

Interreg Programme

**Danube Region**



Co-funded by  
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DRP0200484

# SAFETY4TMF

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## A - Project identification

### A.1 Project identification

<b>Project id (automatically created)</b>	DRP0200484
<b>Name of the lead partner organisation</b>	Belügyminisztérium
<b>Name of the lead partner organisation in English</b>	Ministry of Interior
<b>Project title</b>	Coordinated prevention and disaster management activities on Tailings Management Facilities by authorities, municipalities and other stakeholders for solutions reducing transnational risks and hazards
<b>Project acronym</b>	SAFETY4TMF
<b>Programme priority</b>	A greener, low-carbon Danube Region
<b>Specific objective</b>	2.2: Promoting climate change adaptation capacities in the Danube Region and disaster management on transnational level in relation to environmental risks taking into account ecosystem-based approaches
<b>Project duration in months</b>	30

## A.2 Project summary

Please give a short overview of the project. (in case of PAC/DSP CALL): highlight the main characteristics, strategic direction(s) and envisaged main achievements. / (in case of 1ST CALL FOR PROPOSALS): describe the followings:

- the common challenge of the programme area you are jointly tackling in your project;
- the overall objective of the project and the expected change your project will make to the current situation;
- the main outputs you will produce and those who will benefit from them;
- the approach you plan to take and why a transnational approach is needed;
- what is new/original about the project.

Mining activities generate hazardous residues, often transported by hydraulic methods, deposited and handled in Tailings Management Facilities (TMFs). The Danube River Basin (DRB) has 300+ TMFs that need special attention to avoid serious and often transnational disasters such as Baia Mare (2000, RO), or Kolontár (2010, HU). TMF safety incorporates multi-level governance actors, multidisciplinary approach and highly complex solutions integrating all levels, actors and DRB countries. SAFETY4TMF – one of the 2022 EUSDR Flagships hosted by the Environmental Risks Priority Area, and confirmed with their Letter of Recommendation - aims to enhance the prevention, preparedness and disaster management activities of potential transnational TMF-related risks in the DRB, with special focus on optimised cooperation of multi-level governance actors, including authorities, municipalities, first responders and others.

In order to establish a solid fundament, SAFETY4TMF will analyse policies and procedures, stakeholders and cooperation practices, and map existing TMFs. Built on these, it will enhance and harmonize national and transnational capacity building, and follow a practice-oriented, targeted knowledge-exchange and co-development approach with on- and offline trainings, workshops, conferences, peer-review visits and co-working for transnational actions and applicable solutions improving TMF safety.

SAFETY4TMF generates knowledge and experience from pilot actions of transnational importance (advanced risk modelling and enhanced spatial plans; monitoring of tailing management facilities; coordination and preparedness procedures concerning TMF safety in the DRB) will feed into the policy and practice improvement at levels.

The diverse partnership of ministries, municipalities, sectoral/academic actors and thematic NGOs backed by international organizations makes SAFETY4TMF capable of increasing safety of TMFs in the DRB via applicable solutions and improved, more supportive local, national and macroregional policies.

### A.3 Project budget overview

Programme funding			Contribution					Total project budget
Funding source	Funding amount	Co-financing rate (%)	State contribution	Public contribution	Total public contribution	Private contribution	Total contribution	
Interreg Funds	1.966.705,56	80,00 %	282.118,62	166.297,75	448.416,37	43.260,03	491.676,40	2.458.381,96
Total EU funds	1.966.705,56	80,00 %	282.118,62	166.297,75	448.416,37	43.260,03	491.676,40	2.458.381,96
Total project budget	1.966.705,56	80,00 %	282.118,62	166.297,75	448.416,37	43.260,03	491.676,40	2.458.381,96

## A.4 Project outputs and result overview

Programme Output Indicator	Aggregated value per Programme output indicator	Measurement Unit	Output Title	Output target value	Programme result indicator	Baseline	Result indicator target value	Measurement unit
Organisations cooperating across borders	28,00	organisations	0 Project partners and associated strategic partners cooperating formally across borders	28,00				
Pilot actions developed jointly and implemented in projects	7,00	pilot actions	0 Implementing pilot actions on 3 fields, aiming to increase TMF safety in the DRB: TMF-related risk modelling; TMF monitoring; coordination and preparedness procedures for disaster management	7,00				
Jointly developed	4,00	solution	0 Standard Operating Procedures (SOPs) for responders in project regions	1,00				

Programme Output Indicator	Aggregated value per Programme output indicator	Measurement Unit	Output	Output Title	Output target value	Programme result indicator	Baseline	Result indicator target value	Measurement unit
solutions	2,00	s	Output 2.1	3 solutions validated via pilots: improved modelling of TMF-related risks; improved monitoring of TMFs and improved process for applying coordination and preparedness procedures concerning TMF safety	3,00				
Strategies and action plans jointly developed	2,00	strategy/action plan	Output 1	White Paper and the related joint action plan for coordination and policy measures in the Danube River Basin countries	1,00				

Programme Output Indicator	Aggregated value per Programme output indicator	Measurement Unit	Output	Output Title	Output target value	Programme result indicator	Baseline	Result indicator target value	Measurement unit
			1						
			2	0 Action Plan for TMF-related Disaster Management Education in DRB countries	1,00				
						Organisations with increased institutional capacity due to their participation in cooperation activities across the borders	0,00	56,00	No. of organisations
						Joint strategies and action plans taken up by organisations	0,00	2,00	joint strategy/action plan
						Solutions taken up or up-scaled by organisations	0,00	4,00	solutions

Programme Output Indicator	Aggregated value per Programme output indicator	Mea sure men t Unit	O u t p u t	Output Title	Out put targ et v alue	Programme result indicator	B a s e li n e	Result indicat or target value	Meas urem ent unit
							0 0		

## B - Project partners

### Partners overview

Number	Status	Name of the organisation in english	Country	Organisation abbreviation	Partner role	Associated Strategic Partner	Partner total eligible budget
1	Active	Ministry of Interior	Magyarország (HU)	HUMol	LP	Külgazdasági és Külügyminisztérium Rába-Duna-Vág Korlátolt Felelősségű Európai Területi Társulás Komárom-Esztergom Megyei Önkormányzat Heves Megyei Önkormányzat	
2	Active	National Association of Volunteers in the Republic of Bulgaria	Bulgaria (BG)	BGVOL	PP	АСОЦИАЦИЯ НА РОДОПСКИ ОБЩИНИ	
3	Active	Fire Association in Split Dalmatia County	Hrvatska (HR)	SPFIRE	PP		
4	Active	University of Ostrava	Česko (CZ)	OSU	PP		
5	Active	Middle Tisza District Water Directorate	Magyarország (HU)	MTDWD	PP	Országos Vízügyi Főigazgatóság	
6	Active	Budapest Firefighter Association	Magyarország (HU)	BUDFIRE	PP	International Commission for the Protection of the Danube River Umweltbundesamt	

