



The HuT

Communication, Dissemination and Exploitation of results

Deliverable D6.1

DEVELOPED WITHIN

WP6 Work Package Communication, Dissemination, Exploitation of results, T6.1
Communication, Dissemination, Exploitation (CDE) Strategy

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3. Introduction: an integrated approach to Exploitation, Dissemination and Communication

3.1. Introduction

The HuT project addresses the possible impacts of extreme climate events by adopting a trans-disciplinary “all-hazards” approach. It connects some specific regional areas (demonstrators) associated with individual events and enables joint and coordinated planning and adoption of disaster risk reduction (DRR) solutions. The final aim is to promote a set of trans-disciplinary risk management tools and approaches that could be easily adopted across Europe.

To reach this goal it is fundamental to develop and manage an effective and efficient communication, dissemination, and exploitation strategy. Communication (C), Dissemination (D) and Exploitation (E) activities will be highly integrated and rolled out in synergy with each other to:

- raise visibility on the project and inform target groups and broader communities on the benefits and impacts of the project (C);
- share knowledge and engage the key players, key enablers and early-adopters involved with a dedicated and customised strategy (D);
- set the pathway to the exploitation of The HuT results (E), considering transferability, update and replication of project's outcomes.

The current document (D6.1) will serve as a guide to describe how the communication, dissemination, and exploitation activities will take place during the project, presenting the overall process, targets, tools, methods, and formats that will be used during its implementation.

The second version of this deliverable will be released in M36.

3.2. Objectives and approach to dissemination, communication and exploitation

An effective CDE of the project development and its results will be crucial to boost research in the disaster risk management field, while generating and sharing knowledge that will ultimately improve monitoring and forecasting of warning systems and improve the general public perception towards this issue. It will also enable the transferability and replication of the transdisciplinary DRR solutions developed in the project. The HuT applies a multi-layered approach to communication, dissemination and exploitation, encompassing the local to national scale of the demonstrators, the Europe-wide scale of the consortium and the broader global scale of the linked international networks.

To reach this goal, the CDE will allow the project:

- **To raise awareness among stakeholders and understanding** the extreme climate risks, climate change impacts and DRR solutions, with a focus to local contexts;



- **To increase transferability mechanisms for planning/implementing DRR solutions;**
- **To guarantee the sustainability and replication of the project's results after its end.**

This exercise will start from the analysis of the needs addressed by The HuT and its expected outcomes.

Table 1. The needs the HuT addresses as identified in the DoA

Specific needs (improve/strengthen/enhance)
1. Synergy among different domains of expertise
2. Consistency between climate change adaptation and DRR strategies
3. Transferability mechanisms for planning/implementing DRR solutions
4. Predictive tools/approaches used in warning systems and estimate the potential impacts and adaptation solutions to climate change
5. Monitoring of the weather forcing and its induced effects and impacts
6. Awareness of local communities about extreme climate risks, climate change impacts and DRR solutions
7. Expert-based procedures for climate- proofing design and planning
8. Involvement of stakeholders in decision-making DRR processes
9. Multi-risk governance accounting for interacting and cascading events
10. Risk transfer solutions for natural catastrophes
11. Measures of the effectiveness of warning systems

More specifically, the CDE is based on the mapping of stakeholders (which represents an essential component of the project). This approach allows us to design targeted and direct dissemination actions (messages, contents, channels, tools, engagement activities) at different geographical levels over time. Also, it provides a valuable contribution to the identification of possible target segments and supporting partners for the further uptake of results after the project.

Dissemination and communication actions start from the very beginning of the project. Through WP6, we will identify and engage the most relevant stakeholders, who play a key role in enhancing community engagement when managing systemic risks due to extreme climate events, such as municipalities that carry out adaptation plans for floods, landslides, wildland-urban interface fires and heatwaves, or water utility companies preparing for droughts. During the project, these stakeholders will be fundamental to the approach for boosting the deployment of The HuT's risk reduction strategies. Moreover, networking will be crucial to exploiting synergies with projects, initiatives, and partnerships for which the purpose is to find innovative and integrated disaster risk reduction solutions.



The impacts and effectiveness of the strategy will be continuously monitored and measured through a proprietary methodology developed by ICONS based on a set of indicators and indexes, among them the Community Engagement - Index-CEI; the CEI measures the actual stakeholders' engagement with the project. Monitoring activities will provide continuous feeds to the CDE to optimize and upgrade it along the different project phases.

The exploitation model will be comprehensive in scope and cover all types of results and every possible exploitation pathway. Both individual and joint results will be considered, and a wide range of exploitation routes, including the further uptake and replication of tools and expertise in demonstrators or other sites, advocacy, and the provision of services. This will be achieved through a three-step approach:

- Step 1 - Setting the scene; identification of all Key Exploitable Results (KERs), [namely the outcomes generated during the project that can be further exploited beyond project's end](#)),
- Step 2 – Shaping the strategy; the design of a plan detailing partners' joint and individual strategies for accelerating the uptake of results
- Step 3 – Involving the enablers: fostering transferability via the implementation of exploitation-oriented dissemination activities through the several networks involved in the project

In order to facilitate the exploitation and dissemination process, continuous interactions with project's partners are foreseen. Also, the setup of a Legacy Advisory Panel will ensure the direct involvement of external stakeholders from relevant networks to design replication roadmaps.

The overall goal is to pave the way for the exploitation of both individual and joint results, commercial and non-commercial, and ensure their sustainability. It is expected that through the implementation of an effective dissemination, exploitation and communication strategy, the stakeholders will support and adopt The HuT results, going beyond the project lifetime.



4. Exploitation, Dissemination and Communication

4.1. Preliminary Key Exploitable Results identification and exploitation pathways

The identification of the project's KERs represents the set-up for The HuT exploitation activities. The first step entails a comprehensive identification and mapping of the project's expected outputs that have the potential to be further exploited after the project's end. This phase ensures partners' capitalization on research activities and results. The type of results, and the nature of the organizations involved, will drive later in the project the definition of dedicated exploitation strategies, i.e., how outputs will be further used to create an impact beyond The HuT.

To ensure an effective exploitation of the project's outputs, The HuT exploitation model will be comprehensive in scope and cover all types of results (individual and joint) and every possible exploitation pathway.

The process will entail the identification and continuous monitoring of project's KERs; and the development of a structured exploitation plan with partners' joint and individual strategies for accelerating upscaling and future uptake.

Results are defined as any (tangible or intangible) output of the action such as data, knowledge, or information — whatever its form or nature, whether it can be protected or not — that is generated in the action, as well as any rights attached to it, including intellectual property rights. A KER is an identified interesting result that has been selected and prioritized due to its high potential to be "exploited" – meaning to make use and derive benefits- downstream of the value chain of a product, process or solution, or act as an important input to policy, further research, or education. Hereafter, the focus of The HuT exploitation activities will be mainly connected to mapped KERs.

Results that are objects of exploitation can be products (e.g., software in the form of apps, models and tools) or services (e.g., protocols, training materials and networks) that can be further used for research, or for upscaling and replication; or more knowledge-related results (methodologies, advancements in knowledge and policy briefs), which can be leveraged for research and educational purposed.

Results can be individual or joint, whether they have been generated by a single partner or have been jointly developed by two or more partners. Individual results are carried out by single partners and are individually exploited by the single owner outside the project (e.g., new materials or methodology developed by a partner; specific expertise or knowledge gained). Joint results represent the main assets of the project, usually jointly co-developed by project partners, and for which specific arrangements among owners should be put in place to agree upon future exploitation.



The HuT will produce different KERs. A summary list at the project level is provided below. It will be reviewed and updated during the implementation of the project according to project developments.

Table 2. Key exploitable results (KERs)

KER	Type	IP Ownership	IPR & IP licensing
KER 1 Local DDR Nexus Forum	Network	(NA) WP1 Contributing partners	NA
KER 2 Local Data Portals	Software & data	NGI, ARANTEC, WP1 contributing partners	Copyright – Opensource software
KER 3 Capacity building program and training material	Educational material	WP1 contributing partners	Copyright – CC license
KER 4 Standard protocol for evaluating warning system	Protocol	World Meteorological Organisation, UNISA, MET, WP1 contributing partners	Soft IP
KER 5 Overview of existing human centric DRR	Advancement in knowledge	UCL, UNISA	Soft IP
KER 6 Frameworks for communicating warnings to the communities	Methodology policy brief	UCL, UNISA, GNDR, WP2 contributing partners	Soft IP, Copyright in publications – Open access journal
KER 7 Educational materials on DDR solutions	Educational material	UPV, CMCC, WP2 contributing partners	Copyright – CC license
KER 8 Climate – proofing design and planning	Models & Tools	CMCC, WP3 contributing partners	Soft IP, Copyright in publications – Open access journals
KER 9 Innovative policy/governance enablers for multi-risk DRR	Models & Tools	UNIGE, IIASA, WP3 contributing partners	Soft IP, Copyright in publications – Open access journals
KER 10 Decision support tools for multi/systemic risk policymaking	Models & Tools Policy Brief	HEREON, WP3 contributing partners	Soft IP, Copyright in publications – Open access journals
KER 11 Enablers/barriers of wide scale implementation of nature-based solutions	Advancement in Knowledge	IIASA, WP3	Soft IP, Copyright in publications – Open



	Policy brief	Contributing partners	access journals
KER 12 Serious games for cascading and compound impacts	Educational material Software (App)	GFZ, WP3 contributing partners	Copyright – CC license, Opensource software
KER 13 Risk Financing instruments	Models & Tools	LEITHA, CMCC, WP3 contributing partners	Soft IP – Commercial exploitation
KER 14 Overview of existing technologies for prevention/preparedness DRR actions	Advancement on knowledge	CMCC, GWP-CEE	Soft IP
KER 15 Innovative nexus monitoring	Software & Data Models & Tools Methodologies	ARANTEC, BGS, WP4 contributing partners	Soft IP, Copyright – Open-source software
KER 16 Innovative nexus modelling	Software & Data Models & Tools Methodologies	UNISA, ARANTEC, WP4 contributing partners	Soft IP, Copyright – Open-source software
KER 17 Approaches to transfer and scale up DRR innovations	Advancement in Knowledge Policy brief	GWP-CEE, WP5 contributing partners	Soft IP
KER 18 International DRR nexus Forum	Network	NA	NA

From Table 2, it is clear that project results will majorly impact knowledge, models, processes, methodologies, and networks with applications in disaster risk reduction/transfer and management. KERs mainly refer to models, networks, data, and software (app) that develop innovative disaster risk reduction solutions through the exploitation of best practices and learned experiences in order to promote the best set of trans-disciplinary risk management tools and approaches. Nevertheless, as results are subject to different applications, they deserve to be considered independently for exploitation pathways.

The identified KERs are heterogeneous in nature, but they are all strictly linked to specific technical knowledge and activities. Hereafter, we list single KERs and related activities from The HuT' s partners.

KER1. Local DRR nexus forums (L-DRRnF): a nexus Forum will be set up in each demonstrator site, ensuring fair and inclusive representation of all stakeholders and groups. The L-DRRnF will drive the implementation of the trans- disciplinary solutions, in close collaboration with the consortium partners, also using existing resources. They aim to build strong synergies between communities, practitioners, policy- and decision-makers overcoming sectoral blocks that do not allow information and knowledge sharing often associated with DRR management. The interaction will be carried out through live meetings complemented by virtual arenas hosted in



local data portals, co-designed with the potential users in native languages, where knowledge sharing and the exchange of ideas would become available to a much wider community.

KER2. Local data portals: Each demonstrator will have a data portal to share information across stakeholders enabling participatory and two-way communication, thus acting as a virtual platform for the L-DRRnF.

KER3. Capacity building program and training material: The capacity building program (KER 3) will build on the lessons learnt in the project and on the educational material developed in WP2 and WP3 (KERs 7, 12). Demonstrators have already shown commitment to embedding the innovative solutions developed in The Hut in their DRR strategy and/or upscale them from other demonstrators.

KER4. Standard protocol for evaluating warning systems: The protocol aims to set standards for warning systems. The World Meteorological Organization and the HIWeather project prototypes will be used to evaluate the effectiveness of existing warning systems, including how to make them more efficient in saving lives, livelihoods and properties.

