EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY

Brussels, 27 May 2022

COST 039/22

DECISION

Subject: Memorandum of Understanding for the implementation of the COST Action "A European forum for revitalisation of marginalised mountain areas" (MARGISTAR) CA21125

The COST Member Countries will find attached the Memorandum of Understanding for the COST Action A European forum for revitalisation of marginalised mountain areas approved by the Committee of Senior Officials through written procedure on 27 May 2022.

MEMORANDUM OF UNDERSTANDING

For the implementation of a COST Action designated as

COST Action CA21125
**A EUROPEAN FORUM FOR REVITALISATION OF MARGINALISED MOUNTAIN AREAS
(MARGISTAR)**

The COST Members through the present Memorandum of Understanding (MoU) wish to undertake joint activities of mutual interest and declare their common intention to participate in the COST Action, referred to above and described in the Technical Annex of this MoU.

The Action will be carried out in accordance with the set of COST Implementation Rules approved by the Committee of Senior Officials (CSO), or any document amending or replacing them.

The main aim and objective of the Action is to foster the transformation strategies and innovation processes for the revitalisation of marginalised mountain areas, specifically, to synthesise and co-create alternative and effective pathways to sustainability. This will be achieved through the specific objectives detailed in the Technical Annex.

The present MoU enters into force on the date of the approval of the COST Action by the CSO.

OVERVIEW

Summary

Mountainous areas are characterized by disparity, poorer territorial cohesion, unbalanced use and conservation of ecosystem services, rich and exploited natural resources, and marginalization. MARGISTAR

forum reflects collaboratively on natural, environmental, social and economic inter-relationships and interactions in mountainous areas, and identifies a range of environmental, social, economic, and political challenges. It enables innovation through a range of physical and virtual meetings to co-design innovative pathways for the transformation of marginalized mountainous areas towards their green, digital and healthy futures. It establishes an online society-science-policy platform of Fairway in Europe to stimulate the dialogue between scientists, policy makers, mountain actors, NGOs, SMEs, public bodies and private organizations and the establishment of local Knowledge and Information Systems. MARGISTAR uses taskgroups

(TGs) to co-creatively move towards the solutions. TG 1 is responsible for coordination/networking.TG 2 critically assesses the situation and identifies viable bottom-up visions of postmarginalized

areas and pathways towards their revitalization. TG3 facilitates capacity building and outreach.

Key scientific impacts are anticipated by using the innovative concepts of "pinching the policy maker" and "resilience erosion". Societal and policy impacts are primarily secured by challenging business-as-usual discourses, facilitating the engagement of young and ITC researchers, and supporting agricultural, land use and rural policies. MARGISTAR uses multi-/inter-/transdisciplinary approach to support the EU's efforts for inclusive, competitive and green economies and societies and excels in knowledge exchange, co-creation and capacity building for socially just green recovery and climate mitigation and adaption for the revitalization

of marginalized mountainous areas across Europe to leave no one behind.

Areas of Expertise Relevant for the Action	Keywords
● Political Science: Political systems and institutions, governance ● Earth and related Environmental sciences: Terrestrial ecology, land cover change ● Social and economic geography: Spatial development, land use, regional planning ● Economics and business: Microeconomics, institutional economics	● Social-ecological traps ● territorial cooperation ● Social innovation ● Environment governance ● transformation pathways

Specific Objectives

To achieve the main objective described in this MoU, the following specific objectives shall be accomplished:

Research Coordination

● Synthesise interdisciplinary knowledge on drivers of change in marginalised mountainous areas in Europe.

● Define the "periphery trap" based on knowledge synthesis and problem definitions of stakeholders in marginalised mountainous areas.

● Mainstream the results into local, national, European, and global discussions and decision-making.

Capacity Building

- Establish a FAIRWAY online platform for a transdisciplinary dialogue.
- Facilitate consensus building in a common language and effective networking.
- Synthesise evidence on periphery traps and transformation pathways.
- Create training opportunities for Early Career Investigators (ECIs).
- Develop "green deal diplomacy" for sustainable development in marginalised areas.

TECHNICAL ANNEX

1. S&T EXCELLENCE
1.1. SOUNDNESS OF THE CHALLENGE
1.1.1. DESCRIPTION OF THE STATE OF THE ART

Climate change mitigation and adaptation (EU Climate Pact 2020), biodiversity and ecosystem services (e.g. EU Biodiversity Strategy 2020), the Green Deal (EU 2019) and the resilience, sustainability, circularity, and inclusiveness of development are current policy priorities in the European Union (see Europe 2020).The development trajectories are shifting from a narrow focus on economic growth that is subject to nature conservation to inclusive science and governance capable of enhancing socio-economic, cultural, and environmental sustainability (see UN Sustainable Development Goals 2015). Although new green growth strategies aim to respond to climate and environmental challenges, and the recovery from the pandemic, they remain too generic and lack precision for fostering the required changes on the ground.

Europe's mountain areas cover almost 40 per cent of the land area and are inhabited by 17 per cent of Europe's population, who practise land use in agroforestry, pastoralism, forestry, nature-based tourism, marginal and small-scale agriculture and other land uses while seeking to maintain ecosystems, biodiversity, landscape integrity, and cultural heritage (see EEA 2010). Key policy challenges for mountain areas are related to territorial cohesion, the reduction of disparities, underdevelopment, and marginalisation. By supporting the social inclusion and empowerment of vulnerable groups through policy mechanisms, including the Common Agricultural Policy (CAP), governments seek to break the cycle of inherited negative legacies, promoting incremental systemic changes in mountain areas. To achieve these strategic goals, decision-makers rely in part on the concepts of social, institutional, and territorial innovations to meet social needs, and form new partnerships and collaborations. Promising measures for enhancing sustainability include the combining of social and environmental sustainability targets through the creation of protected areas, the development of participatory fora in which mountain actors can influence the decisions affecting their lives and provide support for novel practices (for example, via the SMART villages approach), the promotion and assessment of social innovations for increasing the community-level well-being and that of marginalized groups (Dalla Torre et al. 2020, Sarkki et al. 2021), pilot/demonstration projects, measuring marginalisation by using policy and management practices' geographical and socioeconomic indicators and stakeholder engagement (Prell et al. 2009; Nijnik et al. 2018), the development of models and arrangements based on collective action and community-based resource management (Agrawal and Chhatre 2006) and establishing new novel or upgraded value chains that contribute to the resilience and sustainability of mountain areas (MOVING 2020).

Despite the overall recent improvements resulting from distinctive policy approaches and bottom-up societal initiatives, the current mechanisms and study approaches have proved insufficient for securing a sustainable future for European mountains (Borsdorf et al. 2010). To address the challenges of the marginalisation processes (Price et al. 2017), **MARGISTAR** will follow suggestions for more radical revisions of the paradigms behind the political and economic trajectories (OECD 2006; EEA 2010), bringing scientists, economic actors, civil society actors, administrators, and decision-makers together to co-create knowledge focusing on three themes: 1) periphery traps; 2) visions of post-marginalised mountain areas; and 3) pathways to desirable and plausible futures.