Number	Status	Name of the organisation in english	Country	Organisation abbreviation	Partner role	Associated Strategic Partner	Partner total eligible budget
7	Active	Csongrád-Csanád County Directorate for Disaster Management	Magyarország (HU)	CSONG	PP		
8	Active	General Inspectorate for Emergency Situations of Ministry of Internal Affairs Republic of Moldova	Moldova (MD)	MDMol	PP		
9	Active	Babeş-Bolyai University	România (RO)	UNIBB	PP		
10	Active	Harghita County Council	România (RO)	HARG	PP	Asociatia Pompierilor Voluntari din Judetul Harghita	158.948,76
11	Active	University of Ljubljana	Slovenija (SI)	UNILJUB	PP	Gasilska zveza Slovenije	
12	Active	European Grouping of Territorial Cooperation Via Carpatia	Slovensko (SK)	VIACARP	PP		
13	Active	Ministry of Environmental Protection	Serbia (RS)	RSMoE	PP		
14	Active	Vareš Municipality	Bosnia and Herzegovina (BA)	VARES	PP	Министарство енергетике и рударства Републике Српске Босна и Херцеговина	
15	Active	Ministry of Environment, Waters and Forests	România (RO)	ROMoE	PP		
16	Active	Union of Towns and Municipalities of the Czech Republic	Česko (CZ)	SMO	PP		
17	Active	SLOVENIAN NATIONAL BUILDING AND CIVIL ENGINEERING INSTITUTE	Slovenija (SI)	ZAG	PP		

## C - Project description

### C.1 Project overall objective

Below, you can see the Programme priority specific objective your project will contribute to (chosen in section A.1.).

2.2: Promoting climate change adaptation capacities in the Danube Region and disaster management on transnational level in relation to environmental risks taking into account ecosystem-based approaches

#### Project main objective

Now think about your main objective – what do you aim to achieve by the end of your project? Remember your project needs to contribute to the programme's objective.

Your objective should:

- be realistic and achievable by the end of the project, or shortly after;
- specify who needs project results and in which territory;
- be measurable – indicate the change you are aiming for.

SAFETY4TMF aims to enhance prevention, preparedness & disaster management activities of potential transnational risks related to Tailings Management Facilities in the Danube River Basin, via developing, testing and spreading applicable modelling, spatial planning, monitoring and coordination solutions, with special focus on improved local, national and macro-regional policies and optimised cooperation of multi-level governance actors, including authorities, municipalities and other stakeholders.

## C.2 Project relevance and context

**C.2.1 (in case of 1ST CALL FOR PROPOSALS): What are the common territorial needs and challenge(s) that will be tackled by the project? / (in case of PAC CALL): What are the needs and challenge(s) of the PA - both regarding policies in the field concerned as well as governance of the PA that will be tackled by the project? / (in case of DSP CALL): To what extent are the challenges with regard to supporting the governance of the EUSDR identified and described?**

Please describe common needs and challenges of the addressed territory in relation to the project topic.

The heavily industrious 20th century vastly relied on raw materials obtained through mining. With the changing economic structure, and considerable fall in heavy industry in Central Europe, the mining sector experienced a serious decline as well. Residue of mining activities - fine-grained waste materials (tailings) derived from excavation and ore extraction - is often transported by hydraulic methods, deposited and handled in Tailings Management Facilities (TMFs). The Danube River Basin (DRB) has more than 300 TMFs in its area that require special attention and care to avoid disasters, including sustained safety conditions and measures in the cooperation of various concerned stakeholders. Catastrophic events in recent decades in the DRB (the cyanide-contaminated water spill at Baia Mare, Romania, by a dam breach in 2000; or the highly alkaline red-sludge pollution caused by the collapse of a dam near Kolontár, Hungary, in 2010) with their tremendous and unexpected burden and challenges to local citizens, local municipalities and authorities, put the safety issues concerning TMFs into the spotlight.

Most TMF-related disasters concern multiple countries and actors through transnational water bodies, therefore prevention requires coordinated transnational action as well from a very early stage, which makes it vital to constantly improve the available capacities and communication of relevant stakeholders of the field. Besides authorities and other stakeholders, municipalities are crucial actors in these ambitions: as the local layer of the multi-level governance structures, they have a wide horizontal coverage in relevant sectors, and at the same time a direct and efficient access to local stakeholders and citizens. Besides, they are responsible for local spatial planning policies, presenting the most detailed urban/rural development measure where areas affected by TMF-related risks as well as safety measures can be most precisely described. Involvement, information and cooperation of stakeholders from all levels, harmonised multi-level governance instruments, and coordinated procedures for risk reduction and disaster management are all required for enhancing TMF safety, increasing the complexity of the topic and justifying the need for concentrated alertness, preparedness and rapid interventions, as well as harmonised and widely known operating procedures.

The progress in applicable technologies along with increasing operational experience, and lessons learned from accidents (not just the ones occurred within the DRB, but other disasters, such as the Brumadinho dam collapse in Brazil, 2019) open up new knowledge and updated methods applicable for the safety of TMFs, either in relevant spatial planning, or through improved operation, monitoring, disaster management activities, and therefore existing practices, procedures need regular update and capacity building. The latest scientific findings (reports and studies, such as 'Safety on the Tailings Management Facilities in the Danube River Basin' of the ICPDR, the German Environment Agency, UNIBB and the University of Miskolc) need to be applied at both policy and practice levels for which international organizations provide further, up-to-date guidance (e.g. 'Global Industry Standard on Tailings Management' – UNEP; 'Safety Guideline and Good practices for tailings management facilities' – UNECE, 'Checklist for contingency planning for accidents affecting transboundary waters' – UNECE).

However, the speed of embedding state-of-the-art knowledge into national legislation structures is

rather low, and TMF safety, being a topic with specific transnational relevance, requires additional policy harmonisation and cooperation across borders and on macroregional level as well. In addition to that, climate change and its consequences are key influencing factors affecting the risks related to TMFs, changing physical conditions and operational requirements of tailings deposits and altering potential disaster scenarios, therefore TMF safety has to be considered in relation to the relevant consequences of climate change, such as the increasing number of annual extreme weather conditions and heavy rainfalls.

In order to address these challenges in an effective way with actual results enhancing TMF safety in the DRB in the near future, SAFETY4TMF - one of their flagship initiatives of the Environmental Risks Priority Area (PA5) of EUSDR - builds on the DANUBE TMF research project of ICPDR and German Environment Agency (both involved as ASPs in the current project) that was aiming to narrow the knowledge gaps and to raise awareness on TMFs. It involves several members of the Disaster Management Working Group of PA5 into the transnational knowledge exchange and co-development process. In order to be feasible and to offer immediate positive effects, it concentrates on solutions building on enhanced cooperation and optimisation, requiring only limited or no investments.

**C.2.2 (in case of 1ST CALL FOR PROPOSALS): How does the project tackle the identified common challenges and/or opportunities and what is new and innovative about the approach the project takes? / (in case of PAC call): How does the project tackle identified needs and challenges of the PA? / (in case of DSP call not applicable - add "N/A")**

Please describe new solutions that will be developed during the project and/or existing solutions that will be adopted and implemented during the project lifetime. Describe also in what way the approach goes beyond existing practice in the sector/DRP area/participating countries.