KER5. Overview of existing human-centric DRR The overview consists in the examination of the question how human-centric DRR activities for extreme climate events can be better implemented to build long term adaptation and resilience building capacities, it will also include networks and associations for communication and exploitation activities. The overview aims at producing a documented analysis of the evolution of human-centric DRR activities for extreme climate events, with a focus on warning systems and the legal remits for their operation.

KER6. Framework for communicating warnings to the communities: The framework aims to aid the evaluation of the effectiveness of DRR actions and stakeholder engagement in selected demonstration cases (DEM1, DEM3, DEM5, DEM9). An assessment by civil society organizations and stakeholders involved in decision making processes in the demonstrators will enable the identification of improved ways to engage with communities most at risk for the purpose of co-developing innovative DRR solutions. The framework will include indicators such as:

- Increase in risk awareness and preparedness;
- expected vulnerability reduction of different groups;
- increase in community resilience;
- impact on decision-making processes.

KER7. Educational materials on DRR solutions: Educational and engagement materials will be produced with the aim of promoting cultural change, (shift in behavioral and cultural habits in DRR management) suitable for different audiences and purposes, e.g., education of school children, public awareness campaigns, integrating culture into the DRR process in some selected demonstrators.

KER8. Climate-proofing design and planning: The design and planning intended to mainstream climate change into mitigation and adaptation strategies and programs will support the reform of local standards and governance strategies such that they account for weather forcing under climate change.

KER9. Innovative policy/governance enablers for multi-risk DRR: The analysis will identify and address the governance/policy/financing enablers and barriers for implementing innovative and



integrated multi-hazard systemic risk reduction strategies based on experience in the demonstrators based on desktop studies and interviews.

KER10. Decision support tools for multi-systemic risk policy making: The innovative decision support tools (DSTs) will be developed in selected demonstration cases in order to build innovative extensions and new methodologies for addressing multi- and systemic risks.

KER11. Enablers/barriers of wide-scale implementation of nature-based solutions: An exploration of the institutional/procedural and financial reforms necessary for wide-scale implementation of nature-based solutions will be carried out based on an understanding of the horizontal and vertical interconnections among the different levels of public and business decision-making and the barriers and enablers that are supporting or hindering innovative DRR solutions.

KER12. Serious games for cascading and compound impacts: The development of a serious game, i.e., an app and/or board game to help game players appreciate the potential impact of multiple and cascading climate-related events.

KER13. Risk Financing instruments: Insurance and risk financing instruments (e.g., debt, equity, parametric or indemnity-based insurance, resilience bonds) for DRR and local resilience are analyzed for the purpose of identifying innovative financing options with special attention to addressing insurance protection gaps and opportunities (e.g., multi-hazard products, catastrophe bonds and parametric products that incentivize DRR).

KER14. Overview of existing technologies for prevention/preparedness (DRR) actions: An overview of tools already available or under development for prevention and preparedness (DRR) actions (innovative data collection, satellite data, data harmonization, artificial-intelligence, algorithms, sensors and decision-aid approaches) will be carried out to transfer, upscale and replicating existing solutions.

KER15. Innovative nexus monitoring: Innovative nexus monitoring has the goal of developing, within the demonstrators, cutting-edge approaches for monitoring precursors and indicators of extreme climate events. IoT monitoring will exploit new low-cost and robust technologies (e.g., Internet of Things sensors) to improve the observation of weather forcing (e.g., increased spatio-temporal resolution) or impacts at or in the ground (e.g., soil moisture). The deployment of Human Sentinels involves people working/living in risky areas for a proper maintenance of sensors or for documenting the impacts of extreme climate events (e.g., photos and reports by community members), and the participants will be asked to support the management of sensors in situ or through the documentation of the impacts in the affected areas.

KER16. Innovative nexus modelling: The modelling has the goal of improving and tailoring several modelling approaches to be adopted for risk characterization (hazard or exposure) while exploiting different open data sources. The main improvements concern:

- adoption over two demonstrators of the Dynamic Exposure Mapping approaches (currently adopted for seismic risk but aiming for a hazard agnostic framework);
- improvement in the assessment of weather forcing at different time scales (from nowcast to the forecast) by exploiting cutting-edge approaches (e.g., machine learning) and new monitoring data (from Task 4.1);
- improvement in parametrizations and parameters of predictive tools used for warning or climate change impact assessments.



KER17. Approaches to transfer and scale up DRR innovations: The approaches will develop policy briefs to scale up the interventions and tools, and policy relevant options for DRR, adaptation, and resilience, supporting the transition towards managing systemic risks of climate extremes. International policy processes organized in the framework of the UNDRR, UNFCCC, and COPs will also be targeted.

KER18. International DRR nexus Forum: The International DRR nexus Forum (I-DRRnF) aims at fostering reciprocal learning across hazards, demonstration cases (WP1), domains of expertise (WP2, WP3, WP4), and at improving the transferability of DRR solutions at EU scale and beyond. The I-DRRnF will include representatives from each local DRRnF. To support transfer and replication mechanisms outside the consortium and beyond the project, *two Innovation Fairs (m36, m48)* for strategic cross-sectoral stakeholders (incl. business, insurance, donors, governance) will be organized, as side events of the final consortium yearly meetings (T7.5)

Considering all actors in the project, this description provides a preliminary version of the exploitable results identified in The HuT proposal. Since the beginning of the project, continuous interactions and different rounds of discussions, and workshops with partners will support the further validation and update of results, following the project's expected developments. The identification of the project's results will be followed by a structured collection of the exploitation pathways. A preliminary view of exploitation pathways can be found in Chapter 3 of this deliverable.

A definition of the IP foreground owners will be carried out to define who detains the rights over the KERs and how such results are intended to be used by owners and/or third parties outside the Consortium. Considering the ambition of The HuT, that is, to be widely adopted and replicated across the EU and internationally, there are no major IP risks foreseen since they are mainly open to third parties, to ensure replication and uptake outside the project. Considering IP measures, copyrighting will protect the scientific publications, the educational materials, and software, which will be made available to targets through open access, CC licenses, and open-source licenses. Indeed, openness and transparency will be the guiding principles of all the activities. Open access will be encouraged in scientific publications. Open-source license will be used for software tools. Training and educational materials will be distributed under appropriate Creative Commons licenses.



4.2. Target audiences & key stakeholders

4.2.1. Stakeholder Mapping

Within The HuT, stakeholders are individuals, organizations or businesses exercising impact or interest in the project and its solutions and can either affect or be affected by its outputs, application and performance.

A clear mapping and analysis of stakeholders is, therefore, of fundamental importance to develop an effective dissemination and engagement strategy and to support a viable exploitation plan. Identifying stakeholders enables the effective planning of activities, outreach, and the involvement of the relevant external players in the execution of the project and its post-action planning in order to maximize the project's impact. It will inform the PEDR execution, and provide strategic guidance on the potential targets, partners, channels, and enablers.

The current document will provide an overview of the relevant groups of stakeholders and their profiles.

4.2.1.1. Identified stakeholders

Considering the definition of “stakeholders” provided above, the process of stakeholder identification requires understanding which results (e.g., technology, advancement in knowledge, models, etc.) the project will deliver. Based on the KERs (2.1) that The HuT will generate, we identified the following stakeholder groups and sub-groups.

Table 3. The Hut stakeholders' groups and sub-groups

Macro-groups	Sub-groups
Institutions & local authorities	International Institutions (e.g., UNDRR, UNDP, UNEP)
	European Institutions (e.g. EU Civil Protection Mechanism, ECHO, European Commission, Parliament and Councils)
	National governments (Departments of Environmental planning, DRR and civil protection)
	Local authorities (civil protection, meteorological service and urban planification)
EU and international initiatives	EU-projects & platforms
	EU partnerships, forums, clusters and networks
	Internationally recognized networks
NBSs Developers	Companies, enterprises, and agencies developing NBSs
Organizations, agencies and groups	Organizations on DRR management, civil and environmental protection
	International, regional, and national agencies (civil protection and meteorological agencies)



	Civil society organizations and NGOs
SMEs and other businesses	Insurance companies
	Technology companies
	Other private companies (e.g., construction, transport, agriculture, energy)
DRR Advisors & Experts	DRR Advisors, experts and consultants
Local communities	Local communities and inhabitants
Scientific Community	Universities
	Research centers
Media	Journalists and local/international media

4.2.1.2. Stakeholders profiling

This section focuses on providing a short profile for each of the stakeholder groups and sub-groups identified, including the following:

- Geographical area of stakeholders' operation (i.e., national, international etc.);
- Main interests in The HuT's results;
- Examples of key players.¹

1. INSTITUTIONS AND LOCAL AUTHORITIES

Institutions operate at different levels and have several supporting internal bodies contributing to the achievement of their objectives. They play a key role in The HuT by building a supportive framework to boost implementation of innovative DRR solutions, setting new global standards for the prevention and the preparedness phase of disaster risk reduction management, implementing new projects, and supporting national, regional, and local implementation measures. They can therefore influence The HuT by:

- Setting favorable regulatory environments for the development and application of solutions and best practices for disaster risk management;
- Providing incentives to the deployment of research projects, innovative models and processes aiming at increasing the effectiveness of the prevention and preparedness phase of the disaster risk management;
- Financing R&D in innovative models for disaster risk management.

Institutions can be geographically classified in international, European, national, and local authorities.

¹ The list of stakeholders provided for each sub-group is not meant to be exhaustive and is only provided by way of example.



1.1. International Institutions on DRR management and environmental protection

At the international level, Disaster Risk Management is part of the topics addressed by the international community under the United Nations. The body dealing with it is the UNDRR, the United Nations Office for Disaster Risk Reduction together with the UNDP, the United Nations Development Program. The two UN-based agencies function as coordinators in the context of disaster risk management and apply the Sendai Framework for DRR, setting seven targets and four priorities for the management of disasters at the international level². Another important international actor is the UNEP, the United Nations Environmental Program, for which DRR management is a critical component of its work³.

These stakeholders are mainly involved in the purpose of the project because of their role in the decision-making process on DRR management and the implementation of internationally recognized conventions on the topic that act principally as legal framework for the signatory countries⁴. International bodies can foster the exchange of data and knowledge between individual countries as well as the instruments developed within The HuT project to value innovative models of disaster risk management in decision-making.

1.2. European Institutions

At the European level, Disaster Risk Management is majorly a responsibility of the Member States, but a wide set of EU policies and funds have been developed to strengthen collective safety and resilience against adverse events, especially with the expected increase of more extreme events induced by climate change, continued urbanization, development in hazardous areas and environmental degradation. Many rules and tools developed by the European Union for disaster risk management fall under the EU Civil Protection Mechanism, which provides a space for information exchange and a framework for developing rescue teams and equipment to be mobilized in case of disasters. The HuT focuses especially on the prevention and preparedness phase of disaster risk management, making European institutions fundamental targets for the project's results⁵.

Not only are the European institutions dealing with disaster risk management fundamental stakeholders in the context of The HuT but also all the bodies having a role in the development of biodiversity and spatial planning policies, environmental policies as well as agricultural and urbanization-related policies in the Union. The European Commission, Parliament, and Councils deal with land management and environmental protection and they have the policy-making power on policies that are fundamental for disaster risk management.

1.3. National governments

² Sendai Framework for Disaster Risk Reduction 2015 -2030, 15th March 2015.

³ UNEP (n.d.). *UNEP- UN Environment Programme*. UNEP- Disaster Risk Reduction. Retrieved March 9, 2023, from <https://www.unep.org/explore-topics/disasters-conflicts/what-we-do/risk-reduction>

⁴ UNDRR (n.d.). *About UNDRR*. UNDRR United Nations Office for Disaster Risk Reduction. Retrieved March 9, 2023, from <https://www.undrr.org/about-undrr>

⁵ European Commission (2022, February 8). *European Civil Protection and Humanitarian Aid Operations*, Retrieved March 7, 2023, from https://civil-protection-humanitarian-aid.ec.europa.eu/what/civil-protection/european-disaster-risk-management_en



National governments play a focal role in DRR management since they are responsible for policies and frameworks for the development of early warning mechanisms as well as technical systems necessary for effective and timely disaster management⁶. National governments have therefore multiple responsibilities regarding risk reduction:

- support local communities and local governments to develop operational capabilities transferrable to early warning systems;
- ensure that warnings and responses to risks and hazards had the chance to be properly constructed and developed thanks to the enabling role that national governments play;
- design and maintain warning systems at the national level;
- ensure the availability of necessary and properly distributed funds and engage local communities in the development of warning systems through dissemination and engagement activities.

