharing- detailed information on how fair benefit-sharing arrangements with stakeholders from low and lower-middle income countries are ensured

10.2. Summary of the progress

Table below provides a summary of the main activities achieved within WP10 for the reporting period of the project:

Table 8. Summary of progress for WP10

No: 1	Development of the procedures on how to identify the participants.
Description:	The procedure aligned with ethical standards was developed for interviews, surveys, workshops, social media exploration and laboratory

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	simulations. The procedures and criteria were descried to identify/recruit research participants in different tasks.
No: 2	Informed consent procedures for the participation of humans in the research
Description:	Informed consent procedures that is implemented for the participation of humans for the all the research done in the project was developed. In addition, templates of the informed consent forms and information sheets in language and terms intelligible to the participants was created.
No: 3	Measures to minimise stigmatization of informants
Description:	Measures to protect the involved vulnerable individuals/groups and to minimise the risk of their stigmatization during the research was developed and described.
No: 4	Applications for the opinion of national or organizational Ethics committees
Description:	Applications for Norwegian, Estonian, Finnish, Swedish, Belgium, Hungarian and Italian Ethics committees were submitted for their opinion. Approvals have been received either as the entire project or as partial approval.
No: 5	Data Protection Officers (DPO) or data protection policy
Description	The names and contact information of the DPOs of the institutions was collected. This information was included in project information sheets delivered to all participants involved in the research. The institutions who have not appointed a DPO under the General Data Protection Regulation 2016/679 have provided a detailed data protection policy.
No: 6	Description of relevant data and its use
Description:	It was described how data minimisation principles are taken into account in the BuildERS project. BuildERS collects sensitive data from many different sources and thus there is a risk of gathering non-relevant data. To regard EU and national legislations, BuildERS is taking measures to ensure only relevant data is gathered. The data minimisation principle referred to in the Article 89 of the GDPR is defined in Article 5 (1c) with the following wording: “Personal data shall be adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed”. BuildERS data collection is planned to be in line with this legislation. Therefore, all used methods and tools are carefully selected and designed to collect relevant data only.
No: 7	Techniques to safeguard the rights of research participants
Description:	As BuildERS project includes interviews and geospatial data collection of individuals, it involves collection of personal data at some extent. Thus, measures have to be taken to ensure that research participants’ rights and

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	freedoms are not compromised. Thus, a description of the technical and organisational measures have been provided, including anonymisation/pseudonymisation techniques used to safeguard the rights and freedoms of the data subjects/research participants. In addition, terminology related to safeguarding the rights and freedoms is explained, and the secure data management processes were described.
No: 8	Statement of personal data transfer between EU and non-EU countries
Description:	In BuildERS project personal data is collected, processed and stored according to the principles of General Data Protection Regulation (GDPR). BuildERS project involves partners from United States and Indonesia who take part in analysing the pseudonymised data and disseminating research results. Partners of the BuildERS project form a joint controllership where all partners are responsible to obey GDPR. Data protection principles of BuildERS ensure that no personal data is transferred from a non-EU country to the EU or another third state or from EU to a non-EU country or international organisation. This is secured by guiding the project partners to pseudonymise the collected data before sharing it for analyses into restricted working areas.
No: 9	Informed consent procedures with regard to data processing and privacy statement
Description:	Detailed information of the informed consent procedures with regard to data processing was described as well as the templates of the informed consent forms and information sheets with regard to data processing in language and terms intelligible to the participants.
No: 10	Profiling in the project
Description:	No profiling is done in the BuildERS research. There is no automated processing of personal data for evaluating the personal aspects of an individual in the project.
No: 11	Use of previously collected human data in the project
Description:	In the BuildERS project, no previously collected personal or human data is processed or used. Data base analyses carried out in BuildERS deal only with already fully anonymised data, i.e. descriptive statistics and summaries. No personal or human data previously collected by BuildERS partners is used in the research.
No: 12	Evaluation of ethic risks
Description:	The ethics risks were evaluated related to data processing activities in the project. Some partner organisations have identified a need to provide a

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	DPIA to their own internal use. The DPIAs have been prepared and provided by the end of 2019.
No: 13	Ethic issues in third countries in the project
Description	Research activities in the project are conducted in EU, US and Indonesia. It has been ensured that the research conducted outside the EU is legal in at least one EU Member State.
No: 14	Fair benefit sharing
Description:	Detailed information was presented on how fair benefit-sharing arrangements with stakeholders from low and lower-middle income countries are ensured in the project. BuildERS involves national agencies, local authorities, university students and researchers in the project, and shares benefits through open communication with them. Results of the project are used in non-EU countries to increase their capacity to manage disasters. Furthermore, applicable BuildERS research data will be submitted to open database in the end of the project, so anyone can access it equally

10.3. Main results

The main results are the development of ethics standards for the BuildERS research, which are described in detail in the 15 confidential deliverables. These results for example consist of approvals from several European ethics boards, development of standards, common positions to guarantee a fair benefit sharing. Accordingly, informed consent standards and preparatory work for the following empirical work were conducted. Ethics standards will be updated as the research progresses.