"The tide came so fast and with such force that it tore off the key-locked door. I thought we would all die, but the instinct to live is stronger. My priority was to save the two little ones. But I couldn't hold on to them. I lost her. Then we made for the attic stairs to climb up as high as we could, but the tide knocked over the freezer, blocking our way. I now know that we were lucky, otherwise we would not have survived. I laid Dori on the bed, the furniture floating on top of the red, muddy water. (...) Meanwhile, the door had banged out the window from the inside, clinging to the gutter. (...) I lifted my daughter through the tiles of the roof to be taken to hospital."

(victim of the Kolontár (HU) red sludge disaster)

The Danube River and its tributaries flow through several countries, making it a vital shared water resource. Tailing facilities located within the Danube Region and their inadequate management and functioning can have transboundary impacts on water quality and ecosystems. SAFETY4TMF sets out to foster cooperation and coordination among partner regions and countries to manage and mitigate these impacts effectively and in a unique way, linking early warning, action and response activities in a transnational effort.

Although significant scientific and practical knowledge has been gathered on TMF-related risk reduction and disaster management, the embedding of this state-of-the-art knowledge into local, regional, national and EU policies and strategies is not always fast and efficient. At the same time, policy harmonization on cross-border and on transnational level would be much desired to be able to carry out coordinated actions. Therefore, in the frame of Specific Objective (SO) 1 SAFETY4TMF partners will map national and macro-regional policies and strategies in the Danube Region to see how these facilitate TMF safety. Besides this activity, they will investigate the cooperation ecosystems of stakeholders interested in TMF safety, as their involvement in planning and policy enhancements is of crucial importance. Based on these mappings, multi-level national and macro-regional policy recommendations will be drafted, so that these better support TMF safety in the partner regions and countries. These will be finalised towards the end of the project, including the

learnings of SO2 and SO3 activities. A joint action plan leading to TMF safety-related improvement of policy measures in DRB will be developed to facilitate this process throughout the project.

In order to help evidence-based and effective policy enhancement and strategy building, SO1 activities will also be aimed at improving TMF-related knowledge in the DRB. Partners will work to update the TMF-inventory, creating a transboundary risk map, prioritising national and cross-border risk hot-spots. TMF monitoring and risk modelling methodologies will also be reviewed, and the upgrading of their certain elements will be tested in pilot actions.

The progress in applicable technologies along with increasing operational experience, and lessons learned from accidents have led to new knowledge and updated methods applicable for the safety of TMFs. Taking this into consideration, in SO2 SAFETY4TMF partners aim to review, revise and upgrade national and transnational education curricula and capacity building/training programmes (both theoretical and practical), as well as the local operating procedures for responders in SAFETY4TMF regions. Based on the enhanced curricula, on-site trainings are planned to increase the capacities of key actors of TMF safety. The capitalisation and transfer of these activities' results will be ensured by e-learning materials, available in national languages.

Based on SO1 and SO2 activities, partners will test innovative solutions for TMF safety, disaster prevention and management in multi-level governance settings. These pilots will experiment with improved risk modelling and monitoring methodologies (SO1), as well as enhanced cooperation and preparedness actions (based on training curricula of SO2). The capitalisation on pilot activities will be ensured by transnational peer-review.

During its 30 months of implementation SAFETY4TMF wishes to facilitate knowledge exchange and capacity building among participating regions and countries, ensuring cross-fertilisation on local /regional, national and transnational level, working together on a field that is originally delegated to national competence. It will provide a unique platform for sharing best practices, technical expertise, and lessons learned from previous initiatives within the region, building on three pillars of safety and disaster management: SCIENCE-POLICY-PRACTICE. This collaborative learning environment can foster innovation by encouraging the adoption of successful approaches and the development and testing of new methodologies and practices in tailing facility management, tailored to the specific challenges faced in the Danube Region.

### **C.2.3 (in case of 1ST CALL FOR PROPOSALS): Why is transnational cooperation needed to address the identified needs and challenges? / (in case of PAC/DSP CALL not applicable)**

(in case of 1ST CALL FOR PROPOSALS): Please explain why the project objectives cannot be efficiently reached acting only on a national/regional/local level and describe what benefits the project partners /target groups/ project area/DRP area gain in taking a transnational approach. / (in case of PAC/DSP CALL please enter the text "N/A" in the field!)

TMF-related disasters of the last decades in the DRB and beyond brought serious transboundary pollution through fluvial transport (via waterways) of toxic wastes (such as cyanide, heavy metals) causing not only serious rapid and/or long-lasting environmental issues, but significant political tension among the concerned countries as well. In this regard, cross-border environmental safety contributes to the political stability of a region, addressing a topic mutually beneficial for the concerned countries. This transboundary impact underlines the necessity to jointly prevent disasters, to transnationally cooperate in addressing TMF-related incidents of transboundary impact, and to intervene rapidly using concentrated and coordinated efforts of actors on all layers of governance, from local through regional to national and macro-regional levels.

These complex and multi-actor activities involving a vast range of disciplines and capabilities require deeper knowledge, mutual understanding and close cooperation among TMF safety stakeholders across borders (including both upstream and downstream locations along surface waters), in order

to successfully improve cross-border pollution prevention and risk reduction measures (e.g. harmonised spatial planning or operation procedures), monitoring and communication and data exchange activities (such as early warning systems).

In case of a TMF-related emergency situation, local, regional or country level disaster management measures without transnational cooperation would not only have limited effectiveness and feasibility in terms of their overall process and resource-efficiency, but could potentially cause severe tension between upstream and downstream regions and countries.

Learning and harmonizing management procedures, improving preparedness and reaction capacities, and enhancing transnational communication, alertness in DRB countries of SAFETY4TMF will result in the improved ability of all actors to deliver rapid and coordinated prevention measures and reactive actions for risk reduction and disaster management at the most appropriate intervention levels in any TMF-impacted area.

Expected outcomes of SAFETY4TMF have important transnational features as compared to merely local level activities:

- # Improved cooperation, coordination and mutual understanding among national institutions of DRB countries both upstream and downstream;
- # Policy harmonization for enhanced national and transnational cooperation;
- # Building new capacities taking advantage of newest scientific knowledge, international and national experience, boosted by enhanced, harmonized capacity building curricula and trainings;
- # Coordinated transnational capacity building events among countries for specific scenarios at various levels of intervention;
- # Improved coordination and application of harmonized measures for risk reduction and disaster prevention at transnational and national levels.

The catalyser of TMF-safety improvement activities of a DRB-wide cooperation is Priority Area 5 of the EUSDR, especially Target 3 (aiming to continuously update the existing database of accident hazard spots (AHS Inventory), contaminated sites and TMFs) and Target 4 (supporting the assessment of disaster risks in the Danube Region, encouraging actions to promote disaster resilience, preparedness and response activities in line with the European Union Civil Protection Mechanism). In addition, ICPDR implements the Danube River Protection Convention (DRPC) to ensure the sustainable and equitable use of waters in the DRB.

The transnational relevance of SAFETY4TMF in the DRB is clearly justified by the fact that it is listed as one of the 2022 EUSDR Flagship interventions hosted by the Environmental Risks Priority Area. SAFETY4TMF received a Letter of Recommendation from the EUSDR PA5, because it contributes to the achievement of the targets and goals of its relevant actions. The project will promote transnational cooperation among DRB countries within the ICPDR framework as well, closely cooperating with the Disaster Management Working Group of EUSDR PA5 and the Accident Prevention & Control Expert Group of ICPDR (joining the project as an ASP).