1.4. Local authorities

Local authorities are fundamental stakeholders in the context of The HuT since they are the policymakers that are the closest to the local communities targeted for the warning systems in case of disasters and hazards⁷. Some examples of such authorities are *the civil protection services* that have the responsibility in a determined local area. These services are responsible for identifying, assessing, and mitigating disaster risks at the local level, as well as responding to emergencies when they occur. Another important category of services provided by local authorities is the *meteorological services*, responsible for providing weather forecasts, warnings, and other meteorological information to the public and various sectors of society, including decision-making bodies that can use this information to plan and implement strategies that can help prevent or mitigate the effects of natural disasters, such as floods, droughts, and hurricanes⁸.

Local authorities should be the depositary of considerable knowledge of the hazards to which their communities are exposed, they are also the technical actors that hold the fundamental knowledge about the environmental scenarios of the concerned area.

2. EU-INITIATIVES

Projects, platforms, forums, partnerships, and clusters linked to The HuT's goals operate at different levels and include collaborative platforms and networks with the purpose of gathering available knowledge and bringing innovative solutions forward. Some of their interests are to promote innovative solutions concerning DRR and implementing effective RDD policies and recommendations.

2.1. EU Projects and platforms

⁶ Ishiwatari, Mikio. (2013). Disaster Risk Management at the National Level. SSRN Electronic Journal. 10.2139/ssrn.2360365.

⁷ Gencer, E. A. (2017). Local government powers for disaster risk reduction: A study on local-level authority and capacity for resilience. *UNDRR Documents & Publications*.

⁸ World Meteorological Organization, ROLE AND OPERATION OF NATIONAL METEOROLOGICAL AND HYDROLOGICAL SERVICES A Statement by the World Meteorological Organization for Directors of NMHSs; WMO:2015



European projects and platforms focusing on DRR management have proliferated and they can be considered stakeholders in the context of The HuT especially for tighter collaborations enhancing the development of innovative solutions. Synergies with other projects facilitate the widest possible dissemination of The Hut's results and ensure a long-term legacy, incorporation of good practice, building on their experiences, as well as disseminating the learned experiences of the HuT about DRR management, especially in the prevention and preparedness phase. Projects at the EU level that can be considered as fundamental stakeholders for the purposes of The Hut: constructing effective synergies with projects and platforms in which The HuT's partners are involved can be beneficial for the project's success. Through synergies among EU projects and platforms, a real capitalization of the efforts can take place and the risks of wasting resources in the case of duplicate work can be avoided. The ongoing projects to be considered for synergies with The HuT, and in which The HuT's partners are involved are: Grow-Green, PHUSICOS, HERCULES, OPERANDUM, FIRELOGUE, CORE, UKCRP, SCAC, Climate-ADAPT, URBAN GreenUp, MATCH-UP.

2.2. EU Partnerships, forums, clusters and networks

Partnerships, forums, clusters and networks at the European level can act as important centers for information, expertise and knowledge sharing, in the context of The HuT's objective, they can also represent important points for dissemination activities.

- Partnerships bring together public and private actors from across the EU to work together towards a common goal. For example, the *Natural Hazards Partnership (NHP)*⁹ provides authoritative and consistent information, research and analysis on natural hazards supporting more effective policies, communications and services.
- Forums are spaces where actors can exchange ideas, opinions, and information about a particular topic or issue. In the context of The Hut, *the European Forum for DRR (EFDRR)*¹⁰ is the regional European forum addressing the regional disaster risk challenges. The EFDRR is for The Hut a place for knowledge sharing as well as a significant channel for dissemination of policy briefs along with models, methodologies and materials.
- European Clusters are groups are also to considered, such as the *European Public Health Alliance (EPHA)*, a network of public health organizations advocating for policies and initiatives that promote public health, including disaster risk reduction and emergency preparedness. Another example is the *European Committee for Standardization (CEN)*¹¹. CEN works with a range of stakeholders to develop standards that enhance resilience and reduce disaster risk in Europe.
- Networks in the context of The HuT are fundamental for the dissemination of the project's results. An example of such networks is the *European Network of the Heads of Environment Protection Agencies (EPA Network)*¹² being an important grouping of the Heads and Directors of European Environmental Protection Agencies and similar bodies across Europe.

2.3. Internationally recognized networks, hubs and platforms



A selection of international networks and hubs relevant to The HuT include:

- GNDR: The Global Network of Civil Society Organizations for Disaster Reduction is an international network of over 1,400 member organizations across 127 countries, many of them grassroots and local community groups. In the HuT, GNDR will disseminate the results through their members' network at the national and global level, and it will develop the communication strategy to reach out to the communities most at risk.
- The LandAware network is presided by The HuT coordinator Michele Calvello, (University of Salerno). It is a multi-disciplinary network fostering cooperation to address issues related to landslide early warning systems.
- RiskKAN: the Risk-Knowledge Action Network is an international network on emergent risks and extreme events.
- The UCL Warning Research Center: will be engaged for its cutting-edge research, policy guidance, applications, and collaborative expertise on warning and alert systems, thanks to a network of over 40 warnings experts.
- The Anticipation Hub: network that brings together the Red Cross Red Crescent movement, universities, research institutes, NGO's and others involved in early action to reduce the impacts of hazards.
- GHIN: the Global Heat Health Information Network, worldwide forum of scientists, practitioners and policymakers focused on improving the capacity to protect populations from health risks associated with extreme heat.
- IDMP, the Integrated Drought Management Program launched by the World Meteorological Organization and Global Water Partnership, will provide advice and guidelines through the Integrated Drought Management Help Desk.
- WCSSP, the Weather and Climate Science for Service Partnership program, is developing a network of partnerships that could support The HuT in developing climate services.
- WRCP CORDEX-CORE organizes an internationally coordinated framework to produce improved regional climate change projections for all land regions worldwide.
- Nordress (Nordic Centre of Excellence on Resilience and Societal Security) will provide a link with all the North European Countries.

Other initiatives may comprise platforms, and hubs like:

- GFDRR Knowledge Hub: The Global Facility for Disaster Reduction and Recovery is a partnership supporting developing countries to understand, manage and reduce their risks from natural hazards and climate change.
- UNDRR Prevention Hub: The global knowledge-sharing platform for disaster risk reduction and resilience is a global platform that allows the international sharing of information, knowledge and expertise.
- Global Platform from DRR: The Global Platform for Disaster Risk Reduction is a multi-stakeholder forum, designed to allow several actors to share knowledge and discuss the latest developments and trends in reducing disaster risk.

3. NBSs DEVELOPERS

Nature-based solutions are ecosystem-based strategies to adapt to Climate Change-related challenges: such approaches are to be considered as particularly efficient in the context of DRR



management.¹³ The implementation of such solutions would guarantee environmental benefits to the communities and a more sustainable management of DRR. For DRR management, ecological engineering, soil bioengineering, protective forests, bioengineering, ecological restoration and Eco-DRR should be considered as the major fields to be tackled in order to develop sound NBSs¹⁴. NBSs can be implemented in the context of DRR for reducing exposure, reducing hazards and restoring ecosystems by environmentally requalifying vulnerable areas.¹⁵ In the context of The Hut different NBSs developers are for example, engineering companies, enterprises and public agencies.

4. ORGANIZATIONS, AGENCIES AND GROUPS

4.1. Organizations on DRR management, civil and environmental protection

European Organizations dealing with DRR management are several and they can play a crucial role in the development of The Hut's results since they can provide expertise, knowledge, and resources for their development and for enhancing innovative solutions in the context of DRR management.

They have different settings, and they can be of different nature. For example, the *European Resilience Centre* (ERC), an independent, non-profit organization, works on DRR and resilience-building in Europe. The ERC works with a range of stakeholders, including governments, businesses, and civil society organizations, to promote resilience-building and disaster risk reduction across Europe. Other organizations may not exclusively focus on DRR management, but rather it can be part of their interest, like the *European Environmental Bureau* (EEB), a network of environmental organizations in Europe. The EEB works on a range of environmental issues, including DRR, by promoting sustainable development and advocating for policies and actions that reduce environmental risks and enhance resilience.

Several organizations can be found at the European level that deal with disaster risk reduction management and they can be targeted because of the wide knowledge and resources that they can offer and for the relevant number of stakeholders that they can address. For example, the *International Federation of Red Cross and Red Crescent Societies* (IFRC), which is the world's largest humanitarian organization, with a focus on disaster response, disaster risk reduction, and community resilience, or the *International Union for Conservation of Nature* (IUCN) which is a global organization working on biodiversity conservation and sustainable use of natural resources. Fundamental among the international organizations is the *National Emergency Management Agency* (NEMA), responsible for disaster risk reduction and emergency management in many countries.

4.2. International, regional, and national agencies (civil protection and meteorological agencies)

¹³ *Ecosystem-based Adaptation*. (n.d.). UNEP - UN Environment Programme. <https://www.unep.org/explore-topics/climate-action/what-we-do/climate-adaptation/ecosystem-based-adaptation>

¹⁴ Arce Mojica, Teresa & Nehren, Udo & Sudmeier-Rieux, Karen & Miranda, Patricia & Anhuf, D.. (2019). Nature-based solutions (NbS) for reducing the risk of shallow landslides: Where do we stand?. *International Journal of Disaster Risk Reduction*. 41. 101293. 10.1016/j.ijdrr.2019.101293.

¹⁵ *Implementing Nature-based Solutions to Reduce Systemic Risk*. (n.d.). Global Platform for Disaster Risk Reduction. <https://globalplatform.undrr.org/conference-event/implementing-nature-based-solutions-reduce-systemic-risk>



International, regional, and national agencies play a crucial role in ensuring public safety during natural disasters, as well as can be pivotal in the preparedness and preventive phase of DRR management.

Of special importance are the meteorological agencies: they provide timely and accurate weather and climate information to help communities and governments prepare for and respond to disasters. Meteorological agencies are crucial partners in DRR efforts, providing the critical information needed to prepare for and respond to natural disasters and mitigate their impact. Such agencies are present at the international level, like the *World Meteorological Organization (WMO)*, which helps coordinate the exchange of weather-related information between countries¹⁶. They can also be regionally displaced, for example the *European Centre for Medium-Range Weather Forecasts (ECMWF)*, an independent intergovernmental organization that provides weather forecasts and climate-related data to its member states¹⁷. National governments have also their meteorological agencies that can be pivotal in providing information to civil protection groups and local authorities to prepare and respond to disasters.

Also, relevant actors in the scenario of The Hut, civil protection agencies, play a critical role in disaster risk reduction (DRR) by coordinating and implementing measures to prepare for, respond to, and recover from disasters. Civil protection agencies develop emergency plans and procedures to ensure that communities and government agencies are prepared to respond to disasters. Civil protection agencies communicate with the public about potential risks and hazards and provide information about how to prepare for disasters and what to do during and after a disaster. These agencies have various roles and responsibilities related to civil protection, emergency management, and disaster response, and often work closely with other government agencies, NGOs, and local communities to support disaster risk reduction efforts. They are several, and usually each country has its own civil protection agency, for example *Protezione Civile* in Italy, or the *Directorate-General for Civil Protection* in Belgium. At the European level, of fundamental importance is the European Emergency Response Coordination Centre (ERCC), which is responsible for coordinating and supporting response activities during emergencies and disasters, both within the EU and globally¹⁸.

4.3. Civil society organizations and NGOs

Civil society organizations **and NGOs** are fundamental actors especially in the aftermath of disasters because of their frontline role, however since they are considered as primary intervening actors, they can also bring important knowledge and experience on what needs to be managed in the prevention and preparatory phase of disaster risk reduction. Civil society organizations can be of different nature, they can work in different areas and towards different goals, of special significance in the context of The HuT are the organizations that deal with the most vulnerable populations¹⁹, for example IRC and Médecins Sans Frontières/Doctors Without Borders (MSF). NGOs are especially important for their roles in public awareness raising in the occurrence of a disaster, and spreading information about how it can be prevented and what should be done if it occurs. Besides generating awareness, NGOs also provide advocacy for disaster management influencing public opinion and make the topic relevant for policymakers. Such

¹⁶ *World Meteorological Organization*. (n.d.). World Meteorological Organization. <https://public.wmo.int/en>

¹⁷ *ECMWF*. (2023, March 20). ECMWF. <https://www.ecmwf.int/>

¹⁸ *Emergency Response Coordination Centre (ERCC)*. (n.d.). European Civil Protection and Humanitarian Aid Operations.