MARGISTAR will tackle the risk of increasing disparities, underdevelopment, and periphery traps (see Kühn 2015) in mountain areas under prevailing Business-As-Usual (BAU) development trajectories. Often resilience is considered a positive systemic feature, the key to coping with global forces and disturbances. However, path dependencies may sustain traps, which keep socio-ecological systems in a persistent, i.e. "resilient", problematic state (Carpenter & Brock 2008). **MARGISTAR** tests and elaborates an assumption that the global political economy may be negatively resilient to sustainability transformations, perpetuating the periphery trap for mountain areas. European policies have targeted rural areas for decades, with varying success. Rural marginalisation is often associated with geographical remoteness, primary sector dominance, insufficient infrastructure in terms of roads and

public services, economic and demographic transition and population decline and, hence, rising unemployment, outmigration of economically active groups and ageing. Marginalization process is reinforced by austerity measures, and can be explained not always by geography, but also by socio-economic and political connectivity. Vicious circle of rural marginalization has been identified including loss of jobs and services leading to outmigration placing services and businesses at risk (Bock 2016). Future visions are considered important catalysts for sustainability by alerting policymakers and stakeholders to future demises. Recent visions include works by the global expert communities such as IPCC and IPBES, and equally importantly, the fifth global biodiversity outlook by CBD (2020), which, however, struggle to enhance the inclusion of the local knowledge and plural knowledge systems in their assessments (Diaz et al. 2018). Yet many local, national, or regional scenarios with participatory visions also exist (Thorn et al. 2020) that underpin the global umbrellas of concern. However, these visions are still mostly defined by scientists, lacking proper engagement and co-creation with local small and medium-sized enterprises (SME), stakeholders, citizens, and decision-makers. **MARGISTAR** will synthetize knowledge to identify geographically broad post-Covid-19 visions of post-marginalised mountain areas with its stakeholders and foster breakthrough scientific developments leading to new concepts and products, strengthening Europe's research and innovation capacities associated with marginalised mountain areas. It will rely on trans- and interdisciplinary approaches in knowledge synthesis by integrating researchers and scholars from different fields and horizons such as universities, research centres, and companies, including small and medium-sized enterprises, as well as other relevant actors, e.g. NGOs, to define the pathways to these insights.

1.1.2. DESCRIPTION OF THE CHALLENGE (MAIN AIM)

The key challenge of **MARGISTAR** is to foster the transformation strategies and innovation processes for the revitalisation of marginalised mountain areas, specifically, to synthesise and co-create alternative and effective pathways to sustainability.

The policy focus on the structural adjustments for economic growth has often led to the degradation and abandonment of agricultural land (or gentrification, as, for example, in some localities in the Alps), and to increased economic and social disparities. An unequal access to natural resources and infrastructure (e.g. water supply, road networks, digitalisation) has stimulated social and territorial tensions, deepening the divide between the rich and the poor, and urban and marginalised rural areas. Job losses, lack of access to public services, unequal use of ecosystem services and distribution of common goods, unsustainable land use, and the exodus of younger generations to cities are just some of the disservices of the prevalent focus on economic growth. Extreme weather events (e.g. wildfires and storms) have been insufficiently addressed in conventional regional development models, exacerbating the decoupling that exists between mountain citizens and governance systems. Such "periphery traps" are perpetuated by the resilient BAU trajectories that are common in many European policies and economies.

MARGISTAR will promote the joining of research efforts, developing common programmes and coordinating nationally funded research to analyse interrelated situations in European mountainous areas. This will enable us to provide alternative perspectives on (1) livelihood values, grounded in local understandings; (2) covariation of territorial changes (climate change, land-use change, demographic changes); and (3) institutional structures that hinder sustainability. Since mountain areas, especially those rich in public and common goods, often suffer from market failures, they offer (4) empirical evidence of when market-based policy instruments (e.g. of the CAP; Payments for Ecosystem Services, PES) can or cannot enhance the competitiveness of regions. Furthermore, unconventional policy approaches (e.g. Smart Villages, digitalisation, transitions to low-carbon and the circular economy) are often "tested" in mountainous areas. Therefore, these areas can (5) offer insights into the performance of novel solutions. Finally, many cultural landscapes and national parks are mountainous. They therefore offer (6) platforms for nature-based solutions to challenge marginalisation and balance the provision of ecosystem services and the ecosystem-based value chains, as the rural areas often suffer from outmigration, they can (7) provide innovative approaches to maintain and increase employment opportunities.

Mountain areas can be used to examine how the transition from the BAU trajectory to the post-marginalisation of rural areas can take place. Instead of treating mountain actors as recipients of decisions and victims of territorial disadvantages, the promotion of radical entrepreneurship and social

innovation in strategic collective action is becoming an imperative. Efforts are needed to enable breakthrough scientific developments and research findings, as well as the promotion of innovation processes to make a practical difference on the ground.

Many Inclusiveness Target Countries (ITCs) have a high proportion of areas where agriculture and other primary production activities are tougher because of natural and territorial handicaps. In many ITCs, which are undergoing political and economic transitions to liberal democracy and market economies, the process of marginalisation has been accompanied by drastic changes in policies, tenure rights, social structures, and polarised wealth accumulation. Governance in these areas typically aims to secure environmental values (e.g. protected areas), while social and cultural sustainability are too often neglected. Often, this also exacerbates the historical isolation of these areas, turning environmental protection into a burden for already disadvantaged mountain communities. The reformed CAP recognises that extensive farming has contributed to the creation and maintenance of a unique countryside and related cultural landscape characteristics, helping to protect biodiversity, ecological integrity, and the multiple scenic and functional values of these landscapes. However, by targeting the funds for rural development through measures promoting environmentally sustainable practices such as agri-environment schemes, the CAP does not adequately address the problems of the extensification and abandonment of farming activities, especially in mountains.

MARGISTAR tackles these challenges through theoretically timely concepts aiming to connect mountain stakeholders, decision-makers at various levels, and experts on European mountain areas for knowledge synthesis and co-creation. The synthesis idea of **MARGISTAR** is to identify periphery traps and develop alternative transformation pathways to the post-Covid understanding of affluence, wellbeing, and the post- marginalised futures of mountain areas. **MARGISTAR's** scientifically and politically relevant approach is based on knowledge integration. synthesis and exchange, capacity building, and employing co-creative processes involving SMEs and all other relevant actors, stakeholders, and decision-makers.

1.2. PROGRESS BEYOND THE STATE OF THE ART

1.2.1. APPROACH TO THE CHALLENGE AND PROGRESS BEYOND THE STATE OF THE ART

Periphery traps often result from considering mountain actors as passive objects rather than active subjects and the development directed from outside rather than from inside. The **MARGISTAR** conceptualisation of the periphery trap largely concerns eroding possibilities for rural human wellbeing in locations where the environment is either in peril or fully protected. Examples of periphery traps include: 1) agricultural subsidies favouring the concentration of production, which undermines small-scale livelihoods and erodes cultural landscapes through land abandonment; 2) unrealistic beliefs in nature-based tourism which fail to recognise problems of seasonal employment or conflicts with traditional livelihoods; 3) undefined Corporate Social Responsibility (CSR) and social licensing practices in forestry and mining, primarily resulting in strong corporate interests leading to the instrumental participation of mountain actors; 4) reliance on environmental and social impact assessments, raising opposition from local communities and generating tensions among stakeholders; 5) bioeconomy approaches, which are used as a pretext for the harsh exploitation of natural resources and degradation of cultural landscapes, ignoring the precautionary principle; 6) novel forums of participation which nevertheless continue to be characterised by quasi-participation, and 7) unbalanced use and conservation of ecosystem services.

With experts, planners, decision-makers and relevant stakeholders, but also with citizens, **MARGISTAR** will co-define desirable futures referred as post-marginalised mountain areas, leading to the conceptualisation and operationalisation of the drivers of marginalisation and post-marginalisation scenario pathways. The features (and success factors) that explain evasion of marginalisation will be identified. MARGISTAR aims to verify the hypothesis that mountain regions are POST-MARGINALISED when:

- mountain actors are recognised as autonomous agents, not passive recipients.
- mountain development policy is influenced by mountain actors.
- diverse growth and degrowth livelihoods and industries coexist sustainably.
- communities' social and cultural values are respected by developers.