#### C.2.4 Who will benefit from your project outputs?

In the first column of each row, please select one of the pre-defined target groups from the drop-down list. In the second column explain in more detail exactly who will benefit from your project. For example, if you choose the category education, you need to explain which specific schools or groups of schools and in which territory.

Target Group	Specification
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Target Group	Specification
Local public authority	<p>The local level of risk reduction and disaster management connected to TMFs concern local public authorities, municipalities. SAFETY4TMF regards them as essential and primary target groups in carrying out risk reduction and disaster management measures, being the closest to the vulnerable population and areas, and bearing direct political responsibility for the safety of citizens and assets.</p> <p>Local public authorities are involved and represented in the project through ministries responsible for internal affairs and coordinating municipalities (such as HUMol; MDMol), alliances of municipalities (e.g. Union of Towns and Municipalities of CZ; Association of Rhodope Municipalities of BG) and as individual municipalities (VARES) benefitting from novel spatial planning methods, revised disaster management, communication and cooperation procedures and practices, as well as targeted online trainings and communication.</p> <p>Target no.: 60</p>
Regional public authority	<p>Depending on the countries, regional level public authorities have different competences and resources, but in each case, they play a vital role in connecting national and local levels, being equally close to policy, planning, coordination and operative sides with immense capacities and resources. Regional public authorities will benefit from SAFETY4TMF through increasing their capacities, participating in pilot activities for improved TMF modelling, monitoring, and cooperation procedures and practices, on-site and off-site capacity building.</p> <p>Regional public authorities participating either as PPs or ASPs include counties (HARG; Municipalities of Komárom-Esztergom and Heves Counties, HU) and two EGTCs joining countries across borders (VIACARP, Rába-Duna-Vág EGTC).</p> <p>Target number: 15-20</p>

Target Group	Specification
National public authority	<p>National public authorities are the highest policy actors below the macro-regional level, setting and implementing relevant policies and supervising specific areas connected to TMF safety. In most cases, ministries make use of the generation of new knowledge, exchange of experience and enhancement of overall safety measures in order to comply with the existing and enhanced policies as a result of the project. They and sectoral agencies cooperate at transnational level to harmonise the legislation and make cross-border activities smoother, taking advantage of the project partnership to intensify these actions. They benefit from transnational level project outputs (such as transboundary risk map or regionalization plan), built on applicable good practices, lessons learnt from experience and derived recommendations to improve policies. They will also be able to improve national capacity building programmes in line with state-of-the-art knowledge and to effectively share relevant information towards stakeholders.</p> <p>National public authorities participating either as PPs or ASPs include ministries responsible for internal affairs (HUMoI; MDMoI) and thematically relevant line ministries responsible for spatial planning or environmental issues (RSMoE; ROMoE), as well as the Ministry of Foreign Affairs and Trade of HU, responsible for coordinating PA5 of the EUSDR.</p> <p>Target number: 15</p>
Sectoral agency	<p>Sectoral agencies steer and implement the policies set out by national public authorities. They will benefit from close cooperation with policy-owning ministries and joining the transdisciplinary learning process, expanding their capacities, and generating knowledge, as well as the improved communication and disaster management solutions developed and tested at transnational, national, regional and local levels.</p> <p>National level partners in this category include ASPs, such as General Directorate of Water Management, HU; Civil Protection Directorate of Republic of Srpska, BA; German Environmental Agency. Two regional level sectoral agencies are also involved as PPs: MTDWD; CSONG.</p> <p>Target number: 15</p>

Target Group	Specification
Interest groups including NGOs	<p>National, regional interest groups of SAFETY4TMF make up the backbone of operational activities in case of emergency situations at the lowest, local level. That is why most of the interest groups relevant for the project are firefighter or volunteer associations that need to be aware of the latest procedures and practices in order to be effective in emergency situations at the venues of intervention.</p> <p>These interest groups will benefit from the project via learning new knowledge, operational procedures and methods, participating in trainings and peer-review visits. Moreover, they will improve cooperation practices and communication methods with other relevant stakeholders, via the pilot actions implemented in their region of operation.</p> <p>Interest groups involved as PPs are BGVOL; SPFIRE; BUDFIRE; while other such organisations are joining as ASPs (Fire Fighter Association of Harghita County, Firefighting Association of Slovenia).</p> <p>Target number: 15-20</p>
Higher education and research organisations	<p>Higher education and research organizations take part in research and knowledge generation activities supporting policy and thematic actors. In addition, they play a crucial role in translating the state-of-the-art findings into applicable solutions. During SAFETY4TMF they participate in status and analysis and scoping, analyse and improve capacity building curricula, support the development of advanced modelling, and with their scientific know-how provide support for the partnership in developing sustainable, feasible and scientifically justified local, regional, national and transnational outputs.</p> <p>Higher education and research organizations participating in the SAFETY4TMF partnership benefit directly on both individual and organization levels from the challenging complexity of the project where complex, interdisciplinary knowledge and state-of-the-art scientific results are applied for local, regional, national and transnational level solutions. Such PPs include OSU; UNIBB; UNILJUB, ZAG.</p> <p>Target number: 5</p>
Enterprise, except SME	<p>Corporations are potentially engaged to the topic of TMFs in three ways: Several mining and other heavy industry companies produce tailings that have to be safely deposited; several TMFs are operated by specialist operation companies; while there are large public or private design and construction companies whose profile include TMF and dam safety. Thematically relevant corporations will be involved as important thematic stakeholders and will make use of the transnational knowledge transfer and capacity building activities, practical experience gained via pilot actions, as well as improved solutions for policies, regulations and operation of TMFs.</p> <p>Target number: 5</p>

Target Group	Specification
EGTC	<p>VIACARP is a financing partner of the project representing a cross-border region of Slovakia-Hungary. It will benefit from cross-border pilot activities, and the enhanced cooperation within the border region. VIACARP will also benefit from the local and cross-border aspects of the enhancement of policies, preventive procedures, disaster management and risk reduction measures, as well as capacity building activities.</p> <p>VIACARP will serve as a good practice (to be analysed in the project) of harmonized cooperation between two neighbouring regions across borders, providing an example and applicable methods to further EGTCs and other transnational organisations along cross-border water bodies affected by TMF safety. The Rába-Duna-Vág EGTC will follow the project closely as an ASP.</p> <p>Target number: 5</p>
International organisation, EEIG	<p>International organizations are the driving force behind macro-regional improvement of activities related to TMF safety in a large river basin like the DRB. They are key actors in the facilitation of transnational water-related cooperation, provide a forum for resolving transnational issues and for improved cooperation at river basin level.</p> <p>They mutually benefit from the project results manifesting in improved basin-wide cooperation of DRB actors for TMF safety, enhanced transnational capacity building programmes and communication tools, such as the Accident Emergency Warning System, and the updating of existing database of accident hazard spots (AHS Inventory), as well as databases on contaminated sites and TMFs.</p> <p>SAFETY4TMF has a highly relevant international organisation on board as ASPs: ICPDR International Commission for the Protection of the Danube River (AT).</p> <p>Target number: 2</p>
General public	<p>The general public forms an important target group of SAFETY4TMF, because citizens are prone to the risks imposed by TMFs. This vulnerable group will directly benefit from the increased safety and the targeted communication and training activities. The role of well-informed, trained citizens is appreciated as volunteers in case of emergency situations. Awareness raising effects of the project will increase the willingness of citizens to engage in voluntary activities.</p> <p>Target number: 500</p>

### C.2.5 How does the project contribute to wider strategies and policies?

Please indicate to which strategies and policies your project will contribute. Then describe in what way you will contribute.