¹⁹ [Roles of Non-Government Organizations in Disaster Risk Reduction | Oxford Research Encyclopedia of Natural Hazard Science](#)



NGOs are for example: Direct Relief International, All Hands and Hearts or REACT International.

5. SMEs AND OTHER BUSINESSES

Stakeholders from the private sector can play an important role in Disaster Risk Reduction (DRR) efforts. They have resources, expertise, and technology that can be utilized to prevent and prepare for disasters.

5.1. Insurance companies

Insurance companies play an important role in Disaster Risk Reduction (DRR) efforts. Insurance companies provide one of the formal risk transfer processes, whereby the financial consequences of particular environmental risks are shifted from one party to another. Moreover, insurance companies can offer incentives to encourage individuals and businesses to implement risk reduction measures. For example, insurance companies can provide lower premiums or discounts to policyholders who take steps to reduce their risk exposure to disasters.

5.2. Technology companies

Technology companies are specifically important in the context of prevention and preparedness phases of DRR management, especially those providing the necessary means for the development of tools and models for preparedness to disasters, such as early warning systems and data analytics. For example, technological companies can conduct risk assessments to identify possible hazards and vulnerabilities of existing and future operational models. The development and the implementation of early warning systems use sensors, satellite imagery, and other data to detect potential hazards and issue warnings to affected communities. Early warning systems may require specific technologies that only specialized companies can provide. Technology companies can use data analytics and modeling to identify patterns and predict potential hazards, developing more efficient risk reduction strategies. Data provided by technology companies can also be used for informing decision-making processes. Technology companies can provide mapping and geospatial analysis tools that help to identify areas of high-risk and vulnerable populations. This information can be used to develop targeted interventions and to prioritize resources for disaster preparedness and response.

5.3. Other private companies (e.g., construction, transport, agriculture, energy)

Other private companies can provide expertise, knowledge and resources for the prevention and preparedness phases of DRR management. Several companies can be affected by natural hazards, disasters and climate change.

An important branch of private companies is composed of businesses dealing with infrastructure and buildings, namely construction companies that can incorporate disaster-resilient design analysis toward risk reduction. For example, companies can design buildings to withstand high winds or floods. Transport companies can be heavily affected by natural hazards and can have a crucial interest in DRR solutions by incorporating models and tools in their working processes, in order to address the preparatory and preventive phase of possible natural disasters. In case of natural disasters, agricultural companies would be particularly affected, their interest in the results of the project is particularly high because of the interest invested in the case of floods,



droughts, heatwaves, fires etc. Energy companies are also particularly vulnerable to natural hazards, especially for the consequences that such hazards can have on the environment and on the populations.

6. FINANCING ACTORS

Financing actors play an important role in the context of The Hut: they can be considered as financial enablers for the development of project's results ensuring their sustainability and allowing their maintenance. Financing actors can be of different nature: private or public investors, or independent donors. Moreover, they perform a fundamental task concerning the institutions of formal risk transfer mechanisms. Governments, multilateral banks and other large risk-bearing entities establish mechanisms to help cope with losses in major events. Such mechanisms include insurance and reinsurance contracts, catastrophe bonds, contingent credit facilities and reserve funds, where the costs are covered by premiums, investor contributions, interest rates and past savings, respectively.

6.1. Public Investors

Public investors are usually governments, and state investors that fund DRR-related projects in order to improve regional, national and local DRR management systems. Different public funding schemes can be found that provide financial support to individuals, organizations, and communities engaged in the development of disaster management solutions. Such financing schemes are also derogated by the European Union, or at regional and international levels through development banks. An example is the EIB (European Investment Bank) which has joined the Coalition for Disaster Resilient Infrastructure (CDRI), promoting the resilience of infrastructure to climate and disaster risks in support of sustainable development. The EIB is a relevant actor, financing and supporting climate action projects worldwide that also include DRR practices. Such stakeholders provide essential economic inputs for risk transfer mechanisms, covering the risks with premiums and contributions that help entities cope with the financial consequences of natural disasters.

6.2. Private investors

Financing actors can be privately managed and owned and they can help address environmental challenges such as climate change adaptation strategies, while also providing financial returns to investors. Private investors usually invest in DRR management projects to ensure a return on their investments; they usually are banks or private investors of different natures. They can invest in developmental projects that include commercial solutions having therefore the possibility to have a return on the investments in economic terms. Similarly, to private investors, banks can also financially support communities suffering the burdens of a natural disaster shifting financial consequences to one party to another by providing premiums and reinsurance contracts.

6.3. Donors

Donors in the context of The Hut can be several and they can be part of different realities and contexts. They can be businesses that may choose to donate to improve DRR management practices for several different reasons, like Corporate Social Responsibility mandating them to engage in activities that have a positive impact on society and the environment, improve brand reputation, benefit from an increased resilience of the environment. Other types of donors are philanthropic associations and single philanthropies or other sectorial organizations and fundraisers that donate funds for the development of more effective and sound DRR management structures.



7. DRR ADVISORS, EXPERTS AND CONSULTANTS

DRR advisors and experts play a critical role in supporting governments, organizations, and communities in reducing the risks and impacts of disasters. Consultants in the context of The Hut assist the disaster management unit to manage the monitoring of DRR interventions at prepare reports on progress in implementing the action plan.

These professionals have expertise in various aspects of disaster risk reduction, such as disaster preparedness, response and recovery, risk assessment and mapping, hazard mitigation, and community engagement. They can be experts in the assessment of risks and support the development of disaster risk reduction plans that outline strategies and actions to mitigate risks and enhance preparedness, response, and recovery. They can also be professionals providing technical assistance, guidance training and capacity building to governments, organizations, and communities to help them implement disaster risk reduction plans and activities.

For example, DRR advisors and experts can be *Geologists and Seismologists*, who can study and monitor the seismic activity and geologic structures to identify potential risks of earthquakes and volcanic eruptions, *Meteorologists and Climatologists* who have knowledge and information about weather forecasts and patterns in different areas, *Emergency Management Experts* - who can develop and implement emergency plans and procedures that can mitigate the impact of disasters and provide timely assistance to affected communities. *Social Scientists* can also play a role, by studying the social and economic impacts of disasters on communities and help identify strategies to build resilience and reduce vulnerability. Many other experts can be influential in the context of DRR and they can be experts in a wide range of subjects that are relevant to DRR management.

8. LOCAL COMMUNITIES AND INHABITANTS

Key stakeholders in disaster risk management are the communities and their inhabitants, especially those living in most vulnerable areas. The local communities, especially the vulnerable ones, need to be aware of hazards and potential negative impacts to which they are exposed and be able to take specific actions to minimize the threat of loss or damage.

9. SCIENTIFIC COMMUNITY

Research and innovation (R&I) are key factors to foster DRR solutions in the prevention and preparedness phase. They can contribute to the development and experimentation of innovative solutions, discover new market opportunities, and develop strategies to reach The Hut's objectives.

They can be identified as:

- Universities and research institutions operating at different levels and are normally funded to advance science, pioneer new technologies and power new markets. Universities play an evident role in providing research in innovative solutions, best practices and technological solutions.
- RTOs: Research and Technology Organizations (RTOs) specialize on the role of creation and distribution of new knowledge and technologies. Their mission is to generate knowledge aimed at enhancing firms' competitive advantages as their connection with industries allow overcoming many of the institutional barriers to technology transfer.



10. LOCAL, NATIONAL AND EUROPEAN MEDIA

There is a long-standing debate about the role of media as a target or multiplier of information. The consortium of The Hut believes in the latter and considers media as a platform to reach the targeted stakeholders profiled in this report (rather than a target itself).

4.3. Key messages at general and stakeholder level

The challenge of facing such a variety of targets entails the need to create a series of key messages that communicate The HuT core objectives. Blending specific keywords, messages and target audiences ensures the likelihood for the project to resonate with each audience and to generate meaningful impact.

The following list and table provide an overview of The HuT key messages:

KEY MESSAGES at the project level

- The HuT will contribute to prevention and preparedness of disaster risk management.
- The HuT will support local administrations to adopt innovative disaster risk reduction solutions.
- The HuT will support the European communities dealing with extreme climate events.
- The HuT's strategies to manage risks related to extreme climate events will contribute to the new EU Strategies on Adaptation to Climate Change and Biodiversity.

Table 2. Key message at target level

Target	Key message	Tagline
Institutional & Local authorities.	▪ The HuT will stimulate a solid engagement of local authorities to ensure the effective implementation and transfer of DRR solutions, to promote social acceptance and to manage criticalities. ▪ The HuT will offer to national and local governments the chance to be more efficient towards local communities in the risk management process. ▪ Thanks to the HuT, land management and environment authorities will have efficient tools to manage disaster risks caused by extreme climate events.	ENHANCED DRR SOLUTIONS FOR YOUR CITY
EU and international initiatives	▪ The HuT will contribute to increase knowledge at EU and international level,	MORE EFFICIENT TOOLS TO MANAGE DISASTER RISKS



	leveraging on the networks involved, of the innovative DRR and climate adaptation approaches and tools.	
Organisations, agencies and groups	▪ The HuT will improve monitoring and forecasting/nowcasting of weather forcing, and associated effects, exploiting innovative approaches and open data. ▪ The Hut will allow the integration of risk perception, vulnerability, and resilience into warnings and storytelling to embed DRR into the fabric of society.	OPEN DATA FOR A BETTER MONITORING
SMEs and other businesses	▪ The proofs of feasibility developed in The HuT will lead to new economic opportunities for donors, investors and companies working in the field of DRR. ▪ Thanks to The HuT it will be possible to develop prototypal insurance products linked to disaster risks caused by extreme climate events.	YOUR NEW INVESTING OPPORTUNITY DISASTER RELATED RISKS SOLUTIONS FOR A SAFER FUTURE
DDR Advisors and experts	The HuT will provide experts with knowledge to encourage a shift towards “managing the risks”, by focusing on prevention and preparedness.	NEW DRR TOOLS FOR A SAFER FUTURE
Local communities	The HuT will help citizens and civil society understanding disaster related risks through dedicated awareness raising products	LET’S LEARN THE NEW DRR TOOLS



Scientific community	▪ The Hut will determine a more efficient, cross-sectoral and cross-disciplines coordination of the disaster risk management cycle, from international to local levels. ▪ Thanks to the HuT, the scientific community will have access to innovative scientific approaches to forecast the effects of extreme climate events implementing new technologies and monitoring/modelling approaches.	LET'S RESEARCH NEW DRR TECHNOLOGIES
Media	The HuT will contribute to climate adaptation and climate change issues with new tools and strategies to manage climate extremes	THE HUT CAN GIVE YOU INNOVATIVE DRR TOOLS

4.4. A tailored approach to Dissemination and Communication

The project will develop a Plan, Dissemination, Communication and Exploitation articulated upon the following stages: Engage, Produce, Share and Exchange.

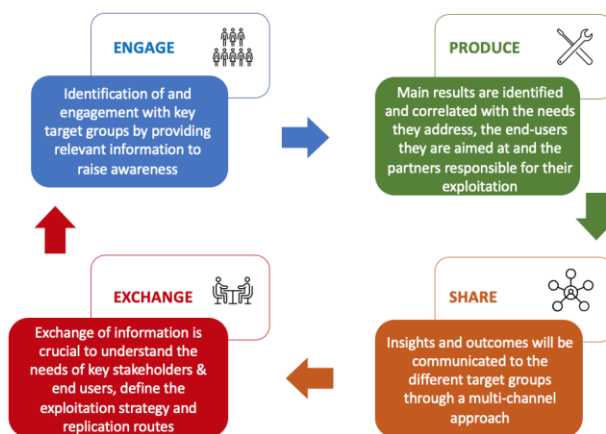


Figure 1. Table of PDCE

Dissemination and Communication play a fundamental role in the “Share”, “Exchange” and “Engage” stages.

The project dissemination makes the project's results available to the scientific community, policymakers, and industry. Its ultimate scope is to facilitate scientific advancement, technology application, and evidence-based policy making with a view to generate long term impact.



On the other hand, communication increases the public visibility of the project and its results. It relies on a non-technical language to trigger public interest in the topic dealt with by the project and aims to showcase the benefits that The HuT is expected to bring into people's lives in the long term.