- mountain communities have viable digital services and infrastructures.
- traditional and culturally important mountain livelihoods have generational continuity.
- socio-ecological wellbeing is mainstreamed in policy and business strategies.
- mountain areas are considered not only as places to visit, relics, natural attractions, and resources storages, but as a co-habited home for human and non-human actors.
- livelihoods and industries in mountain areas reliably seek climate neutrality, sustainable land use, biodiversity conservation, and ecosystem service improvements.

MARGISTAR recognises that developmental solutions may either enhance sustainability or sustain marginalisation and despite good intentions may reinforce periphery traps. There is a limited understanding of how to initiate transformation pathways, how to enter them (Koch et al. 2018) and the role of politics and governance in transformations (Patterson et al. 2017). **MARGISTAR** will define pathways from marginalised to post-marginalised areas by assessing success and failure in existing policies, focusing first on common driving forces such as global economic dynamics and strict climate policy. It will then deconstruct the contributing factors and their interrelationships at the lower levels, demonstrating multi-criteria problem-structuring and hybrid decision methods with established sustainability metrics such as landscape composition and structure indices, the high nature value (HNV) concept, hemeroby, and several adequacies of human development index considerations, quantifying the processes of marginalisation and post-marginalisation.

MARGISTAR recognises that many current policies are innovative but mostly designed for purposes other than de-marginalisation. We will therefore primarily elaborate and integrate existing policy solutions by enhancing the engagement of mountain stakeholders and decision-makers in co-designing solutions for the revitalisation of mountain areas. Capability development is associated with our understanding of citizens' and stakeholders' motivation to handle nature more sustainably, the context within which they operate, and the conflicts that may arise in avoiding or resolving them. To elaborate on this, the concept of "pinch" is introduced. Pinch is derived from the idea of nudging, where policymakers design instruments that nudge the behaviour of citizens in a certain direction (Sunstein 2013). Pinch works the other way round. It aims to change decision-makers' mindsets for taking concerns and opinions of citizens and stakeholders seriously in planning and decision-making (about the mechanism, see Hiedanpää & Pellikka 2017). The innovation in tackling the challenge can be summarised by the phrase: "Nudging citizens by pinching policymakers". This phrase covers the cyclical and co-creative view of the change of policy and society towards the sustainability and post-marginalisation of mountain areas.

MARGISTAR assumes that recognising mountain citizens and stakeholders as active agents of change instead of passive objects of policies, recipients of economic development, or victims of global change will provide the necessary pinch towards post-marginalisation. The key benefit of the theorisation and operationalisation of this concept is that it does not require changing the entire existing system but provides a small but vital element to move from marginalising governance practices towards post-marginalisation. This conceptual innovation also addresses the gap in the literature on how to cope with governance and political aspects to enter the pathway leading to sustainability. However, governance differs across the
European regions where some have regional authorities governing mountainous areas, others have central government making the decisions, and the role of EU also varies. MARGISTAR will recognize differences between local, national and continental governance and regional divergences. Finally, **MARGISTAR** also recognises the possibility that "overly endogenous", self-reliant local development, which ignores external effects and global processes, can be highly damaging at a regional/higher level (Brugger 1986). If new models of governance are entirely local, they may not connect effectively with the larger-scale developments that underpin regional-level strategies for mountain areas.

1.2.2. OBJECTIVES
1.2.2.1 Research Coordination Objectives
MARGISTAR is a co-creative society-science-policy forum to synthesise inter- and transdisciplinary knowledge, advancing and assessing it with relevant stakeholders, including policymakers, and catalysing their continuous participation to facilitate transformations in European mountain areas towards post- marginalisation, respecting their rich biocultural diversity. **MARGISTAR** aims to:
1. Synthesise knowledge from biosciences, geography, anthropology, sociology, planning,

agronomy, forestry, and ecological economics on drivers of change in marginalised mountain areas in Europe.
2. Scrutinise the state-of-the art concepts, strategies, and visions to foster transitions to the enhanced wellbeing of people and nature in European mountain areas.
3. Define the "periphery trap" based on knowledge synthesis and problem definitions of stakeholders in marginalised mountain areas.
4. Apply the "co-creation futures" methods to envision post-marginalised mountain areas.
5. Identify transformation pathways to the revitalisation of such areas.
6. Mainstream the results into local, national, European, and global discussions and decision-making on sustainability transformations through inclusive and effective networking.

1.2.2.2 Capacity-building Objectives

MARGISTAR promotes capacity-building activities to operationalise territorial revitalisation, and will:
1. Establish a FAIRWAY in Europe online platform for a dialogue between natural, social, and territorial scientists across Europe in examining marginalised mountain areas.
2. Facilitate consensus building in a common language and establish a network interacting face-to-face and online that will address the key challenges and discuss solutions.
3. Synthesise existing evidence on periphery traps and transformation pathways to inform the post-marginalising governance of mountain areas across multiple levels.
4. Create training opportunities for Early Career Investigators (ECIs) working on mountains by engaging them with senior scientists on interdisciplinary cooperation grounds.
5. Establish a network of "green deal diplomacy" which will convince and support EU, national, and regional governments in promoting more sustainable development in marginalised areas.
6. Develop capabilities by collaborative learning from diverse contexts, and by dialogue between scientists, NGOs, SMEs, local actors, public bodies, and private organisations.
7. Strengthen transboundary cooperation between (but not only) public institutions responsible for natural and cultural heritage protection, and those responsible for the development of mountain communities, from both ITCs and other COST member countries.
8. Advance and synthesise the knowledge of social innovation in European mountain areas and disseminate the improved knowledge of novel governance mechanisms to policymakers and stakeholders to improve territorial capital.

Build a collaborative network habit via the online FAIRWAY in Europe platform to foster and mainstream sustainability transformations, leaving a legacy that endures beyond the project.

2. NETWORKING EXCELLENCE
2.1. ADDED VALUE OF NETWORKING IN S&T EXCELLENCE

MARGISTAR brings together social, natural, territorial, and interdisciplinary scientists to ensure that the sustainability challenges in European mountain areas are assessed holistically.

Relevant civil society, economic, and political actors from the projects below will be identified and invited to participate in our online activities. **MARGISTAR** has links to, but differs from, H2020 projects focusing on public goods and ecosystem services, including PEGASUS (http://pegasus.ieep.eu/) and ECOPOTENTIAL (http://www.ecopotential-project.eu/), which address ecosystem services from mainly from a natural science and ecological perspective, MATILDE (https://matilde-migration.eu/) on the impact of in-migration trends in mountain areas. In that spirit, **MARGISTAR** recognises the potential of nature-based solutions (REGREEN: https://sc5.easme-web.eu/?p=821016) in mountain areas. However, **MARGISTAR** also emphasises the role of coupled social-ecological systems to promote human wellbeing, and proposes ways to improve governance to beat periphery traps, advancing the knowledge developed by SIMRA (http://www.simra- h2020.eu/), but specifically targeting European mountains (rather than marginalised rural areas in general), stressing the role of innovation (INNOFOREST https://innoforest.eu/), but going beyond forestry. **MARGISTAR** also partly shares the approach of CASCADES (https://sc5.easme-web.eu/?p=821010) by recognising the cascading risks that are generated outside mountain areas, sustaining periphery traps.

MARGISTAR captures:
1) Globalisation in its current form as a potential contributor to the periphery trap rather than simply assuming that it has a positive effect on economic growth (cf. ESPON 2013 TIGER:

https://www.espon.eu/programme/projects/espon-2013/applied-research/tiger-territorial-impact-globalization- europe-and-its). We also move beyond a singular focus on climate change to include resource use, raw materials extraction, biodiversity loss, and landscape change.

2) Existing and emerging social and territorial innovations, by further developing some of the SIMRA (http://www.simra-h2020.eu/) results and recognising the work of RURINNO (http://rural-innovations.net/) and SHERPA (https://rural-interfaces.eu/).