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Deliverables for the reporting period

Del. No	Deliverable name	WP	Lead participant	Type	Dissemination level	Date from The project plan	Delivered Yes/ No	Actual delivery date	Comments
D1.1	The first version of the unified theoretical framework on the concepts of risk awareness, social capital, vulnerable segments of society, and their inter-dependencies	WP1	UiS	O	PU	M6	Yes	M6	
D1.2	Report presenting the unified theoretical framework on the concepts of risk awareness, social capital, vulnerable segments of society, and their inter-dependencies	WP1	UiS	R	PU	M12	No		D1.2 is delayed due to COVID-19 stopping part of the work
D1.3	Report on segments of vulnerability country by country basis – inside and outside the official data	WP1	UiS	R	PU	M9	Yes	M9	
D.1.4	Report on communication behavior and use of social media in Europe	WP1	UTA	R	PU	M8	Yes	M8	
D1.5	Peer-review articles	WP1	UiS	O	PU	M12	No		D1.5 is delayed due to COVID-19 stopping part of the work
D1.6	Vulnerable population segments in Europe – inside and outside the official data	WP1	UiS	O	PU	M13	Yes	M12	
D2.1	Study protocol for conducting document analysis and expert interviews	WP2	UTA	O	CO	M4	Yes	M4	

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Del. No	Deliverable name	WP	Lead participant	Type	Dissemination level	Date from The project plan	Delivered Yes/ No	Actual delivery date	Comments
D2.2	Case country analyses and a cross-country comparative analysis of the functioning on disaster resilience systems	WP2	UTA	R	PU	M12	Yes	M10	
D2.3	Social media campaign analysis and governments' responses to disinformation	WP2	VTT	R	CO	M12	Yes	M12	
D3.1	Criteria for Selection of Sample Surveying the Disadvantaged People Vulnerability	WP3	TOI	O,R	PU	M8	Yes	M10	Postponed as agreed with the PO
D3.2	Pilot report	WP3	TOI	R	CO	M11	No		D3.2 is delayed due to COVID-19 stopping part of the work
D6.1	Online platform open and in operation	WP6	PUC	web site, patents	PU	M3	Yes	M6	Postponed as agreed with the PO
D7.1	Ethics Assurance for WP2	WP7	EKU	R	CO	M2	Yes	M4	Postponed as agreed with the PO
D8.1	Dissemination and Communication Plan	WP8	GEO	R	CO	M3	Yes	M3	
D8.2	Dissemination materials	WP8	GEO	O	PU	M6	Yes	M6	

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Del. No	Deliverable name	WP	Lead participant	Type	Dissemination level	Date from The project plan	Delivered Yes/ No	Actual delivery date	Comments
D9.1	Activity report	WP9	VTT	O	PU	M12	No	M13	
D9.4	Advisory Board's minutes	WP9	VTT	O	CO	M1	Yes	M2	
D9.5	Advisory Board's minutes	WP9	VTT	O	CO	M7	Yes	M7	
D9.9	Data Management Plan	WP9	VTT	R	CO	M3	Yes	M3	
D10.1	H - Requirement No1	WP10	VTT	R	CO	M3	Yes	M3	Postponed as agreed with the PO
D10.2	H - Requirement No2	WP10	VTT	R	CO	M3	Yes	M4	Postponed as agreed with the PO
D10.3	H - Requirement No3	WP10	VTT	R	CO	M3	Yes	M4	Postponed as agreed with the PO
D10.4	H - Requirement No4	WP10	VTT	R	CO	M3	Yes	M8	Postponed to M12
D10.5	POPD - Requirement No5	WP10	VTT	R	CO	M3	**Yes**	**M3**	
D10.6	POPD - Requirement No6	WP10	VTT	R	CO	M3	Yes	M3	
D10.7	POPD - Requirement No7	WP10	VTT	R	CO	M3	Yes	M3	
D10.8	POPD - Requirement No8	WP10	VTT	R	CO	M3	Yes	M3	

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Del. No	Deliverable name	WP	Lead participant	Type	Dissemination level	Date from The project plan	Delivered Yes/ No	Actual delivery date	Comments
D10.9	POPD - Reguirement No9	WP10	VTT	R	CO	M3	Yes	M4	Postponed as agreed with the PO
D10.10	POPD - Reguirement No10	WP10	VTT	R	CO	M3	Yes	M3	
D10.11	POPD - Reguirement No11	WP10	VTT	R	CO	M3	Yes	M3	
D10.12	POPD - Reguirement No12	WP10	VTT	R	CO	M3	Yes	M3	
D10.13	NEC - Reguirement No13	WP10	VTT	R	CO	M6	Yes	M6	
D10.14	NEC - Reguirement No14	WP10	VTT	R	CO	M6	Yes	M6	
D10.15	NEC - Reguirement No15	WP10	VTT	R	CO	M6	Yes	M6	

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Milestones for the reporting period

MS1 Draft conceptual model was specified and illustrated in D1.1 within M6 (October 2019)

MS2 Validated conceptual model has been validated in workshop held by WP6 in M11 (March 2020)

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