Table 3 Difference between dissemination and communication

	Dissemination	Communication
Objectives	Public disclosure of scientific and technical results	Promotion of the project and its benefits
Audience	Professional target groups, such as scientific communities, industry stakeholders, policy makers, etc.	General public, including EU citizens, civil society.
Tone of voice	Scientific/technical language	Non-specialized/layman's terms
Channels	Peer-review journals, scientific conferences, sector events, the web, newsletters, etc.	The web, social networks, journalistic articles, TV channels, radio etc.

Aligned and coordinated with communication and dissemination activities, exploitation activities will aim at preparing the playground (hub? Platform?) for the use of scientific results and technological solutions during and after the end of the project.

The following table shows how each category identified through the stakeholder mapping exercise will be addressed by the project dissemination and communication. Depending on stakeholder's needs, dissemination content will be tailored and relayed through formats and channels considered the most effective and impactful.

Table 4. DC tailored to The HuT's targets

Stakeholders	Dissemination formats	Communication channels	How DC supports exploitation
Institutions & local authorities	• Brochure • Scientific publications • Sector events • Webinars • Info packs and factsheets • Video	○ Website ○ Social media ○ Sister project's website	Dissemination materials will provide essential information to local authorities showcasing the advantaging of adopting DRR solutions.



EU and international initiatives	• Brochure • Info packs and factsheets • Video • Press and news releases • Journalistic articles • Sector events	○ Website ○ Social media ○ Media Multipliers ○ Sister project's website ○	D&C will pave the way for an increasing cooperation within EU projects which will allow for an increase in knowledge. Mutual exchange of expertise during sector events and thanks to the participation to joint webinars, will allow to spread the word about innovative DRR and climate adaptation tools
Organizations, agencies and groups	• Brochure • Sector events • Webinars • Project presentation • Info packs and factsheets • Video • Press and news releases	○ Website ○ Social media	Dissemination formats will provide information on the innovative DRR solutions and tools, highlighting their advantages. Dissemination and communication formats will adapt their line of storytelling so as to reach civil society as well as more technical audience.
SMEs and other businesses	• Brochure • Scientific publications • Sector events • Webinars • Info packs and factsheets	○ Website ○ Social media ○ Newsletter	Dissemination formats will contain technical and essential details showcasing DRR solutions and their advantages. They will also contain market information when relevant.
DRR Advisors & Experts	• Brochure • Sector events • Webinars • Project presentation • Info packs and factsheets • Video • Press and news releases • Journalistic articles • Video interviews	○ Website ○ Social media ○ Newsletter ○ Sister project's website ○ Media Multipliers ○	D&C formats will consolidate the credibility of the solutions proposed. Info packs and factsheets will contain technical information in an easy-to-understand format. Sector events will provide opportunities to exchange knowledge and present the achievements of the project.
Local communities	• Brochure • Sector events	○ Website ○ Social media	Some D&C formats will adopt a clear and easy-to-understand approach to explain and raise awareness about



	• Webinars • Project presentation • Video • Press and news releases • Info packs and factsheets	○ Newsletter ○ Local media	disaster risk management. The project will therefore inform the whole society about the importance of this topic and its repercussions.
Scientific community	• Brochure • Sector events • Webinars • Project presentation • Info packs and factsheets • Scientific papers • Video • Press and news releases • Journalistic articles • Video interviews	○ Website ○ Social media ○ Newsletter ○ Sister project's website ○ Media Multipliers ○ Scientific papers	Scientific papers will consolidate the credibility and efficacy of the DRR solutions developed within the project. It will also provide solid grounds for more research on the topic.
Media	• Press and news releases • Journalistic articles	Media Multipliers	Press and news releases will provide information and context about energy efficiency which is a hot topic in the media. The solutions developed within the project can be presented as the best alternative to the present ones.



4.5. Dissemination & Communication channels

Table 3. Dissemination and communication channels

Channel	Description	Target
Website	The project website will be used to showcase details about the project, its objectives, challenges, and results. It will act as the primary communication channel between the consortium and The HuT target audiences. It will also facilitate exchange with stakeholders.	All
Landing Page	The landing page is a preliminary version of the project website. This was put up online in M3, prior to the launch of the website. It contained an overview of the project and direct contacts to The HuT coordinator and communication partner.	All
Social networks	These will be used to actively engage with the online community of the project's followers. This will be done by informing them about the progress made by The HuT and by inviting them to participate in a dialogue on the different topics/issues addressed by the project.	All
Newsletter	It is released on a six-monthly basis to inform about the progress made by the project. It is structured upon a summary of the key events, news or press releases issued by the project. Sister projects, partnerships and clusters will be offered a space in The HuT newsletter.	Local communities; SMEs and other businesses; EU and international initiatives; Organizations, agencies and groups
Media multipliers	These are external platforms that republish the news and press releases written by The HuT.	Scientific community; DRR advisors & experts; Media

4.5.1. Website and landing page

The project website will act as our main “**network**”. It will present the key features of The HuT as well as more in-depth information and resources as the project unfolds. It will also provide regular news items about the project, its challenges and its achievements, and the innovative results produced. A landing page has been up since M3 as a contact point while the actual website was being developed. The HuT website was launched in M5, February 2023 and is available at www.thehut-nexus.eu





Figure 2. Screenshot of homepage and latest updates

The project website will also be used for the following purposes:

- to cross-link it with external platforms, relevant initiatives, partnerships, and sister projects;
- to provide links to joint webinars and practical information about training, workshops and other stakeholder engagement activities promoted by the project;



- to be informed about the project's activities and be targeted by its dissemination initiatives using the newsletter's registration form;
- to provide local desks with a channel where they can communicate with their stakeholders both in English with a wider public and in their language with local audiences.

The website is structured in a way to encourage navigation across sections and topics. It consists of static pages that will be updated regularly during the project. Upon request of the coordinator, the website also has a page with restricted access for the consortium so as to facilitate internal communication. It allows all the information to be easily accessible and, additionally, it increases the daily usage of the website.

Table 4. Website and landing page accountability

Accountability	Developed and managed by ICONS, with input and feedback from UNISA and all the partners. Input and co-operation from UNISA and the rest of The HuT partnership will be encouraged during the project duration. To comply with General Data Protection Regulation – Regulation (EU) 2016/679 (GDPR), private data will remain confidential as ICONS will act as the Data Controller and be responsible for treating all the sensitive data provided by registered users upon online registration.
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4.5.2. Social networks

The HuT project will be widely visible on social networks, which will be used to promote the project, its objectives, and its results. The HuT's presence on social media is expected to boost the outreach of our project's DC activities, as it will allow touching base with the audiences that are difficult to reach through other conventional project channels.

The HuT will have a social media presence on Twitter and LinkedIn. The two social networks will have different tone voices and reach different audiences. While Twitter keeps us updated on climate change news and disasters caused by climate extremes, and engaged with EC accounts and the general public, the LinkedIn company page targets a professional audience.

The LinkedIn and Twitter accounts were opened in November 2022. They will be maintained throughout the duration of the project. The HuT will produce regular posts on both social networks. The purpose is to keep online communities interested and informed about the project, its progress and activities, and upcoming events. This will enable our project to establish relationship with i.e., groups and LinkedIn pages grounded on the field of climate change mitigation. The members of the consortium are encouraged to follow existing LinkedIn groups on a regular basis and post news (produced by the project) and facts worth bringing to the attention of these groups. It should be noted that these LinkedIn groups will be carefully chosen having in mind The HuT stakeholder audience. In the long run, they may hopefully become multipliers of our project's dissemination strategy. We will produce an editorial plan made up of regular posts to get the public's attention regarding The HuT's main results: public deliverables, scientific publications, details and follow-up news about the progress made by the project, and facts worth bringing up to attract the targeted online community's attention.



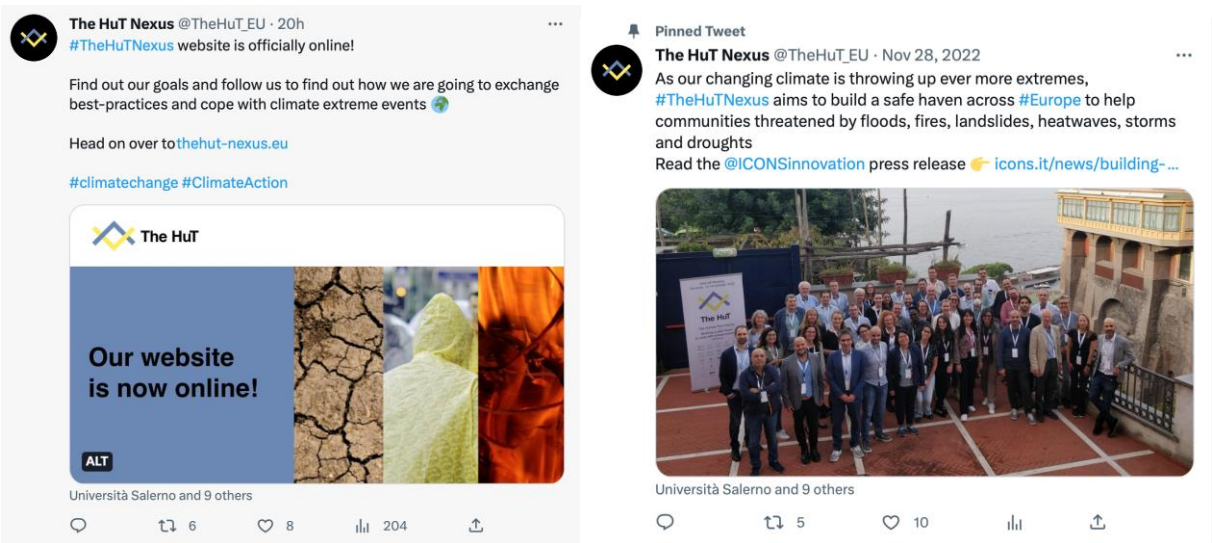


Figure 3. Screenshot of tweets from Twitter

In view of tracking the impact of the conversation about the project happening beyond the one under direct ICONS management, the project has set an official hashtag, #TheHuTNexus. The hashtag will be used to monitor posts about The HuT and to gather quantitative and qualitative impact data.

Table 5. Social networks accountability

Accountability	ICONS will be responsible for the core social media activities, like setting up the accounts, posting, following existing social media channels and monitoring outreach. The consortium partners are encouraged to contribute by joining the community of The HuT Twitter and LinkedIn followers. They can retweet and repost our content from their organizations' channels and use the #TheHutNexus hashtag.
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4.5.3. Newsletter

A project newsletter will be developed and issued on a six-month basis and delivered online to all the subscribers registered on the website to follow the project.

Newsletters are particularly effective when it comes to engaging with the professional community. Business, research stakeholders and policy makers will use the newsletter to be informed about the progress made by the project. The project newsletter is also a valid tool to encourage co-operation with sister projects, partnerships and sector clusters through cross-fertilization initiatives and cross-linkages. It will be written in English.

Table 6. Newsletter accountability

Accountability	MET will collect content and ICONS will program the newsletter and take care of dispatching it to the online registered users. All project partners are encouraged to send in relevant news and events to be included in the newsletter.
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4.5.4. Media multipliers

External media multipliers will be used to disseminate contents of general interest produced by The HuT.

These multipliers are external platforms that have syndication agreements with ICONS. The most used multipliers are EU Agenda, AlphaGalileo and Phys.org. Additional channels with a focus on the topics covered by The HuT will also be included in the project distribution list. Where appropriate, the REA communication officer will be informed about The HuT production and asked to support the distribution of our materials via their online channels. Products to be distributed will include press and news releases (T6.2) on The HuT.

The rest of The HuT consortium **is encouraged to republish the project's press and news releases via their own networks**. On monitoring purpose, they will have to inform ICONS once they re-distribute the abovementioned materials.

All communication materials produced by the project will be regularly monitored to quantify their outreach and understand the interaction and level of engagement our news, press releases and journalistic articles have been able to trigger.

Table 7. Media multipliers accountability

Accountability	ICONS will be responsible for distributing the news and press releases to external news multipliers. The consortium partners are encouraged to re-distribute these materials within their networks.
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4.6. Dissemination & Communication materials and formats

4.6.1. Formats

Within The HuT, ICONS will oversee the production of content-specific DC formats and will take care of their distribution through dedicated channels, thus maximising impact in terms of awareness, acceptance and uptake. The following materials and formats will be developed.