3) Future visions and pathways, recognising the work of ALTERFOR (forest management) (https://www.alterfor-project.eu/), AlterNet (ecosystems http://www.alter-net.info/) and DIABOLO (bioeconomy http://diabolo-project.eu/), and AgriLink (https://www.agrilink2020.eu/resources/), but going beyond a sector- or topic-specific focus. It links to, but diverges from, the ESPON 2013 Scenarios: the ET 2050 project (https://www.espon.eu/programme/projects/espon-2013/applied-research/et2050-territorial- scenarios-and-visions-europe) by focusing on the future, but maintaining its focus on mountainous areas.

4) Resilience, but unlike ESPON 2013 ECR2 – Economic Crisis: Resilience of Regions (https://www.espon.eu/programme/projects/espon-2013/applied-research/ecr2-economic-crisis-resilience- regions), perceiving resilience of BAU trajectories as negative.

5) MATILDE (https://matilde-migration.eu/), which is based on the hypothesis that non-EU immigrants can contribute to the economic and social development of rural and mountain areas across Europe and can thus support inclusiveness and territorial cohesion.

6) MARGISTAR enriches MOVING (https://www.moving-h2020.eu/), which seeks to build capacities and co- develop relevant policy frameworks for the upgrading of value chains that contribute to the resilience and sustainability of mountain areas, complementing it by using extensive and open society-science-policy networking as a tool for the operationalisation of post-marginalisation.

Thematic intersection will multiply results and create added value by sharing, expanding, and advancing scientific resources by leading to highly connected MARGISTAR networking to build capacity and expertise that can better address the EC priorities (e.g. identified in the European Green Deal strategy), and grounding policy-relevant and robust science and co-creation. MARGISTAR operates on problematic institutionalised power structures that prevent fair sustainable development, i.e. post-marginalisation.

MARGISTAR has a thematic connection with the COST Action ES1203 of SENSFOR, which focused on treeline ecosystems as important indicators of environmental change. The proposed project has a more holistic and inter-/transdisciplinary approach, integrating ecological with social and economic considerations, and going beyond the treelines.

Three EU COST Actions approved in 2016, 2017, and 2019 share some similarities with MARGISTAR. The Action CA16233 – "Drylands facing change: interdisciplinary research on climate change, food insecurity, and political instability" similarly focuses on the areas marginalised by multiple pressures. However, it concentrates on drylands, while MARGISTAR focuses on mountain areas. The Action CA15226 – "Climate- Smart Forestry in Mountain Regions" does focus on mountains. However, MARGISTAR is not bound to a single sector or driver of change, thereby complementing "CA18214 – "The geography of New Working Spaces and the impact on the periphery".

2.2. ADDED VALUE OF NETWORKING IN IMPACT
2.2.1. SECURING THE CRITICAL MASS AND EXPERTISE
The network is constituted by a wide and highly representative variety of countries across Europe. The Nordic countries, including Norway and Finland, and Scotland and the UK as a whole have showed exceptional social performance in the revitalisation of their mountain areas – for example, through participatory planning approaches. Austria and Switzerland, with their institutional traditions, have been reactive, with governance innovation being an add-on, compromising transformations away from BAU (BEPA 2011). In Mediterranean countries such as Italy, France, Spain, and Greece, the persistence of strong systems of informal solidarity has somewhat slowed the innovation process. The younger member states, with Bulgaria and Romania as examples, tend to follow the "continental model", in which the stimulation of social innovations and absorptive and innovative capacity building is needed. Members of the network have been selected across these different settings in relation to the addressed challenge. They have in- depth knowledge (each having undertaken empirical research into problems

and solutions in mountain areas) of diverse localities across Europe. The Nordic countries bring in the expertise and concerns about the Arctic mountainous areas.

MARGISTAR will secure critical mass and expertise by combination of physical meetings and online tools. Due to COVID, researchers and also stakeholders have become accustomed in using online communication tools. MARGISTAR will establish online workspace and platform called FAIRWAY which will ensure that network members work also between the physical meetings (e.g. monthly webinars dedicated to specific tasks). FAIRWAY will be used not only as tool for communication between network participants, but also its potential as digital online interface in facilitating knowledge co-production with key stakeholders in mountainous areas will be tested. This helps to secure critical mass and complement physical interactions. In addition to networking, MARGISTAR includes some research activities characterised by knowledge synthesis and also co-production with mountain actors. The physical workshops will take place in those locations, where supporting research projects exist. In addition, network partners will get support from MARGISTAR network in applying for research projects during the MARGISTAR. Extensive list of existing projects shows that MARGISTAR is connected to ongoing research activities, supporting knowledge co- production also in MARGISTAR.

MARGISTAR partners are involved in more than ten ongoing transboundary research projects on mountainous areas funded by the EU and national bodies. These projects are mostly interdisciplinary, operating directly with stakeholders, policy planners, and decision-makers.

The network members can go beyond the state-of-the-art in transdisciplinary research and bridge gaps between research and practical application. We will analyse real-life situations to generate syntheses of traps, transformation pathways, and visions of post-marginalisation for elaboration with stakeholders. **MARGISTAR** will reach a critical mass by:

- Actively using online tools and social media. These activities will be planned in our communication strategy in our reach and dissemination plan.
- Comparing existing but scattered knowledge at pan-European level, based on cross-country comparisons that make it noteworthy for scientists, policymakers, and societal stakeholders.
- **MARGISTAR** includes social, natural, and interdisciplinary scientists with a knowledge of advanced research and networking tools and methods, enabling the application of innovative mixed method approaches in knowledge synthesis.
- Actively involving ITC partners to address the most marginalised regions.
- Integrating and multiplying the individual networks of all the network members, ensuring comprehensive coverage for **MARGISTAR** outreach and multi-directional communication activities.
- Adding value to already existing mountain networks through its in-depth thematic focuses.
- Providing unique opportunities for young scientists and training schools on the topics of traps, pathways, social, and socio-ecological innovations and post-marginalisation.
- Creating an online FAIRWAY forum to connect science, society, and policy and practice.
- Task force-based organisation is expected to be the most innovative and creative way of collaboration and knowledge co-creation, and sharing within the team and beyond.

Strategic collaborations with overseas scientists through the FAIRWAY online platform.

2.2.2. INVOLVEMENT OF STAKEHOLDERS

MARGISTAR will enhance the practice-oriented society-science-policy dialogue, recognising plural ways of knowing. By exploring the effectiveness of mechanisms for community and public engagement from local to national levels and across geographical boundaries, **MARGISTAR** will increase knowledge sharing by those who live and/or work in marginalised mountain areas and have either an interest in or responsibilities for delivering sustainable development (at all spatial levels, including "on the ground"). In turn, this will facilitate the use of tools and protocols in the sharing of innovative practices. **MARGISTAR** will bring together different societal perspectives (e.g. practitioners, entrepreneurs, planners, decision-makers) to develop visions of opportunities and challenges associated with marginalised mountain areas and support the implementation of strategic scenario pathways for their post-marginalisation. It is anticipated that outcomes such as policy recommendations related to the reformed CAP or Green Recovery will enhance the capacities of the countries to meet their obligations under European and national legislation to promote the resilience, inclusiveness and social cohesion of developments, and European and international agreements.

Table 1. Selected stakeholders relevant to MARGISTAR and the plan to involve them.