Strategy	Contribution
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Strategy	Contribution
<p>EU Strategy for the Danube Region</p>	<p>The major driver to realize the SAFETY4TMF project is the Priority Area 5 of the EUSDR, especially Target 3 (aiming to continuously update the existing database of accident hazard spots (AHS Inventory), contaminated sites and tailing management facilities) and Target 4 (supporting the assessment of disaster risks in the Danube Region, encouraging actions to promote disaster resilience, preparedness and response activities in line with the European Union Civil Protection Mechanism).</p> <p>SAFETY4TMF will contribute to the overall DRB-wide knowledge update and uptake about TMFs via further development of the existing tools and creation of new ones.</p> <p>What is a clear added value of the project is the improvement of cooperation at transnational level in training curriculum enhancement via regional and transnational trainings on the early warning - action - response steps, and the policy level white paper and connected action plan, including recommendations targeted at closely collaborating fields of practical expertise concerned with the safety of TMFs . The SAFETY4TMF puts much emphasis on involving various stakeholders of the key 3 steps in a coordinated, practice-oriented way from the municipal level to higher operative one.</p> <p>The existing ICPDR framework for transnational cooperation ensures the higher-policy uptake of the project results via the Disaster Management Working Group of EUSDR PA5 and the Accident Prevention &amp; Control Expert Group of ICPDR (joining the project as an ASP).</p>

Strategy	Contribution
European Green Deal	<p>SAFETY4TMF can contribute to the European Green Deal in the following ways:</p> <ul style="list-style-type: none"> <li># Environmental protection: The project's focus on enhancing TMF safety aligns with the goal of environmental protection under the European Green Deal. By improving risk management and disaster prevention measures related to TMFs, the project aims to minimize the environmental impact of potential accidents or incidents. This contributes to the overall objective of the European Green Deal to protect and restore the environment.</li> <li># Resource efficiency: The SAFETY4TMF project can contribute to resource efficiency by promoting sustainable practices in TMF management. Through improved spatial planning, enhanced monitoring, and coordination procedures, the project seeks to optimize the use of resources and minimize waste generation. By incorporating resource-efficient approaches, the project aligns with the resource efficiency objectives of the European Green Deal.</li> <li># Climate change adaptation: The project's efforts to enhance the prevention, preparedness, and disaster management activities related to TMFs can contribute to climate change adaptation. Climate change can increase the frequency and intensity of extreme weather events, which may pose risks to TMFs. By improving risk modelling and disaster management practices, SAFETY4TMF aims to enhance the resilience of TMFs to climate-related challenges, supporting the climate change adaptation goals of the European Green Deal.</li> <li># Sustainable mining practices: The SAFETY4TMF project indirectly supports the European Green Deal's objective of promoting sustainable mining practices. By addressing the safety and environmental aspects of TMFs, the project encourages the mining industry to adopt responsible practices that minimize negative impacts on the environment and local communities. This aligns with the European Green Deal's aim to promote sustainable resource extraction and transition to a circular economy.</li> </ul>

Strategy	Contribution
Territorial Agenda 2030	<p>SAFETY4TMF contributes to the TA 2030 in a number of ways:</p> <p>#By analyzing policies, procedures, stakeholders and communication practices, SAFETY4TMF seeks to identify areas for improvement in TMF safety. The project aims to enhance risk modelling, spatial planning, monitoring and coordination procedures related to TMFs. These efforts align with the goal of preventing and mitigating potential disasters, contributing to the overall risk prevention and management objectives of the Territorial Agenda 2030.</p> <p>#The project emphasizes the importance of cooperation among multi-level governance actors, including authorities, municipalities, first responders, academia and others. By promoting collaboration and knowledge exchange through trainings, workshops, conferences and peer-review visits, the project fosters transnational cooperation to address TMF-related risks. This aligns with the Territorial Agenda 2030's objective of promoting cooperation and integrated approaches for territorial development.</p> <p>#The project focuses on enhancing national and transnational capacity building to improve TMF safety. It utilizes a practice-oriented approach that involves on- and offline trainings, co-working and knowledge exchange activities. By building capacity and sharing best practices, SAFETY4TMF contributes to the development of applicable solutions and the improvement of TMF safety policies and practices at all levels, supporting the knowledge-driven approach of the Territorial Agenda 2030.</p> <p>#The knowledge and experience generated through SAFETY4TMF's pilot actions, such as advanced risk modelling, improved spatial planning, enhanced monitoring and coordination procedures, will inform policy and practice improvement. The project aims to influence local, national and macroregional policies to create a more supportive environment for TMF safety. This aligns with the Territorial Agenda 2030's objective of improving policy frameworks and governance mechanisms for territorial development.</p>

**C.2.6 (in case of 1ST CALL FOR PROPOSALS): Which synergies with past or current EU and other projects or initiatives will the project make use of? / (in case of PAC / DSP CALL not applicable)**

(in case of 1ST CALL FOR PROPOSALS): Project or Initiative / (in case of PAC /DSP CALL add "N/A")	(in case of 1ST CALL FOR PROPOSALS): Synergy / (in case of PAC/DSP CALL add "N/A")
Danube TMF	<p>The overall objective of the Danube TMF transnational project was to increase the safety of the mining and industrial tailings management facilities located in the DRB by contributing to strengthen the technical and management capacity at the concerned facilities and responsible authorities.</p> <p>Results of the project were practical tools for self-assessment and inspection such as Checklist for examinations of a minimum set of TMF technical safety requirements, developed and tested Tailings Risk Index methodology, TMF Inventory for the Danube River Basin, Transboundary TMF risk map. (See below in C.2.7.)</p>
DiMaND	<p>The project directly supported the implementation of EUSDR PA5, thereby the main goal of 'DiMaND – Disaster Management Network in the Danube Region' project was to strengthen the Disaster Management Network in the Danube Region, and to improve the effectiveness of disaster preparedness and response at regional level by promoting the network of governmental and non-governmental disaster management organisations. The project identified good practices in disaster management through the expertise of various stakeholders (such as civil protection, local governance, firefighting and volunteer organizations), region-specific characteristics of disaster risks and the impact of climate change on the DR.</p> <p>Moreover, the project identified good practices and gaps in preparedness, response activities and hazardous substances.</p> <p>In the capacity building, the training of trainers methodology was applied first in this field with success, and the Standard Operational Procedures were established for exercise organizers.</p> <p>Furthermore, the DiMaND project set up a the Roadmap of Actions of EUSDR DM-WG defining next steps for the upcoming years.</p>

**C.2.7 (in case of 1ST CALL FOR PROPOSALS): How does the project build on available knowledge? / (in case of DSP CALL) How does the project build on the results of the previous DSP project? / (in case of PAC CALL not applicable)**

(in case of 1ST CALL FOR PROPOSALS): Please describe the experiences/lessons learned that the project draws on, and other available knowledge the project capitalises on; / (in case of DSP CALL) how the project takes into consideration the capitalisation of outputs and results of the previous DSP project(s) (i. e. what outputs and results will be used and how they will be integrated in the day-to-day work); / (in case of PAC CALL not applicable - add "N/A")

SAFETY4TMF is building on the triple pillars of science - policy - practice, utilising results and experience of previous projects dealing with TMF safety, and existing cross-border cooperation actions at policy and practice level in the DRB. This unique, novel project uses the synergies coming

from the cross-fertilization of the three pillars, building on the competences of the diverse and strong partnership, stakeholders and target group members. By way of exchange of experience and mutual learning, partners facing similar TMF-related challenges make joint efforts to translate TMF science into practice, and into policy making and implementation.