Table 8. Dissemination and communication formats and materials

Material/Format	Description	Target
Communication Kit	The HuT communication kit will entail the development of visual identity, flyer, roll-up, PowerPoint template and presentation video. Communication materials will be distributed both online (as downloadable materials on the website), and offline (to be displayed at workshops, exhibitions and external events attended by the partners). The materials' design will be consistent with the project's visual identity. The kit will be ready in May 2023 (M8).	All



Scientific Publications	With support from ICONS, technical partners, will produce scientific articles and papers to be published in peer-reviewed journals and conference proceedings. Such scientific publications will present the cutting-edge results from The HuT.	Scientific community
Factsheets	With support from ICONS, factsheets will be developed by technical partners. They will feature various technical insights and solutions from the project. Each will cover specific content and will be distributed to key stakeholders and published on The HuT website and distributed during joint events.	Organizations, agencies and groups; SMEs and other businesses; Institutions and local authorities;
Video interviews	Short video interviews will be produced by MET throughout the project to gather good practices and share them both within the demonstrators and with a wider international community.	Organizations, agencies and groups; SMEs and other businesses; Institutions and local authorities; EU and international initiatives
Local Desks	Each demonstrator will set local events in order to establish a continuous interaction with local stakeholders and show them the project activities. This level of communication will be in local language if needed. ICONS will give support and supervise this activity.	All

4.6.2. Communication Kit

The communication Kit will be produced by May 2023 (M8), providing partners with professional quality material necessary to promote the project. **This included a flyer, a roll-up banner, a standard PowerPoint presentation including the key messages of the project and a presentation video.** The PowerPoint presentation will be updated at least twice during the duration of the project to reflect progress. A short presentation video in English will show and explain The HuT concept and impacts to non-technical audiences.

Resources from the communication kit will support project communication by allowing The HuT partners to use them as a hook to engage with stakeholders, particularly when participating in events. It will contain all the information stakeholders need to know regarding the project. The materials follow the project visual identity. All visual materials are available in electronic format for downloading.

Table 9. Communication kit accountability

Accountability	ICONS will oversee the development and the design of the materials by May 2023 (M8). Partner will provide any further information that may be necessary for the development of the kit.
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4.6.3. Scientific publications

The project is expected to generate scientific results to be disseminated in scientific conferences and published in journals.

The HuT papers will feature the most interesting findings sought out by the academic and technological partners within the project. Possibilities to publish in open access mode will be investigated in the consortium. News about the release of The HuT's scientific and peer-reviewed publications will be shared via the project website and social media channels.

Table 10. Scientific publications accountability

Accountability	Research and technical partners will be the main responsible for the release and publishing of these actions. ICONS will keep track of all the scientific and technical publications made by The HuT's scientific and technical partners within the project. Moreover, ICONS will promote such publications via the project website and social media.
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4.6.4. Factsheets

Factsheets come in the form of info-sheets or concise reports. These are specifically designed for the professional community to learn about technical insights, solutions and measures developed by The HuT.

They allow our communication team to package technical achievements and findings into a visually attractive and easy-to-access document. The specific contents will be taken from the public deliverables and scientific publications produced by the project.

Their format makes them particularly suitable to be distributed at scientific and technical events. Moreover, they will also be made available for download from the project website and will be actively distributed to key stakeholders' groups interested in being up to date on project results.

Table 11. Factsheets accountability

Accountability	ICONS will oversee the development and the graphic design of the factsheets under MET's responsibility. Technical partners will collect content to be featured in such resources. ICONS will oversee the final edits and pagination to ensure that the visual identity of the project is respected.
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4.6.5. Video interviews

The HuT video interviews will feature the project's key achievements, best practices, lessons learned, and recommendations based on evidence gathered from experts working in the project.

These short video clips will be issued throughout the project, when The HuT partnership will be in the position to draw some conclusions from the project, worth to be shared with a wider audience.

ICONS will distribute them via website and social media, while MET will provide the technical content and oversee their development.



Table 12. Video interviews accountability

Accountability	ICONS will take care of the distribution of the interviews via social media and via website. MET and technical partners will take care of the development of the content of the videos and its editing.
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4.6.6. Local Desks

Local desks are in charge of the local Communication and Dissemination strategy under ICONS' supervision and guidance. Each demonstrator will set up local activities (e.g., general events, stakeholders' events, citizen science engagement events, local news on print media etc.) in local language.

The HuT promotes a paradigm shift among DRR experts and local communities, moving from “managing the disasters” to “managing the risks”. It is therefore crucial to create a network of subjects that can operate at the local level and reach the target to whom this approach is addressed.

Local desks will indicate how communication and citizen engagement activities will be tailored to the local framework related to the demo site. These desks are in fact in charge of the local D&C strategy definition, including, the identification of appropriate channels, messages and specific social media and communication formats to foster engagement (even in addition to those already implemented at project level). This approach will target specific audiences in a very effective and customized way.

Each Local Desk should:

- Map and collect local content (i.e. events, initiatives, press releases, events, videos, flyers, etc.);
- Promote and circulate contents of the area to the most appropriate targets;
- Organize and manage local engagement through dedicated initiatives (citizens and stakeholders);
- Maximise outreach towards other areas within their country (with similar risks' disaster needs);
- Track and monitor D&C activities at the local level and share the info with ICONS;

Table 13. Local desks accountability

Accountability	ICONS will oversee the management of the local desks and provide support if needed. ICONS will also monitor the local activities of each demonstrator. Each demonstrator lead will be responsible of organising local events and disseminate results locally in local language.
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4.6.7. Editorial contents

Table 14. Editorial contents

Editorial content	Description	Target
Journalistic articles	Independent articles and interviews to project's experts and external stakeholders will be produced by professional journalists and distributed to online media, thematic portals, and other information outlets.	DRR Advisors & experts; Media
Press and news releases	They can be used to inform the community about the main project achievements and milestones and promote project events and progress. They will also have an information purpose and disclose evidence about the novelties in the field relevant for the disaster and risk management.	Local communities; DRR Advisors & experts; EU and international initiatives; Organisations, agencies and groups; Media
Video production	The HuT video will communicate the project in an easy and engaging way. Their format will be suitable for online distribution, although they may also be used to present the project at sector events.	Local communities; EU and international initiatives; Organisations, agencies and groups; Media

The outreach will be monitored on a regular basis thus allowing us to fine-tune the communication materials' contents, in order to gain more impact over time.

4.6.8. Journalistic articles

Independent journalistic articles and interviews will be written by professional journalists under MET's supervision. They will cover topics linked to The HuT with an angle suitable to reach through to a wide range of audiences.

Articles will be published via the project website. Moreover, they will be distributed to the public at a European and global level using different multipliers or media platforms, namely EU Agenda, AlphaGalileo and Phys.org and other platforms which will be indicated as relevant. Social media channels will promote articles when released.

Journalistic articles will inform and stimulate interest among the public about the topics covered by the project. They will serve to present a technical project like The HuT to a laymen's audience by using understandable language and messages. Journalistic articles and project interviews can be seen as a way to raise public awareness, the project's key ideas and, ultimately, contribute to social acceptance of results.

Table 15. Accountability for journalistic articles

Accountability	The editorial production will be managed amongst ICONS and MET. Contents will originate either from external sources collected by journalists (during their investigation) or directly from The HuT project. ICONS will take care of the distribution.
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4.6.9. Press and news releases

The HuT press and news releases are meant to draw the stakeholders' and the public's attention towards The HuT, the progress made, and the results achieved.

Press releases are particularly effective when it comes to communicating the project's main achievements and key milestones, like the release of a scientific paper or a technical deliverable.

News releases, on the other hand, have an informal structure and they use plain language thus they are easily read by the public. They are usually published on the project website to communicate news about the project, its features and its work which are all worth bringing to the attention of The HuT community despite not being "breaking news". A news release will be produced, for example, to explain an innovative concept developed by the project or on background information on a project activity.

News releases are particularly effective when informing of the participation of some members of The HuT partnership to external events to present their latest project findings or achievement.

Both the press releases and the news releases will be published on the project website and, whenever deemed newsworthy, will be distributed to external online resources and news multipliers.

Consortium members are encouraged to actively publish and post on their own distribution channels and external media news about their project. ICONS will monitor on a six-month basis all publications released by the partners. This exercise will be based on a dedicated template which will be circulated in the consortium twice per year.

Table 16. News and press release accountability

Accountability	ICONS will be responsible for producing and distributing press and news releases on behalf of The HuT. All the members of The HuT consortium will flag up to ICONS interesting aspects worth covering by press or news releases, by providing them with the necessary details and background information. ICONS will draft texts and take care of their distribution. Once press releases are ready, all the members of the consortium will be encouraged to further distribute them through their own portals, newsletters, or other appropriate channels.
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4.6.10. Video production

The HuT video aims at communicating the project in an easy and engaging way. It can be developed in different formats (infographics and animation, scribing technique, real footage, stock images etc.) according to the audience, the targets, and the channels to be used for distribution.

The presentation video will be released at the beginning of the project (M8) and will focus on the general concept of The HuT and its objectives. Moreover, some video interviews with experts will be produced throughout the lifetime of the project under MET's responsibility. ICONS will promote them via social media.



The videos format is particularly effective at facilitating knowledge sharing of complex contents to a wide audience. Those which will be produced for our project are conceived to be promoted and distributed via social media, the project website, as well as other sector-related communication portals and platforms. When possible, The HuT video production will be used to present the project at external events partners will be invited to.

Table 17. Video production accountability

Accountability	ICONS will oversee the video production, development, and distribution. Format and content to be featured on the video will be preliminarily discussed with UNISA. UNISA and the technical partners will be asked to provide the technical background necessary to develop content and script.
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4.7. Clustering, synergies and events attendance

The HuT partners will participate in networking and clustering events to raise the project's visibility within the stakeholder community.

Reaching out to the stakeholders by attending events in person can effectively multiply opportunities of interaction between the project consortium and their professional target audience.

Partners will keep track of the upcoming networking and clustering events and they will inform the rest of the partnership about their wish to participate on behalf of The HuT. Events attendance will be monitored through a regular communication flow happening within the consortium and updates will be collected by ICONS on a six-month basis through a dedicated template. Examples of events include conferences, fairs, workshops, roundtables, brokerage events on project related topics, etc. The project's communication products will be distributed at these events to aid the partners in promoting the project. The partners' attendance to such events will be featured in the project website and in the social media channels to ensure they get the appropriate visibility.

The HuT will join forces with sister projects and sector partnerships. Such co-operation will be made visible on the website where key information and a direct URL link to sister project websites will be published. Additionally, The HuT newsletter will include a dedicated section where fellow project news and major results/ publications can be presented. A preliminary list of projects and initiatives for possible synergies with The HuT is provided in the table below.

Projects and initiatives	The HuT partner involved	Description
H2020 URBAN GreenUP 2017-2022	ICONS	Methodology to Renature Urban Plans to mitigate the effects of climate change and increase the sustainability of cities through innovative nature-based solutions (NBS)



<u>H2020 MATCH-UP 2017-2022</u>	UPV, LNV, VAL, ICONS	Creating and adopting solutions that can turn urban problems into smart opportunities
<u>H2020 Grow-Green 2017-2022</u>	UPV, LNV, VAL	H2020-SCC-NBS-2stage-2016 project piloting solutions for Green and Water resilient cities.
<u>H2020 PHUSICOS 2018-2023</u>	NGI, IIASA, UNIGE	Demonstrating how nature-based solutions provide robust, sustainable and costeffective measures for reducing the risk of extreme weather events in rural mountain landscapes
<u>HERCULES 2020-2023</u>	HY	Long-term Health Risks in a Changing Climate. Providing ground-breaking, yet actionable knowledge about climate related health risks
<u>H2020 OPERANDUM 2018-2022</u>	CMCC	OPEn-air laboRatories (OALs) for Nature based solUtions (NbS) to Manage hydro-meteo risks. co-design and co-management, in a climate change perspective, of NbS in several OALs over Europe.
<u>H2020 FIRELOGUE 2021-2025</u>	IIASA, CMCC	Identifying real or perceived injustices linked to interests, mandates, policies and practices existing in Wild Fire Risk Management.
<u>H2020 CORE 2021-2024</u>	UNISA	sScience and human factOrs for Resilient society. Disaster preparedness disaster preparedness, increasing risk awareness attention to vulnerable groups.
<u>UKCRP</u>	MET	UK Climate Resilience Programme. Characterising and quantifying climaterelated risks to the UK
<u>SCAC From 2019</u>	UNIGE	It aims at strengthening the climate adaptation capacities in the South Caucasus. It is funded by Swiss Agency for Development and Cooperation
<u>NHP From 2011</u>	MET, BGS	The Natural Hazards Partnership (NHP) provides authoritative and consistent information, research and analysis on natural hazards supporting more effective policies, communications and services across the UK

Each of these networks has its own communication channels, involving websites, newsletters and periodic meetings and workshops, which will be used to promulgate information from The HuT. Knowledge-sharing platforms of institutional agencies and partnerships operating at global level, such as [UNDRR PreventionWeb](#) and the [GFDRR Knowledge Hub](#), will also be used to this purpose.