Stakeholders	Plan to engage and reach them
Mountain stakeholders (pastoralists, farmers, foresters, nature-based tourism entrepreneurs, SMEs, social enterprises, local and rural development agents)	• Each country team member will be in frequent contact with stakeholders in their country through face-to-face interactions and digital communication through social media • Local co-creation workshops in selected locations to envision hindering, and enabling preconditions and factors for the success of post-marginalisation. • The wider audience will be reached through 1) active use of social media (blogs, Twitter, etc.) 2) popular articles (in native languages) in local and regional newspapers and media outlets on the project's progress and results. • Collaborative and rotational social media account (Twitter & Instagram) to present and collect visions and concerns in form of short statements and pictures on mountainous areas. • Three policy briefs will be published during the latter part of **MARGISTAR** in native languages by each partner. • Novel ways to reach citizens and stakeholders by the innovative use of social media (e.g. Instagram and Snapchat) and the digital platforms (FAIRWAY in Europe) will be developed.
NGOs	Engaging environmental, rural development, and other NGOs in knowledge co-creation and exchange.
EU policymakers	Will be informed throughout the project (policy briefs, online forum, active blogging). a participatory video about project results. Mid-project workshop with EU policy makers and interest groups such as Copa-Cogeca to collect feedback and plausibly address concerns in the last half of the project. Final brokerage event in Brussels to showcase findings and related policy recommendations.
Scientists, consultants. Planners	Delphi panel; invited keynote speakers at **MARGISTAR** meetings. Conference presentations, scientific open-access papers, website, social media (Linkedin, ResearchGate, Facebook, Twitter, blogs).
Decision-makers	National and subnational decision-makers will be reached by each country team contacting relevant ministries. Also through popular and scientific articles, policy briefs, and news releases and participatory video will be used.
Citizens	Via online forum, newspaper articles, and online citizen juries in selected locations.

2.2.3. MUTUAL BENEFITS OF THE INVOLVEMENT OF SECONDARY PROPOSERS FROM NEAR NEIGHBOUR OR INTERNATIONAL PARTNER COUNTRIES OR INTERNATIONAL ORGANISATIONS

The **MARGISTAR** network consists of almost 40 co-applicants across the EU, of which 50% are ITC. It also has co-applicants from the near-neighbour country of Ukraine. The benefits of involving Ukraine include access to case studies in this country in transition, links to Ukrainian networks of mountain experts, specifically in the Carpathian Mountains, and the dissemination of knowledge in Eastern Europe. Ukraine's researchers will benefit from the development of knowledge through STSM, other means of knowledge exchange, and active communication with the network members. We also have strong links with mountain networks across Europe through engagement in other projects, and links with the networking and activities led by EURAC, EFI, IUFRO, UNEP, the Carpathian Convention, and others (see also Section 2.1.1. and COST Mission and Policy).

MARGISTAR will establish a strategic overseas network of mountain experts. This network will be reached via social media and tweeting, the Delphi process that connects beyond Europe, and some invitations to the **MARGISTAR** final conference and **MARGISTAR** meetings. The benefits of the overseas network include the possibility of evaluating the usefulness of European findings in other continents, disseminating key lessons learned beyond Europe, enhancing the connectivity of the global mountain expert community, and flagging pan-European results. Already existing connections of **MARGISTAR** experts include Canada (University of Alberta, McGill, UBC), Japan (University of Hokkaido), USA (University of Vermont), Australia (CSIRO), Caucasus Mountain Network, and other countries and organisations will be identified during the project to create list of actors who show their willingness to participate in Delphi questionnaire.

3. IMPACT

3.1. IMPACT TO SCIENCE, SOCIETY AND COMPETITIVENESS, AND POTENTIAL FOR INNOVATION/BREAKTHROUGHS

3.1.1. SCIENTIFIC, TECHNOLOGICAL, AND/OR SOCIOECONOMIC IMPACTS (INCLUDING POTENTIAL INNOVATIONS AND/OR BREAKTHROUGHS)

MARGISTAR seeks to update stakeholder knowledge by: raising awareness; contributing to institutional impacts through proposing changes to policy designs, decision-making, management, and productive practices and individual, social, and collective behaviours; capacity building through changes to collaborative skills and expertise; ensuring lasting connectivity through changes to the number and quality of relationships; and building trust by transforming the policy and management culture towards knowledge co-production and exchange, and the research impact itself. These impacts are explained in Table 2.

Table 2. MARGISTAR's envisaged scientific and socioeconomic impacts

Processes/products	No.	Short-term impacts (STI) and long-term impacts (LTI)
Science and knowledge co-creation and exchange		
Concepts: periphery trap, post-marginalisation; pinching, new region	1.1	STI: advancing existing knowledge related to marginalisation. LTI: changing the discourse on marginalisation as based only on biophysical and economic factors.
Opportunities created for new generation of scholars	1.2	STI: a new generation receives opportunities to learn and network. LTI: new views on causes, reasons, and solutions of marginalisation and catalysing positive change.
New science-society- policy networks	1.3	STI: opportunities for a dialogue between diverse actors. LTI: more connected science-policy-society relationships.
Enhancing social and economic developments		
Challenging Business-as-usual (BAU) trajectories	2.1	STI: understanding that BAU trajectories often accelerate marginalisation. LTI: policymakers and stakeholders reconsider BAU solutions, and therefore design and implement alternative solutions that can beat periphery traps.
Co-created visions on post-marginalisation	2.2	STI: Trust building among diverse actors LTI: enabling collaboration and collective action towards post-marginalisation.
Stakeholders as active subjects and sources of solutions	2.3	STI: Enhanced capacity of mountain stakeholders to influence the development of LTI: mountain stakeholders become game-changers in the development of the areas they inhabit.
Transformation pathways to post-marginalisation	2.4	STI: Help policymakers and other stakeholders to take first steps in transformation pathways. LTI: transformation pathways are tested and mainstreamed.
Policy-relevant knowledge of mountain areas	2.5	STI: The delivery of results to EU policymakers improves decision-making. LTI: inputs for revising the current CAP (especially on Pillar II) and/or advancing the Green Deal.

The **MARGISTAR** innovation potential is characterised by medium but manageable risks, and potentially high returns for science, policy, and society.

1. Potential for innovation: Changing how mountain and other rural, especially marginalised, areas are understood. Risk: The new concepts (periphery trap; post-marginalisation) remain unnoticed and are ultimately forgotten. Managing the risk: High levels of expertise in the network; publication in high IF journals; active promotion of the concepts on social media, websites, and open-access publications.
2. Potential for innovation: Introducing post-marginalised mountain areas as a policy target: to provide innovative inputs for policy (e.g. concerning revisions of the CAP) to revisit targets. Risk: Already established thematic objectives are not changed. Managing the risk: Lobbying to introduce items to Horizon Europe and inform the Green Deal.
3. Potential for innovation: Initiating societal change: facilitating the initiation of transformation pathways by mountain stakeholders and policymakers towards post-marginalised mountain areas. Risk: The idea of post-marginalisation seems distant and vague, and action is therefore not taken. Managing the risk: pathways start with a small action today, thereby allowing an easier understanding of what can be done. The pathways will be disseminated widely to

multiple actors.

4. <u>Potential for innovation:</u> Capacity building enhancing future innovation potential. New science-society- policy networks, training for the young generation, and developing a conceptual base for the future. <u>Risk:</u> networks, ideas and methods do not endure after the project finishes. <u>Managing the risk:</u> Applying subsequent funding for the themes, online forum, and networks.

5. <u>Potential for innovation:</u> Possibility of changing BAU trajectories according to which the focus on economic growth and environmental protection are the best solutions. <u>Risk:</u> Policymakers will not take action due to the strong resilience of BAU. <u>Managing the risk:</u> intensive collaboration with mountain stakeholders who can create pressures for change. Clear justification of why resilient systems sometimes block more sustainable pathways.

3.2. MEASURES TO MAXIMISE IMPACT
3.2.1. KNOWLEDGE CREATION, TRANSFER OF KNOWLEDGE AND CAREER DEVELOPMENT

MARGISTAR has two innovative strategies for organising knowledge co-creation. First, **MARGISTAR** performs cross-country synthesis through Work Packages. Our approach is that the same participants can be involved in various tasks under different WGs due to the cumulative design of the project and its tasks. This approach is likely to produce more integrated results than would be the case if each WG had different participants, as in the traditional Work Package structure. Continuous responsibilities for participants throughout the lifetime of the Action will form a constructive platform for dynamic knowledge synthesis. Second, **MARGISTAR** will rely on knowledge co-creation methods that engage stakeholders and citizens via physical meetings and online platform FAIRWAY.