The DANUBE TMF has paved the way for this project, as it made attempts to improve TMF safety within the Danube River Basin, primarily from a scientific point of view but pursuing practical results. While the scope of the project was limited, it is now being extended and continued by SAFETY4TMF, including key partners of the DANUBE TMF project. Key results of SAFETY4TMF build on the checklist for examinations of a minimum set of TMF technical safety requirements, an effective methodology created in DANUBE TMF. Besides this, the project further develops the Tailings Risk Index methodology invented by Danube TMF to improve modelling of TMF safety. The first TMF inventory and transboundary risk map has also been created in the DANUBE TMF project, but now SAFETY4TMF will work to make it a more comprehensive catalogue.

The DiMaND – Disaster Management Network in the Danube Region project (DG ECHO Knowledge Network) has been focusing on the responder level of disaster management and increased the effectiveness of the cooperation network of governmental and non-governmental disaster management organizations within the DRB. The SAFETY4TMF is building on results and experience of the DiMaND project and involves its stakeholder network of disaster management organizations for capacity building and pilot activities. The identified good practices and gaps will be a starting point in the SO1 activities. Moreover, the capacity building activities will take into account the practice of the Training of Trainers methodology to be applied and adjusted to the harmonized training curricula and to different scales of DRB-wide of application. The Standard Operational Procedures for exercise organizers will be taken into account during the training methodology development and at the SOP guideline development. Lastly, the policy and action plan mapping will consider the Roadmap of Actions of EUSDR DM-WG, that defines the activities for the upcoming years, giving recommendations to update to this agenda.

The project does not only draw upon DRB-level capacities and cooperation, but also on a wider-scale international experience through the knowledge base of the UNECE. The worldwide international experience can only be mainstreamed to policies, strategies and implementation plans of the DRB, if combined with national, regional and local knowledge that makes it possible to transfer and adapt international practices to local settings.

The Danube is the most international river in the World, with diverse interdependencies of 19 countries with multiple languages in the river basin. Key ASP of the SAFETY4TMF project is the International Commission for the Protection of the Danube River (ICPDR), that works to ensure the sustainable and equitable use of waters in the Danube River Basin based on the Danube River Protection Convention, the major legal instrument for cooperation and transboundary water management.

ICPDR as a coordinating platform addresses multilateral issues at roof level (international and basin-wide level) and provides a unique experience and practice of transboundary cooperation as clear added value that can be utilized for managing and harmonizing transnational actions targeted at TMF safety.

Furthermore, the EUSDR Disaster Management Working Group is strongly represented in the partnership through the Budapest Firefighter Association, Ministry of Foreign Affairs and Trade (HU) and the Ministry of Environmental Protection of Republic of Serbia. Their role in the project is to channel the latest knowledge and practice of emergency response and preparedness into the SAFETY4TMF. In addition, these partners will be able to facilitate with their experience the exploitation of the project results through the EUSDR PA5 platform and reach out effectively to other stakeholders. Moreover, the concerned partners have institutional know-how at policy level to bring

ICPDR and DM-WG into closer cooperation to exploit the synergies in all activities concerning TMF risk management.

## C.3 Project partnership

(in case of 1ST CALL FOR PROPOSALS): Describe the structure of your partnership and explain why these partners are needed to implement the project and to achieve project objectives. What is the contribution of each partner to the project? / (in case of PAC / DSP CALL not applicable - add "N/A")

The SAFETY4TMF partnership represents a diverse group of actors that have a shared ambition to improve TMF safety. The extensive partnership covers 12 countries (AT, BA, BG, HR, CZ, DE, HU, MD, RO, RS, SK, SI) from the DRB as PPs (17) and as ASPs (11).

PPs represent

- # National ministries: HUMoI, MDMoI, RSMoE, ROMoE;
- # Local and regional public authorities: HARG, VARES, SMO;
- # National and regional sectoral agencies: MTDWD; CSONG;
- # Thematic associations: BGVOL, SPFIRE, BUDFIRE;
- # Higher education and research institutions: OSU, UNIBB, UNILJUB, ZAG;
- # EGTC: VIACARP.

A large circle of ASPs (ministries, municipalities and their associations, international organizations, sectoral agencies) is also involved in the knowledge sharing, capacity development and policy improvement process, providing valuable insights into their activities and feedback on steering the project to ensure success, relevance and sustainability of outputs.

The comprehensive partnership covers the full ecosystem of TMF-related issues with a wide selection of interdisciplinary competency areas beneficial for improving TMF safety, ranging from policy actors, through sectoral authorities and academic institutions to local level administrative and thematic organisations, and covering theoretical, organizational and practical fields of disaster management and risk reduction competences. The partnership includes DRB countries where tailing facilities exist or hazards affected by these exist, and their risk management is a relevant issue. Therefore countries of the Upper Danube have not been involved (or only as ASP); however, the dissemination of project results to the relevant institutions of these countries will be ensured.

HUMoI is well suited for the Lead Partner position, having the necessary management experience on the one hand and municipality coordination areas, integrating water management and disaster management governance on the other, putting it into the centre of simultaneous sectoral and vertical cooperation. A core ambition of HUMoI is to support the coordination skills, abilities and competencies of municipalities (as the governmental coordinator of all municipalities of Hungary). On the other hand, HUMoI supervises the General Directorates for both Water Management and Disaster Management, as well as their subordinate national organisations.

HUMoI gained experience in project coordination through LIFE projects MICACC and LOGOS4WATERS. It participated as Lead Partner in other EU-funded projects as well: OPs under the Structural and Cohesion Funds and projects funded by other EC instruments. This comprehensive, interlinked portfolio and the extensive project management experience make HuMoI a competent and experienced Lead Partner.

The implementation of SAFETY4TMF is secured by a distributed coordination approach, where all project specific objectives and related activities are assigned to capable coordinators from within the partnership, ensuring professional, coordinated and comprehensive implementation of activities at all project locations. Besides the overall coordination and communication role of HUMoI, SO1 is

coordinated by UNIBB, BUDFIRE coordinates SO2, while SO3 is coordinated by HUMoI. Further partners are involved in the coordination of activities (see the C.4 for details).