Furthermore, The HuT will organize side events or special sessions in different Conferences and initiatives relevant for DRR and CCA topics, such as: European Forum for DRR, Global Platform for DRR, UNFCCC COP, EGU General Assembly.



The HuT will exploit EU services to boost impacts of its results: the [Horizon Results Booster](#) to design a dissemination strategy portfolio with other EU projects, and the [Horizon Results Platform](#) to raise visibility on the project's results towards multi-stakeholders.

Table 18. Accountability for synergies amongst projects

Accountability	ICONS will be responsible for keeping track of all the events in which representatives of The HuT partnership will participate.
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4.8. Management of communication, dissemination and exploitation

To ensure efficient communication, dissemination and exploitation activities full cooperation needs to be established between the Dissemination, Communication and Exploitation WP leader (ICONS) and the rest of the consortium.

There are strong interactions between the project dissemination, communication, and exploitation illustrated in the current document, and the partners' local activities, especially with stakeholders and professional audiences. Therefore, full cooperation from the rest of the team is expected. Likewise, the exploitation leg part of WP6 heavily relies on input from the The HuT consortium. In fact, all the project partners are expected to cooperate by participating in the exploitation process, which will be facilitated by ICONS, to gather information necessary to define the project KERs and the most suitable exploitation strategies (through questionnaires, continuous interactions and workshops).

More details as to the partners' input to the exploitation activities were provided in the Chapter 5 on "Exploitation strategy" in the current document.

The role and responsibility of ICONS, the project coordinator and the other members of The HuT consortium can be summarised according to the following scheme:

Partner	Responsibility and involvement
UniSa	- Validating the proposed dissemination, communication and exploitation strategy; - Providing feedback and approval on the communication and dissemination contents to be released on behalf of The HuT (i.e., project website, leaflet, factsheets, etc.); - Supporting exploitation activities, and the set up of dedicated exploitation work sessions; - Maximising the visibility of the solutions and methodologies developed in the project.
ICONS (WP6 leader)	- Leading and coordinating dissemination, communication and exploitation activities; - Developing an integrated communication, dissemination and exploitation strategy to be implemented for the duration of the project;



	• Defining key messages that will convey the objectives and goals of the HuT based on the needs and interests of the project's target audience; • Developing The HuT visual identity and various communication materials i.e. flyers, project video; • Designing, updating and maintaining of the project website; • Producing the content to be published on the project website and external channels, newsletters and social media platforms, together with the active contribution of all the partners; • Mapping and describing the HuT stakeholder groups; • Analysing KERs, and exploitation options for the KERs; • Designing a plan with partners' joint and individual strategies for accelerating model upscaling and future uptake; • Delivering training on exploitation themes and activities; • Monitoring the impact of communication materials produced and distributed for The HuT; • Delivering regular updates of the CDE plan based on the project's emerging requirements
All the other The HuT partners	• Providing inputs to create The HuT website and other communication materials; • Keeping ICONS informed as to relevant progress made by the project in their respective work packages; • Boosting the HuT's presence on social media; • Contributing to the definition of KERs and exploitation and sustainability strategies; • Actively participating to the exploitation activities facilitated by ICONS (e.g., questionnaires, interviews, workshops); • Providing ICONS with the list of events and publications they will be attending on behalf of The HuT; • Mobilizing networks and connections for a wider outreach and promotion of The HuT.

4.9. Monitoring

4.9.1. ICONS's monitoring process

The impact of The HuT's DC products will be measured all throughout the duration of the project. This will be done by monitoring and studying the project's ability to reach and engage with its target audiences.

Online media outreach will be calculated using a methodology that relies on automated tools that collect reliable statistics and data. The effectiveness of workshops and webinars will be measured based on the number of attendees and feedback to be collected at the end of each event.

The analytic tool called MATOMO will be used to assess the performance of the project website. This open-source software tool owned by InnoCraft will help ICONS (as website owner) to



measure how Users interact with website content (i.e. tracking visitor interactions by using first-party cookies that can record information about the time and the page a User has seen).

Press and news releases and journalistic articles will be monitored as well by calculating the outreach generated by the spontaneous take-ups of The HuT content on websites and social media channels. This reporting activity will be done using Nuvi®, social media analytics programs i.e., Twitter Analytics, Facebook Insights and YouTube Analytics and data coming from external platforms and multipliers.

4.9.2. ICONS's engagement indexes: CEI encompassing – PEI, SEI, WEI

Outreach and engagement indicators are not sufficient to assess the evolution of the acceptance level. The former only provide an estimate of audience size, not its interest level. The latter describe the interest and overall impacts on a community but should be read in conjunction with outreach to draw relevant conclusions on engagement. To this end, composite indicators are calculated for each area of activity: **Website Engagement Index (WEI)**, **Social media Engagement Index (SEI)** and the **Publication Engagement Index (PEI)**. They are computed as the ratio between the corresponding engagement and outreach indicators. This allows ICONS to analyse the communication and dissemination impacts for each area of activity separately.

The **Community Engagement Index (CEI)**²⁰ developed by ICONS is used to integrate all communication activities into one single metric. The total engagement (outreach) value is calculated by adding together the engagement (outreach) values calculated for the individual indicators.

The ratio between the engagement and outreach values collected for each single editorial product can be used for another analysis tool developed by ICONS, namely the impact quadrants as in Figure 3 below. In the plot, the x and y axes report the publication outreach and engagement values respectively. Each editorial product is represented with a bubble whose radius is given by the ratio between the corresponding engagement and outreach values. The two axes cross at the average values across the editorial products in question. The bubble distribution allows us to see which news items have performed better in terms of outreach and engagement. This is a valuable tool for correcting and fine-tuning the The HuT's communication and dissemination strategy. The plot is dynamic, as the coordinates of the bubble vary with time as more data is collected.

The CEI will measure the actual engagement of the The HuT community via the project contents delivered on the internet and the social media. It portrays the univocal relation between any project content available on the web and social media and the actual interactions of online visitors coming across that content. The CEI is a function of the outreach and engagement values, with low values of the CEI indicating little relative interest by the target audience.

²⁰ Folco Giuliana, Gaboardi Elena, Lischetti Serena, Martinoli Mario, Mazzolo Giulio, & Schmid Elisabeth. (2022). Two new tools for science communication assessment: the community engagement index and communication effectiveness quadrants. Zenodo. <https://doi.org/10.5281/zenodo.6985584>





Figure 4. Impact quadrants

Table 19. Monitoring and accountability

Accountability	ICONS will be in charge of monitoring the outreach and engagement generated by the project communication. The outcome of such exercise will be shared with The HuT consortium at project meetings and it will feed into periodic reporting.
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4.9.3. Timeline

The timeline below covers the main activities for WP6 from the beginning of the project. The first months focus on setting up of the visual identity, social media accounts, website, and other outreach materials. In the same period, a preliminary identification of The HuT KERs and the main stakeholder groups is carried out on the basis of the project proposal and further inputs arriving from all the partners.

In addition to the activities shown in the table below, the project newsletter will be produced twice a year, usually every six months and at the most appropriate dates in terms of newsworthiness. Social media is ongoing, and The HuT consortium is building its community. Press releases will be issued generally at milestones or for events and specific achievements or deliverables.

Table 20. Timeline

When	What	Lead beneficiary
M3	Set up of social media accounts, visual identity design, landing page	ICONS
M4	Brandbook, .ppt and deliverable templates	ICONS
M6	Project website	ICONS
M6	Communication, Dissemination and Exploitation of results (D6.1)	ICONS
M7	First newsletter	ICONS
M8	Communication Kit	ICONS
M48	Consolidation of the exploitation plan (D6.4)	ICONS



4.10. Project’s visual identity

An appealing and consistent visual project identity is key to reaching out effectively to stakeholders, helping the project increase its influence and impact. The project logo has been developed starting from The HuT brand personality exercise, which highlights the main features, characteristics, and elements the project partners want to convey when communicating about the project.

The notions and sources of inspiration underlying The HuT logo are:

- the concept of nexus between human and technology;
- the concept of safe space for sharing knowledge and best practices on DRR;
- the idea of making communities safer against climate change.



Figure 5. Main logo

The official Brandbook was developed and shared among partners. It serves as a rulebook for everyone involved in the project, particularly when developing communication and dissemination materials for specific events including webinars. Some of the rules are shown below in the Annexes.

All dissemination items and publications to be released by The HuT, including the project website, will specify that the project has received funding from the European Union research and innovation programme and display the European emblem. All publications will include the following statement (from GA 17.3): “Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or REA. Neither the European Union nor the granting authority can be held responsible for them.”

Table 21. Accountability for visual identity

Accountability	The HuT logo and brand system have been developed by ICONS with feedback from UNISA (Task 6.1). All The HuT project partners are encouraged to use the logo and the rest of the brand materials under the supervision of ICONS, following the graphic guidelines provided in the Brandbook.
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5. Exploitation Strategy

The Hut consortium applies an impact-driven approach to stimulate broader replication and uptake of KERs after project's end.

In light of the composition of the project's consortium, which is made of universities, research institutes, national authorities, organizations and technical engineering centers, results span across different domains and can be software, methodologies, protocols, materials, and models or just refer to general advancement in knowledge supporting innovative developments in trans-disciplinary risk management tools and approaches. To capture all these aspects, the exploitation perspective must provide a high degree of flexibility while requiring a structured methodology.

The exploitation process will ensure that partners can capitalize on the new knowledge generated during the research activities of the project, following a three-step approach:

- i. *Setting the scene*: identification of all the project's Key Exploitable Results, KERs.
- ii. *Shaping the strategy*: designing a plan of partners' joint and individual strategies for accelerating uptake and replication.
- iii. *Involving the enablers*: fostering transferability via the implementation of exploitation-oriented dissemination activities through the several networks involved in the project.

These steps will lead to the development of an exploitation roadmap for both individual and joint results, as well as provide sustainable models for the deployment of the solutions and services beyond the end of the project. The Exploitation Plan (D6.4, M48) will provide a comprehensive view of exploitation strategies, and target segments. Accordingly, the exploitation strategies, roadmaps will detail the key activities, resources, partnerships, and channels needed to ensure the successful uptake of results.

Preliminary identification of the exploitation main pathways is reported in the following paragraphs. The Hut's exploitation activities will be built on the following exploitation pillars:

1. *Uptake and replication of tools and models*: it represents the main way to exploit KERs after the end of the project, in fact the ambition of The Hut is to be widely adopted at the European level and internationally.
2. *Sustainability of the DRR nexus Forums*, as a key aspect to foster replication and engagement of stakeholders after project' end.
3. *Advocacy towards relevant stakeholders*, which can be informed of the project's results towards the uptake and replication of The Hut's results.
4. *Scientific and research exploitation*: the number of universities and research centers in the project allows an effective exploitation of a major number of project's results for research purposes.
5. *Commercial exploitation*: even if limited, commercial exploitation will be evaluated for some results, for the provision of targeted DRR services.

5.1. Upscale and Replication of tools and models

Upscaling and replication of the project's results is the main focus of The Hut exploitation, since the major ambition of the project is to promote the "best set" of trans-disciplinary risk management tools and approaches that could be adopted and used extensively across Europe. This can



involve scaling up successful solutions from pilots environments and replicating those models in new locations or contexts. Effective transferability ensures that successful approaches from one region or context can be adapted and applied in other regions or contexts where similar challenges and opportunities exist.