MARGISTAR's knowledge transfer strategies are targeted differently for the different kinds of network involved. The internal knowledge transfer among the network participants (proposers) is overseen by the **MARGISTAR** Management Committee (MC), meeting once a year over a 4-year period, scheduled to link with specific WG meetings, including invited stakeholders, and complemented by ad hoc WG meetings for specific tasks. The overall organisation, like the duties of the MC, will follow the "Annotated Rules for COST Actions (COST 094/21)".

Three WGs will be established, each with a leader and vice leader. WG 3 will be led by the Science Communication Manager to ensure effective and targeted outreach and dissemination. These responsibilities will be assigned at the kick-off meeting, paying close attention to ITC representation and gender balance. The MC is responsible for the progress of the Action and an appropriate monitoring process will be established. The assigned task leaders will organise task-based teams and meetings for completing the milestones and deliverables. To ensure communication between the MC and the WGs, as well as to prepare MC meetings and decisions and assist the Action Chair, a Core Group will be established, consisting of the Action Chair and Vice Chair, Short-Term Scientific Mission, i.e. STSM-Coordinator (responsible for distributing calls for STSMs on the three themes in WG 2), and the leaders of the WGs. The Core Group will prepare MC meetings, monitor the activities of the WGs between MC meetings, ensure that all milestones and deliverables follow the time schedule, and facilitate coordination and outreach among the WGs. Where possible, the MC meetings will be organised in connection with WG meetings, workshops, and conferences to minimise costs involved in the coordination of the COST Action. Knowledge transfer between the overseas network of mountain researchers will rely on web-based platforms, social media, and the Delphi process, resulting in invitations to some overseas actors to the final conference.

3.2.2. PLAN FOR DISSEMINATION AND/OR EXPLOITATION AND DIALOGUE WITH THE GENERAL PUBLIC OR POLICY

MARGISTAR will establish an online platform, "FAIRWAY in Europe", to connect mountain stakeholders to network experts, each other and EU-level policymakers. FAIRWAY in Europe will:
1. Be based on existing applications and tools, which are already familiar to many actors.
2. Include video-lectures and other virtual events between network experts and decision-makers from various levels, including the Delphi panel.
3. Catalyse knowledge exchange, the identification of knowledge needs, co-production, and outreach.

4. Function in English. **MARGISTAR** experts will provide help in translation as required.
5. Utilise principles of action research, including functions such as "ask an expert", "find a friend", and "challenge the policymaker".
6. Include (video) blogs and video briefs by invited contributors.

For EU-level decision-makers, FAIRWAY in Europe provides opportunities to engage in strategic design thinking, identify knowledge needs and gaps to be answered or addressed by **MARGISTAR** experts, and learn from the diversity of local actors around Europe. To motivate mountain stakeholders to engage in the forum, invitations and updates will be provided, as well as an opportunity for two-way knowledge exchange. While engaging all marginal actors is the overall objective, this is impossible within the resources provided by COST Actions. FAIRWAY in Europe responds to the need to engage young mountain stakeholders, increase networking and share demonstrated best practices, and provide an advice platform, thereby unlocking human capital and increasing the available knowledge for mountain stakeholders and decision-makers.

MARGISTAR will disseminate its outputs by using information tools for different target audiences and platforms. **MARGISTAR**'s dissemination and exploitation plan will be developed in Month 6 to outline the strategy and tools to be used by partners during the project to better disseminate its key outputs externally. The document will be continuously updated in line with new developments and results. **MARGISTAR** will contribute to the conceptual and operative context of the Shared Environmental Information System promoted by the EC. It will disseminate its results via:

- Publications: Open-access international peer-reviewed scientific journals.
- Online presence: The online interaction will happen mostly through FAIRWAY in Europe.
- Stakeholder workshops: With local actors on their visions, problems, and suggested solutions.
- STSMs: Short-term scientific missions in partner organisations abroad, primarily for ECI colleagues and PhD students, will provide significant working experience and strengthen the network.
- Training schools: On three **MARGISTAR** themes to be organised in ITCs.
- Conferences: Final conference; individual participation in various scientific conferences.
- Policy brokerage: mid-term and final brokerage events with EU policy makers, Final policy brief targeting relevant EC DGs and the EEA. Country-specific policy briefs for national, regional, and local decision-makers (in native languages).
- Newspaper articles in local and regional media: Published in native languages on the specific challenges and solutions for mountain areas.
- External networking with researchers: to enhance the connectivity of mountain research communities.

Table 3. Exploitation plan to achieve the impacts.

Impact no. in Table 2	Related WG/D/MS/task	Target audience	How will the impact be achieved through dissemination?
All	Task 1; MS 1; MS 2; D 2; D 1	Citizens, stakeholders, administrations	The Fairway in Europe platform will be actively used as an interface, enabling the engagement of various actors connecting society, science, and policy.
1.1	Task 10; D 3; D 4; MS6; MS 7	Scientists, decision-makers, planners	Peer-reviewed open-access publications, policy briefs, and conference presentations on (periphery traps; post- marginalised mountain areas) promote change in the discourses on mountain areas and their marginalisation.
1.2	Task 7; Task 9; WG 3	Early-career investigators	Capacities for young scientists to address marginalisation by organising STSMs, training schools, and allocating responsibilities for ECIs supervised by senior scientists.
1.3	Task 1; Task 4, Task 5; D 2; MS 5	Scientists, policymakers, stakeholders.	New networks will be established via society-science- policy interactions in online and face-to-face communications.
2.1	Task 2; Task 4; D 4; MS 4; MS 5	Policymakers, planners, NGOs	Policy briefs and co-creation to help policymakers and NGOs to better understand the marginalising effects of BAU.
2.2	Task 1; Task 6; MS 5; MS 3; WG 2;	Mountain stakeholders; planners	Co-creation and envisioning methods to empower mountain stakeholders to feel ownership of the visions. These visions will also be widely disseminated via social media.

2.3	Task 3; Task 4; Task 5; D 3; D 4; MS 2; MS 6	Decision-makers; planners	The results will demonstrate the policy relevance and capacity of mountain stakeholders to be active change agents, instead of passive objects.
2.4	Task 8; D 3; D 4; MS 3	Policymakers; stakeholders.	Proposals/recommendations on what to do to move towards post-marginalised mountain areas.
2.5	D 4	EU policymakers	Online brokerage events on reviews of the CAP in the post 2020 European framework and the Green Deal.

MARGISTAR will apply the SMART (specific, measurable, achievable, relevant, and time-bound) indicators to evaluate the main impacts. The value of findings will depend on the future use of outputs and the extent to which we can spread the new knowledge that is developed. The dissemination and outreach plan will identify a set of indicators to evaluate the main impacts, e.g. the number of stakeholders attending meetings and online interactions, the number of Google searches, the number of published blogs and tweets, the number and quality (e.g.– IF) of publications, and others.

4. IMPLEMENTATION
4.1. COHERENCE AND EFFECTIVENESS OF THE WORKPLAN
4.1.1. DESCRIPTION OF WORKING GROUPS, TASKS AND ACTIVITIES

MARGISTAR is a forum for knowledge synthesis, exchange, and co-creation, where scientists, stakeholders and policymakers collaboratively reflect on the challenges for sustainability, moving progressively towards real-world solutions. The innovative work mode combining physical and online meetings and co-production practices will identify how and what kind of policy nudges can be used to guide the behaviour of citizens and stakeholders (the top-down approach), the key problems actors in marginalised mountain areas perceive, and the kind of pinches these actors propose to guide the behaviours of decision-makers and planners (the bottom-up approach).