Each partner involved have a significant role in the project, with implementation and coordination responsibilities carefully assigned to be in line with institutional capabilities:

# All partners are involved in horizontal activities of management and communication. Partners representing the same country form closely cooperating country clusters, to ease the transnational coordination of the partnership of 17 PPs.

# In SO1, higher education and research organisations play primary role in assessing and analysing TMF-research, while all partners contribute with country-specific knowledge and share insights during the 1st and 2nd transnational workshop.

# In SO2, all partners share proportional workload according to their competences, while ASPs contribute to the overview of national and transnational capacity building programs. All partners take part in the enhancement of national capacity building programs, in the 3rd transnational workshop (combined with final conference) and they all implement targeted online theoretical and offline practical trainings based on locally adapted curricula.

# SO3 is of great importance in SAFETY4TMF. Partners are implementing various pilot activities (based on their preferences), grouped around (1) advanced modelling of TMF related risks; (2) improving monitoring of tailing management facilities; and (3) improved coordination and preparedness procedures concerning TMF safety in the DRB. They also attend transnational peer-review visits, contribute to case study analyses, and join the final conference.

# Transnational workshops and the final conference are foreseen in Ljubljana, Cluj-Napoca and Budapest.

## C.4 Project work plan

Number	Specific objective title
1	Mapping and improvement TMF-related knowledge, cooperation ecosystems, policies and procedures
2	Enhance transnational TMF-related safety improvement and disaster management capacities
3	Testing enhanced processes/procedures to improve safety for TMFs and share results within the DRB

## Specific objective 1

### Specific objective title

Mapping and improvement TMF-related knowledge, cooperation ecosystems, policies and procedures

### Objectives

Your objectives should be:

- realistic and achievable by the end of the project;
- specific (who needs project outputs delivered in this specific objective, and in which territory);
- measurable – indicate the change you are aiming for.

Define one project specific objective that will be achieved when all related activities are implemented and outputs delivered.

Provide TMF-related DRB stakeholders with a deep understanding of state-of-the-art knowledge and experience about TMFs, the status of TMF safety in the DRB, explore cooperation ecosystems and recommend coordinated and adapted transnational actions

Think about the communication objective that will contribute to the achievement of the specific objective. Communication objectives aim at changes in a target audience's behaviour, knowledge or belief.

The communication objective of SO1 is to uncover the actual safety status of TMFs in the DRB for multi-level TMF-related stakeholders and to facilitate an open discussion about the ways of improving coordinated actions supporting TMF safety including both policy improvements and practical optimisation, communication and coordination efforts. SO1 targets local, regional and national authorities, river basin organizations, academic actors, as well as sectoral agencies and interest groups.

### Activities

Activity 1.1	
<b>Title</b>	Mapping cooperation ecosystems of TMF related disaster management and risk reduction activities in SAFETY4TMF countries
<b>Start period</b>	Period 1, 1 - 6
<b>End period</b>	Period 5, 25 - 30
<b>Description</b>	The first activity of the project (coordinated by OSU) aims at assessing and mapping the TMF related cooperation ecosystem within the involved DR project countries and identifying gaps in the cooperation at national and transnational level from

<p><b>Activity 1.1</b></p>	<p>various aspects.</p> <p>The mapping covers the following pillars:</p> <p>1) Policy research and analysis of multi-level national and macro-regional legislation, strategies and action plans in the DRB, with an outlook to further international examples; Standard Operational Procedures (SOPs) for emergency response will be examined including experience, conclusions coming from TMF-accidents, practical application of SOPs.</p> <p>2) Stakeholder mapping and analysis of stakeholders of TMF safety (e.g. TMF operation, authorities, disaster management, action actors etc) and to uncover the type of connection, interdependency among actors at local, regional, national and transnational level. The pillar results in a visualized stakeholder map including responsibility /communication flow in case of disaster - throughout the whole disaster management cycle - preparedness, early warning and early action, response and recovery/mitigation activities. Stakeholder roundtables will also be set up in each PP country based on the mapping.</p> <p>The 1st transnational partner workshop kicks off the series of transnational learning events with the aim to identify gaps and areas to focus at improving the safety of TMFs.</p> <p>The activity will result in the elaboration of the comprehensive, multi-level policy recommendations on relevant policies, strategies and actions to reduce accident risk. The draft version will be elaborated following the 1st transnational partner workshop and it will be finalized at the end of the project in order to enrich and verify it with the SAFETY4TMF project's outcomes. It will also feed into O.1.1. (White Paper and Action Plan).</p> <p>The policy recommendations will serve as a sound basis for the ICPDR to guide Danube countries towards a harmonized TMF management in the DRB. It will also provide valuable inputs to the Joint Program of Measures of the next Danube River Basin Management Plan.</p> <p>Cost of the activity: 181.793,39 EUR Ext. exp. cost for workshops in each PP country and the first transnational workshop: 25.015 EUR</p>
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<b>Activity 1.1</b>			
<b>Partner(s) involved</b>		HUMoI, BGVOL, SPFIRE, OSU, MTDWD, BUDFIRE, CSONG, MDMoI, UNIBB, HARG, UNILJUB, VIACARP, RSMoE, VARES, ROMoE, SMO, ZAG	
<b>Deliverables 1.1</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
D.1.1.1	Policy and gap analysis report for TMF safety in the DRB	A report assessing all the relevant, TMF related multi-level national and macro-regional legislations, strategies, action plans, and the previous experience with SOPs for emergency responders identifying the gaps and defining areas of improvement in TMF safety at national/transnational level.	Period 1, 1 - 6
D.1.1.2	Maps of stakeholder ecosystems	Cooperation map of local/regional/national/transnational stakeholders and the specific stakeholder maps for the selected pilot case studies.	Period 1, 1 - 6
D.1.1.3	Stakeholder roundtables	At least 2 stakeholder roundtables are organized in each partner country in order to support the A1.1 activities for mapping policies, stakeholder ecosystem and identifying gaps for improvement, as well as learning and discussing the conclusions of the capacity building and pilot activities in SO3.	Period 5, 25 - 30
D.1.1.4	1st transnational partner workshop	The 1st transnational partner workshop kicks off the series of transnational learning events with the aim to identify gaps and areas to be improved to increase the safety of TMFs at various authority levels including the DR-wide cooperation.	Period 2, 7 - 12
D.1.1.5	Multi-level policy recommendations	Multi-level national and macro-regional policy recommendation concerning the participating DR countries and the Region. The final version will be available in P2.	Period 2, 7 - 12

<b>Activity 1.2</b>	
<b>Title</b>	Improvement of TMF-related knowledge in the Danube River Basin
<b>Start period</b>	Period 1, 1 - 6
<b>End period</b>	Period 3, 13 - 18

**Activity 1.2****Description**

The main goal of A.1.2. (led by UNIBB) is to improve the TMF-related knowledge in the DR. The activity builds partially on the Danube TMF project and generates new knowledge.