Replication of the solutions from demonstrators' arenas to other context would allow the maximization of the project's results and would ensure project's legacy after the project's end. Beyond upscaling of the project's results in the demonstrators' sites, exploitation of the developed and tested solutions should contemplate the process of implementing successful interventions, strategies, or technologies in different contexts to address similar problems or challenges. To do so, some steps will be considered within demonstrators' arenas and by the partners leading the arenas:

- i. Identify interventions or tools that have been successful in addressing related problems.
- ii. Evaluate the context in which the successful interventions or tools were implemented and identify factors that contributed to their success.
- iii. Adapt the successful interventions or tools to fit other contexts. This can include modifying the interventions or tools to meet the specific needs of the new setting and consider any cultural, social, environmental or economic factors that may impact their effectiveness.
- iv. Test the adapted interventions or tools in the new setting to assess their effectiveness. This can include conducting pilot projects or trials to determine their impact and identify any necessary adjustments.
- v. If the adapted interventions or tools are successful in the new setting, they can be scaled up to reach a larger target or to address a broader range of issues.
- vi. Monitor and evaluate the effectiveness of the replicated interventions or tools to ensure that they continue to be effective in the new setting.

In order to do this, The Hut Consortium will engage in the elaboration of a collaboration plan that aims at the development and the further uptake of project's tools and materials. The collaboration plan should concretize exploitation strategies aiming at networking and disseminating project's results, ensuring their availability after the project and upscale them in other projects and initiatives. All these activities can be reached through a collaboration plan between partners and other external stakeholders which will be pivotal in increasing replicability potential of The Hut's solutions. Through validation and further development of the project's results, the application of The Hut's approaches and models can take place in other contexts.

To promote replicability, the continuation of capacity building activities will be key. Capacity building programs on DRR can be delivered through a variety of methods, including workshops, seminars, online courses, and on-the-job training. The effectiveness of these programs relies on the capacity of transfer The Hut's results in other environments and context, with the possibility of focusing on particularly vulnerable places, where The Hut's solutions can have an even greater effect.

5.2. Sustainability of DRR nexus Forums

The local DRR nexus Forums (L-DRRnF) will ensure fair and inclusive representation of all stakeholders and groups driving the implementation of the transdisciplinary solutions, while the setup of the International DRR nexus Forum (I-DRRnF) aims at fostering reciprocal learning across hazards, demonstration cases, domains of expertise, and at improving the transferability



of DRR solutions at EU scale and beyond. The I-DRRnF will include representatives from each local DRRnF.

- The two forums will be useful platforms for knowledge sharing, collaboration, and coordination among different stakeholders involved in disaster risk reduction. They can bring together experts, practitioners, policymakers, and community representatives from different countries and regions to share experiences and best practices, discuss emerging issues and challenges, and identify opportunities for collaboration and partnership. The local and the international forums will serve as spaces for discussing cross-cutting issues related to DRR, such as climate change adaptation, sustainable development, and resilience building. They provide an opportunity to explore innovative approaches and technologies, such as early warning systems, risk modeling, and participatory approaches to community engagement.
- The possibility of communicating the “best set” of transdisciplinary risk management tools and approaches to a wider international public of experts will allow the replication of the results in other environments, the two forums will be decisive in this sense. In particular, the I-DRRnF will be an opportunity for sharing The Hut’s solutions and replicate them at the international level.
- The continuous development and the sustainability of such Forums will therefore increase the possibilities of replication of The Hut’s solutions.

5.3. Advocacy towards relevant stakeholders

Involving key external stakeholders requires the implication of advocacy strategies with policymakers, and other relevant stakeholders. Authorities such as, SOR, NIP, business associations like CONF-NO, partnerships like GWP-CEE and organizations like MA and CMCC can play a pivotal role in engaging external stakeholders. Their activities require the contact with different high-level stakeholders which can be informed of the project’s results. Of special importance are policy briefs that should reach policymakers and fundamental stakeholders. Policy briefs to stakeholders and policy makers create a favorable framework condition for transferability, enhancing the uptake and replication of The Hut’s results. Not only are high profile stakeholders to be considered as important actors for the replication process of The Hut’s results, but also other stakeholders in local communities are to be engaged in the prevention and preparedness phases of disaster risk management. Organizations and local authorities can effectively reach communities besides the demonstrators’ arenas and replicate project’s results in this context.

Advocacy strategies aiming at raising awareness in the context of DRR to policy-makers and to local authorities will be effective means to sustain the replication process of project’s results. Advocacy strategies in the context of DRR and according to the composition of The Hut’s consortium should comprise:

- i. Building relationships with local government, community leaders, NGOs, and other stakeholders can help in the development of effective DRR policies and strategies. Advocacy efforts can involve organizing meetings, workshops, and other events to discuss DRR issues and solutions.
- ii. Lobbying activities towards policymakers and elected officials to take action on DRR issues. This can include providing them with information on the impact of disasters, providing policy options, and advocating for increased funding for DRR initiatives.
- iii. Networking with other organizations and agencies working in DRR can be an effective advocacy strategy. This can include sharing information and resources, collaborating on joint initiatives, and building coalitions to advocate for policy changes and increased funding for DRR initiatives.



5.4. Scientific and research exploitation

The Hut overall approach and methodology consist of several research activities aiming at enhancing the development of DRR solutions comprising human-centric DRR models, educational materials on DRR solutions, instruments concerning risk financing and policy briefs.

The scientific and research exploitation of The Hut's results concerns the use of research findings and data in academic contexts, such as research papers, journal articles, and conference presentations. It involves using data and information to develop new insights, and methodologies. The academic exploitation of results is crucial to advance knowledge in the context of DRR. It enables researchers to build upon existing research, develop new theories, and identify areas that require further investigation. By disseminating research findings, scholars can contribute to the advancement of their fields and help policymakers and practitioners make informed decisions based on empirical evidence. The Hut will contribute to the creation of 10 post-doc positions and to 20 scientific publications that will be disseminated through events, conferences and the I-DRRnf.

The academic and research exploitation is meant to leverage the data collected during the project (KER2) and the numerous analyses on existing human-centric DRR solutions (KER5), the development of dedicated educational materials (KER7), framework for communicating warnings to the communities (KER6) as well as innovative policy-governance enablers for multi-risk DRR (KER9).

The Hut's partners that may have the possibility to contribute to scientific exploitation are:

- *Universities*: they have the means and the resources to leverage the results of the project that can be further developed through research activities. Several results are partially developed by universities and can be disseminated through academic channels (publications and conferences).

Those partners are:

- Università degli studi Salerno (UNISA), Universidad de Valencia (UPV), Universidad Politecnica de Catalunya (UPC), Vilniaus Universiteta (VU), Helsingin Yliopisto (HY), University College London (UCL), University of Geneva (UNIGE).
- *Research centers and organizations*: these actors can provide expertise, means and knowledge to leverage the results of the project and enhance their exploitation through further research activities. Some results are partially developed by those centers and can be:
 - Internationales Institut für Angewandte (IIASA), Stiftelsen norske Geoteknik (NGI), Leitha SRL (LEITHA), Centro nazionale della ricerca (CNR), Helmholtz Zentrum Heron GMBH (HERON), Helmholtz Zentrum Potsdam Deutsches Geoforschungszentrum (GFZ), Arantec Engenharia (ARANTEC), Verdustofa Islands (IMO),

5.5. Commercial exploitation

Although commercial exploitation will be limited, business opportunities tied to innovative DRR services will be evaluated. These services may, on the one hand, benefit from the high replication potential of The Hut, on the other hand, support the replication activities by providing strategic advice to the local and regional authorities that may lack skills and need guidance, also on customization aspects. The main KERs that can be commercially exploited are software, models and tools, since they can be marketed as services for different end users, like local and regional authorities utilizing project's results. Partners involved are: HEREON, GFZ, LEITHA, ARANTEC, BGS and UNISA:

- HEREON (Helmholtz Zentrum Heron GMBH): research organization in Germany that conducts scientific and engineering research in various fields, including energy, health, and environmental



sciences. HEREON is developing KER10, jointly with other partners. The result is a decision support tool for multi systemic risk policy-making.

- GFZ (Helmutz Zentrum Postdam Deutschesgeoforschungszentrum): research center located in Potsdam, Germany. It is one of the largest research centers in the Helmholtz Association of German Research Centers, and its primary focus is on earth sciences. It develops, jointly with other partners, KER12 - serious games for cascading and compound impacts.
- LEITHA (Leitha SRL): LEITHA is a "solutions factory" that develops data-intensive solutions, applications or components within an Agile environment. It develops, with CMCC, a model for risk financing.
- ARANTEC (Arantec Engenharia): Arantec is made up of a group of engineers, programmers and interface designers with extensive experience in the field of engineering specializing in wireless sensor networks (WSN) serving the Smart Cities. ARANTEC develops, with other partners, KER 15 and 16, on innovative nexus monitoring and modelling.



6. Conclusions

This Plan for Dissemination and Exploitation of results presents the overall C&D&E strategy of the HuT.

Partners can refer to this deliverable to align their local communication to project one, as it provides visual and content guidelines. Also, it provides an overview of the main tools and channels to be used for the dissemination of project results, as well as the monitoring strategy that will be developed.

The channels and formats illustrated in the current deliverable will ensure awareness, engagement, and uptake between professional stakeholders and the general public. Their efficiency and outreach will be monitored periodically thereby allowing the project to understand and fine-tune its contents and the overall C&D strategy over time.

This document also contains the premise of the exploitation strategy, starting from the preliminary identification of KERs and stakeholder groups. Partners can find in this document the methodology that will be applied to define joint and individual exploitation strategies and also the steps that will be carried out to ensure effective and sustainable exploitation of project results.

The current deliverable will be updated throughout the whole project to fine-tune the strategy. The exploitation strategy will be consolidated at the end of the project, providing a comprehensive view of exploitation strategies that will be presented in the Consolidation of the Exploitation Plan at month 48.



7. Annex I - Brandbook

This annex shows The HuT brandbook. It was developed by ICONS to summarise the main aspects of the project's visual identity.

7.1. Logo variants and icons



Figure 6. Logos horizontally and vertically

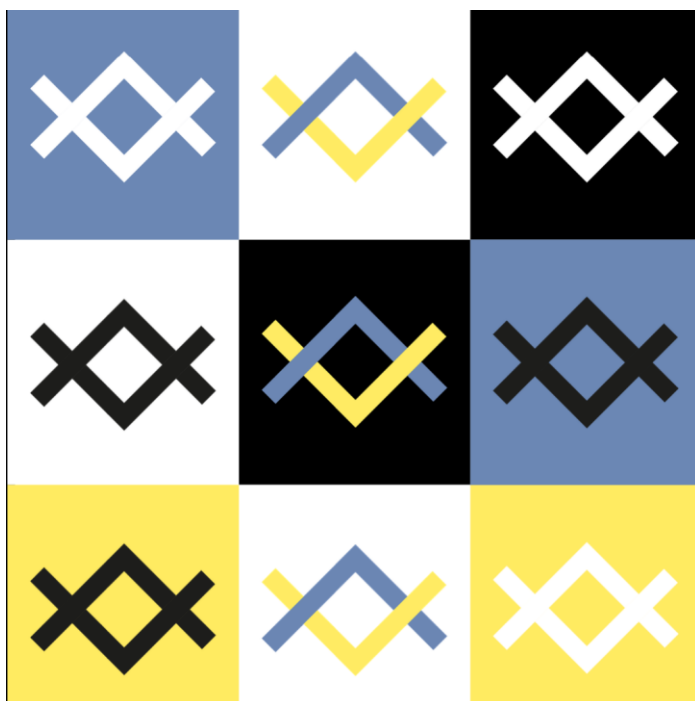


Figure 7. Icons taken from the logo



Figure 8. Icons representing the climate extremes

7.2. Brand identity colours



Figure 9. Primary and secondary colors



7.3. Typography

Major headlines and texts are set in Helvetica Bold

Text body is set in Helvetica Regular: Rum quae
pero to totatiusdam ea volorrunt molupit fugia
volupta plit rerum rempedi connimusa.

MAJOR PARAGRAPH HEADLINE IS SET IN HELVETICA BOLD

Text body is set in Helvetica Regular: Rum quae pero to totatiusdam ea
volorrunt molupit fugia volupta plit rerum rempedi connimusa Abente intiu
vid inteber nimoventus tum telatus pectam quis liurecrum interit, crenateme
acibus omne consu se ium facierfir inprio nunt? Modiem demena vilis
actuus, factuide cone et? Habit vit L. Batus aucivis timpoena, verit ad cem.

Figure 10. Typography identified for the project