MARGISTAR will be organised via Working Groups (WG), in which different combinations of network members take responsibilities. The Working Groups will complete steps collaboratively before moving to the next tasks. WG 1 will be responsible for collaboration and networking. WG 2 will examine three interconnected themes starting with current problems (WG 2.1), continuing with alternative viable future visions (WG 2.2), and ending by identifying pathways to post-marginalised mountain areas (WG 2.3; WG 2.4). WG 3 will ensure that the findings are disseminated and elaborated with scientists from Europe and beyond, as well as with stakeholders from mountain areas and relevant policymakers (Fig 1). The organisation of the ACTION via WGs is compatible with the online FAIRWAY working environment, where the groups change flexibly, allowing the best combinations of expertise for each task to be found.
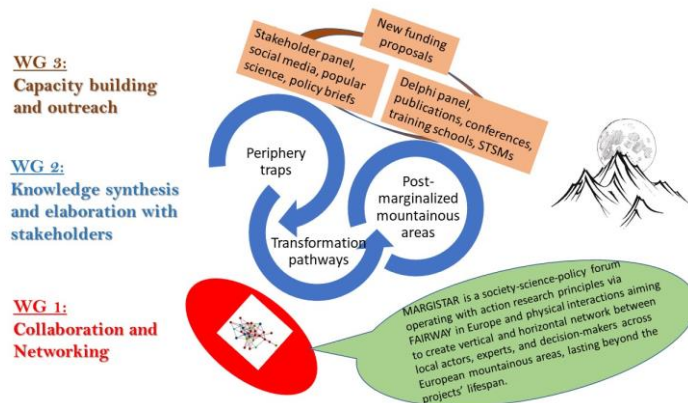

Figure 1. MARGISTAR and its Working Groups and mission statement.

Working Group (WG) 1: Collaboration and Networking

Collaboration and networking will take place on four fronts. First, **MARGISTAR** MC members represent a wide variety of European countries and have knowledge of local situations and relevant actors based on their previous and ongoing empirical research. The stakeholders will be encouraged to participate in MARGISTAR to discuss the topics of the Action with the involved scientists, pose questions for decision-makers, and participate in the co-production of the FAIRWAY in Europe platform. Knowledge of marginalisation and post-marginalisation will be complemented by occasional physical workshops in selected mountain areas. A third type of networking will be directed at decision-makers and administrators at local, national, and European levels. Each partner in the action will contact and invite decision-makers and planners in mountain areas. As a COST ACTION, **MARGISTAR** will also have

the capacity to be noticed by EU-level decision-makers, who gain added value by participating in online discussions and events. Fourth, the online work mode will also enable the building of overseas networks with scientists examining mountain areas beyond Europe to comment on the advances and results of **MARGISTAR** and evaluate the relevance of its findings. WG 1 will moderate and encourage collaboration and networking in FAIRWAY in Europe as a science-stakeholder-policy forum for knowledge co-creation, functioning as a micro-experiment and adopting an action research approach (Task 1).

Working Group 2: Knowledge synthesis and co-creation with stakeholders

WG 2 targets knowledge co-creation and synthesis on three broad topics regarding mountain areas: 1) periphery traps (problems); 2) visions of post-marginalised futures (visions); and 3) transformation pathways (solutions). WG 2 will start with the views of mountain stakeholders (WG2.1), deliberating these views with experts and policy makers from Europe (WG2.2), and in online citizen juries (WG2.3). Finally, the insights will be brought back to the mountain stakeholders for reflection (WG2.4) In WG2.1, **MARGISTAR** network partners will identify visions, problems and pathways to overcome the problems and achieve the visions with mountain via physical meetings where supporting research projects exist, and via online interactions (FAIRWAY online platform) and via knowledge synthesis by network experts where resources for physical interactions are lacking. These views will be synthesised under the categories of problems, visions, and solutions. In WG2.2, a Delphi panel (Mukherjee et al. 2015) will be established for local, national and European policy makers and experts in Europe and overseas network. Delphi panellists will a) verify and prioritise the problems stemming from stakeholders and identify additional problems addressing their urgency; b) identify solutions to the problems, resulting in a "solution box"; and c) identify and prioritise building blocks for desirable futures. WG2.2 includes also midterm workshop with European policy makers to present results, FAIRWAY platform and to provide policy makers with an opportunity to propose knowledge, capacity building and networking needs that the MARGISTAR should tackle during the rest of the project. In WG2.3, the results from WG 2.1 and 2.2 will be synthetized and brought under deliberation by online citizen juries with participation of citizens across European mountainous areas (Task 2). In WG2.4, the results will be brought back for reflection for mountain stakeholders to verify the findings and identify policy recommendations needed to overcome periphery traps and to achieve post-marginalization and stakeholders' visions of the development in marginalized mountainous areas. MARGISTAR well analyse the results against the literature and quantitative simulations (Task 3).

These policy recommendations will be brought to the attention of decision-makers from the local to EU level via physical and virtual brokerage events. The results will be continuously analysed and enriched by the concepts of periphery traps, transformation pathways, and post-marginalised mountain areas.

Working Group 3: Capacity building and outreach

WG 3 will be responsible for capacity building and outreach activities. Capacity building will include training schools for PhD students on the three general themes examined in WG 2 (Task 9), the facilitation of STSMs (Task 7), and the establishment of a task force to scan future funding calls (Task 8). Societal outreach, knowledge sharing, and networking (Task 5) efforts will include traditional and innovative web-based methods via the FAIRWAY online platform (Task 4). WG 3 will be responsible for setting up a Think Tank consisting of decision-makers and key stakeholders (N=10–15) at European and national levels (Task 6). The Think Tank is informed about the progress of MARGISTAR and will be consulted for guidance on policy relevant and societally relevant activities that could be performed by MARGISTAR to increase its impact. This will also contribute to the scientific dissemination (Task 10).

4.1.2. DESCRIPTION OF DELIVERABLES AND TIMEFRAME

MARGISTAR will produce four deliverables, organise three training schools, have four annual meetings, and work partly online and partly in smaller Working Group meetings (see Table 4)

Table 4. Table on the Working Groups and their tasks, deliverable reports (D) and milestones (MS).

Working Groups (WG)	Start month	End month	Duration (months)	Tasks, Milestones & Deliverables
WG 1: Collaboration and networking				
WG 1.1: Setting up the online FAIRWAY in Europe platform	1	5	5	MS 1

WG 1.2: Identification of the most important stakeholder groups in each country and inviting them to engage in FAIRWAY in Europe	1	9	6	MS 2
WG 1.3: Encouraging collaboration and networking in the FAIRWAY in Europe	6	48	42	Task 1
WG 1.4: Report on the lessons learned from integrating physical and virtual networking and co-creation tools (e.g. FAIRWAY).	32	40	8	D 2
WG 1.5: Preparing the FAIRWAY in Europe platform to be self-sustaining /applying for funding for its moderation after MARGISTAR	40	48	8	MS 8
WG 2: Knowledge synthesis and co-creation with stakeholders				
WG 2.1 Knowledge synthesis and co-creation with local stakeholders on periphery traps, post-marginalised visions and creating a solution box via physical workshops in chosen locations and FAIRWAY in Europe	3	24	21	MS 3
WG 2.2 Delphi panel to elaborate results from T 2.1 with national and European policy makers and European and overseas experts, and midterm workshop with European policy makers.	24	28	4	MS 4
WG 2.3 Online citizen juries for public deliberation of the findings gained in WG 2.1 and 2.2.	28	36	8	Task 2
WG 2.4 Reflecting the results of WG 2.1–2.3 with mountain stakeholders.	36	42	6	MS 5
WG 2.5 Analysing the results against the literature and quantitative simulations	15	48	42	Task 3
WG 2.6 Final report and policy recommendations based on tasks 2.1–2.5	36	46	10	D 3
WG 3: Capacity building and outreach				
WG 3.1 Communication, dissemination and outreach strategy	1	6	6	D 1
WG 3.2 Use of innovative online interaction methods (e.g. FAIRWAY in Europe) targeting science, policy, and society	1	48	47	Task 4
WG 3.3 Societal outreach, knowledge sharing, and networking	1	48	48	Task 5
WG 3.4 Setting up a Think Tank consisting of decision-makers and key stakeholders at European and national levels and arranging bi-annual online meetings with MARGISTAR experts.	6	48	42	Task 6
WG 3.5 Facilitating STSMs	6	48	42	Task 7
WG 3.6 Establishing consortia and applying research calls targeting marginalised areas	10	42	32	Task 8
WG 3.7 Organising 3 training schools on the topics of WG 2	18	48	30	Task 9
WG 3.8 Scientific dissemination: scientific papers, conference presentations	18	48	30	Task 10
WG 3.9 Guest editing a Special Issue in a peer-reviewed journal on the topics of WG 2.	36	48	12	MS 7
WG 3.10 Organisation of a final conference	44	44	1	MS 6
WG 3.11 Policy brief targeted at the EC, and workshop with EU policymakers	44	48	4	D 4

4.1.3. RISK ANALYSIS AND CONTINGENCY PLANS

MARGISTAR does not include contingency plans for Covid and travel challenges but assumes that we have entered a "new normal". Furthermore, the EU 2030 Climate Target Plan aims to reduce net greenhouse gas emissions by at least 55% by 2030. This is both a challenge and an opportunity. It is an opportunity to develop new virtual climate-neutral practices, set a new standard for performing COST Actions, and save the budget for moderations of the Fairway platform. A challenge is to ensure effective networking and online work within and beyond the network.

A Risk Register will be developed (WG 3) with a list of identified risks and their potential effects. This will include any risk associated with the publication or dissemination of data or findings, or intellectual property rights, including risks associated with not reaching the entire relevant audience, etc. As part of WG 3.1, a strategy will be laid out to identify key audience types, and the approach for tailoring messages to them, the suitability of media and mechanisms, risks and mitigation measures. Contingency and risk management arrangements (beyond the management of risk factors concerning implementation) will be used. The design of planning and control tools will be drafted at the beginning of the project and discussed at the kick-off meeting, with procedures for evaluating project progress and proposing necessary actions if critical deliverables are delayed. Risk management measures will be put in place in M4 with the aim of ensuring a timely response to issues, resource needs, and unforeseen delays. This involves monitoring, communicating, and evaluating progress within the WGs

and Tasks. The Risk Register and contingency planning of **MARGISTAR** will be updated as the project develops. Examples of risks and corresponding contingency planning are described below.

RISK: Some tasks with innovation potential do not meet the standards to lead to innovations (see Section 2.3). PLAN: even if the tasks in WGs work in concert and build on each other, the innovations are not contingent on the success of all the tasks, and if one fails, others can still flourish.

RISK: Due to the unconventional project structure with participants being involved in many tasks in different combinations, there is a risk that a large workload will be borne by a few active researchers. PLAN: Tasks (Table 4) will be distributed among network participants with more intense and higher responsibility roles combined with smaller responsibilities in other WGs. A clear division of work precludes single researchers being assigned too many responsibilities.

RISK: Network members do not engage or drop out. PLAN: The network is a wide network and includes 2–3 members from each participating country. The organisation of **MARGISTAR** into task-based groups enables effective work in small groups changing in composition, leading to an integrated project structure that overcomes the problem of isolated work packages, and integrates and motivates network experts throughout the project's lifespan.

RISK: Stakeholders are not reached or become disengaged. PLAN: Several mountain stakeholders in each participating country will be invited to engage in the FAIRWAY in Europe platform. In addition, we will clearly demonstrate how stakeholder input is considered in practice throughout the process. We will be very active on the website, blog, and in use of social media (e.g. Twitter, Facebook) to update project achievements and maintain interest, awareness, and engagement. Uninterested stakeholders may drop out, but the majority will be reached.

RISK: Engaged stakeholders present contradictory views and are even in conflict with each other. PLAN: researchers will facilitate and moderate the face- to-face and online discussions in a fair and balanced manner, listening to every point of view and explaining that despite divergences, all inputs by stakeholders are important. Network members' familiarity with the different situations and challenges faced by different stakeholders will allow disagreements to be contextualised.

4.1.4. GANTT DIAGRAM

The duration of **MARGISTAR** is of 4 years, including the set of tasks under the 3 WGs (Table 4). During the period, there will be 10 milestones, 4 deliverables, 3 stakeholder workshops, 3 MC meetings, one final conference, and 3 training courses for early- stage researchers from ITCs. The WGs form a continuum, enabling cumulative knowledge generation and allowing the same participants to be active in many WGs, but with different intensities, combinations, and responsibilities (Figure 2). Such innovative organisation enhances creativity and ensures the effectiveness of work by driving the network to move forward according to the plan building in previous tasks.
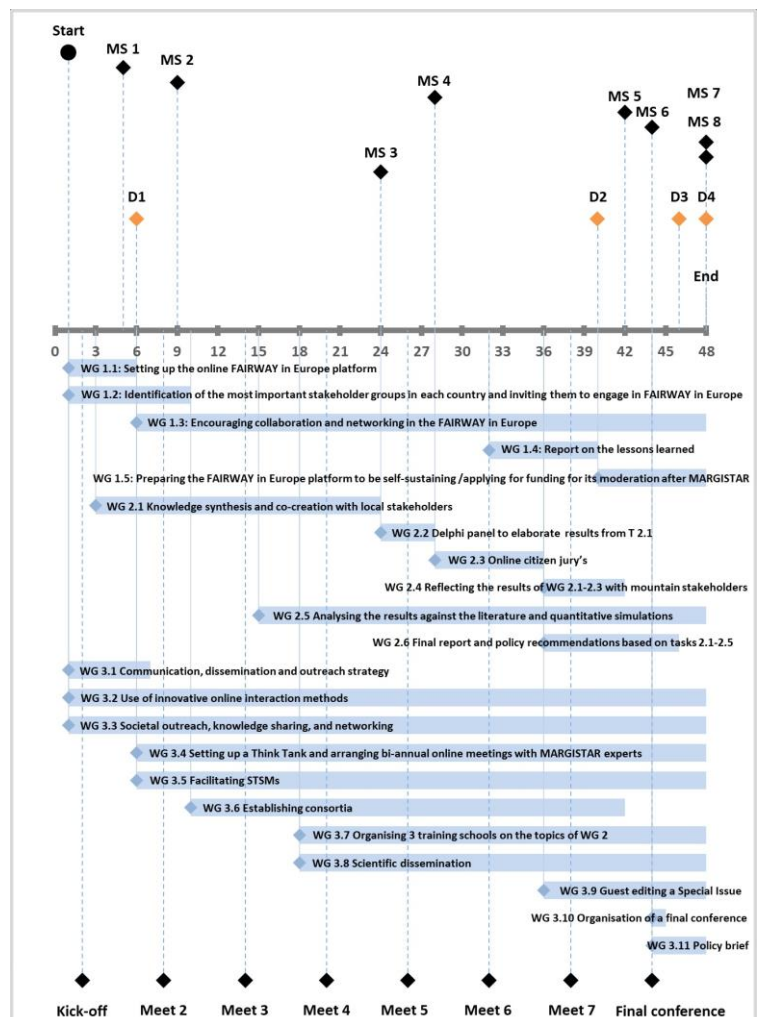

Figure 2. **MARGISTAR** workflow.

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