#The activity starts with the classification of TMFs /dams. This entails a comprehensive overview on the DRB TMFs, methods for categorization (according to engineering & regulatory aspects) of TMFs and harmonizes these methods to validate these for all DRB countries. (resp.:OSU)

#The incomplete inventory for TMFs in the DRB will be updated by mapping the regional TMFs by means of mixed method of desktop research and remote-sensing data refined by PP inputs in order to get complete overview of DR countries (resp.: UNIBB);

#PPs will improve the prioritisation of high-risk TMFs by enhancing the Tailings Risk Index methodology, which is a tool for this act. It will better combine hazard and risk factors as well as considering exposure of the population and environment to TMF accidents (resp.: UNIBB);

#Relying on the TMF inventory and updated Tailings Risk Index, a visual transboundary risk map is developed for the DRB prioritising national and cross-border risk hot-spots (resp.:UNIBB);

#Overview of the SoA monitoring methodologies for TMFs/dams is carried out. This supports further activities such as pilots. A monitoring concept is prepared for TMFs, to be adapted and tested in pilot actions.(resp.: UNILJUB);

#Overview of TMF risk related modelling methodologies, in order to better assess, adapt TMF /dam related accident risks for extreme scenarios e. g.higher probability of extreme precipitation events due to climate change. The identified and proposed modelling methodologies for the DR will be adapted and tested in pilot actions. The applied enhanced modelling will enable more precise spatial planning of the TMF regions, thereby improving safety of local citizens. (resp.:OSU);

#The Danube TMF project developed the Checklist methodology to evaluate TMF safety conditions and recommended measures for their improvement. This will be further elaborated and fine-tuned based on the last few years' experience of DR countries. The methodology will be tested at specific, selected pilot sites. (resp.: UNIBB);

#Collection of good practices of preparedness and reaction cooperation and communication actions

<b>Activity 1.2</b>	<p>esp. of local public authorities, municipalities, establishing knowledge base for efficient communication. (resp. OSU)</p> <p>#The 2nd transnational workshop (RO) focuses on findings of the baseline TMF research and the inventory database providing a common understanding of the PPs of the next steps of the project.</p> <p>#The updated DRB TMF inventory and the enhanced Tailings Risk Index will be made available to the ICPDR so that these upgraded tools can serve the elaboration of the next DRB Management Plan.</p> <p>#The knowledge acquired in A.1.2. as well as the enhanced tools and methodologies will feed into O. 1.1.</p> <p>Cost of the activity: 238.247,41 EUR Ext.exp: 34.500 EUR</p>
<b>Partner(s) involved</b>	HUMoI, BGVOL, SPFIRE, OSU, MTDWD, BUDFIRE, CSONG, MDMoI, UNIBB, HARG, UNILJUB, VIACARP, RSMoE, VARES, ROMoE, SMO, ZAG

<b>Deliverables 1.2</b>			
Running number	Deliverable title	Description	Delivery period
D.1.2.1	Baseline study for TMFs	The baseline study includes the scientific fundament of the project, including TMF classification, the enhanced Tailings Risk Index, review of the state of the art monitoring and modelling methodologies and pilot concepts.	Period 2 , 7 - 12
D.1.2.2	Updated TMF inventory and transboundary risk map	A comprehensive inventory for the DRB TMFs will be elaborated as well as the transboundary risk map prioritising national and cross-border risk hot-spots with visuals for better understanding.	Period 2 , 7 - 12
D.1.2.3	Summary of good practices of cooperation	Collection of good practices of preparedness and reaction cooperation and communication actions esp. of local public authorities, municipalities, including identified main principles and content for efficient disaster management communication.	Period 2 , 7 - 12
D.1.2.4	Report on the	Summary report on the improved checklist methodology and its application on TMFs in the DRB.	Period 3 , 13 - 18

<b>Deliverables 1.2</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
	improved checklist methodology		
D.1.2.5	2nd transnational partner workshop	2nd transnational partner workshop: discussing latest findings of comprehensive background research on TMFs	Period 3 , 13 - 18

### Outputs

<b>Output 1.1</b>	
<b>Output Title</b>	White Paper and the related joint action plan for coordination and policy measures in the Danube River Basin countries
<b>Programme Output Indicator</b>	2.2.4: Strategies and action plans jointly developed
<b>Measurement Unit</b>	strategy/action plan
<b>Target Value</b>	1,00
<b>Delivery period</b>	Period 5, 25 - 30
<b>Output Description</b>	Building on better and mutual understanding of the status quo of TMF safety in the DRB, policy-owner and policy-maker partners jointly discuss and elaborate a white paper and corresponding joint action plan including coordinated transnational activities for the improvement of TMF safety-related policy measures, to be implemented within the SAFETY4TMF project lifetime and beyond such as providing inputs for the next Danube River Basin Management Plan to be developed by ICPDR. Draft: P3,final: P5
<b>Output 1.2</b>	
<b>Output Title</b>	Project partners and associated strategic partners cooperating formally across borders
<b>Programme Output Indicator</b>	2.2.1: Organisations cooperating across borders
<b>Measurement Unit</b>	organisations
<b>Target Value</b>	28,00

<b>Output 1.2</b>	
<b>Delivery period</b>	Period 1, 1 - 6
<b>Output Description</b>	SSAFETY4TMF has a geographically and competence-wise balanced, extensive partnership comprising of 17 partners and 11 ASPs coming from 12 Danube Region countries. The specifically selected partners represent all aspects of TMF safety and knowledge. Based on a formal partnership to be established in the 2nd stage application process, they develop and implement the project jointly, sharing financial and human resources to reach the jointly set overall and specific objectives of SAFETY4TMF.

**Investments**

## Specific objective 2

### Specific objective title

Enhance transnational TMF-related safety improvement and disaster management capacities

### Objectives

Your objectives should be:

- realistic and achievable by the end of the project;
- specific (who needs project outputs delivered in this specific objective, and in which territory);
- measurable – indicate the change you are aiming for.

Define one project specific objective that will be achieved when all related activities are implemented and outputs delivered.

S02 aims at improved capacities of TMF-related stakeholders via updating existing curricula and developing and implementing new targeted trainings, resulting in well-prepared stakeholders being aware of their duties in safety and emergency procedures

Think about the communication objective that will contribute to the achievement of the specific objective. Communication objectives aim at changes in a target audience's behaviour, knowledge or belief.

S02 has a wide target audience as capacity building and awareness raising activities go beyond the actual partnership. Its communication objective aims at engaging and involving relevant non-partner actors of participating countries, as well as members of key stakeholder groups into S02 activities, such as ministries, sectoral agencies, local and regional municipalities, mayors, volunteers, NGOs, citizens, local/higher level policy-makers, etc., to make them well-prepared for safety measures and emergency situations.

Targeted communication materials will be elaborated and engagement events (such as stakeholder roundtables, workshops) will be organized to raise awareness and activate stakeholders to participate in the capacity building in each country.

### Activities

Activity 2.1	
<b>Title</b>	Review of existing national and transnational education curricula and methods
<b>Start period</b>	Period 1, 1 - 6
<b>End period</b>	Period 1, 1 - 6
<b>Description</b>	A.2.1(coordinated by UNILJUB) carries out a review of existing national and transnational education curricula and methods (coord.: UNILJUB):

<p><b>Activity 2.1</b></p>	<p># The activity starts with a comparative analysis and summary of education programmes and procedures for TMF-related risk reduction, disaster management themes, including locally applied curricula and theoretical/practical training methods in the SAFETY4TMF countries.</p> <p># Cross-border and transnational capacity building programs (e.g. UNECE) for TMF-related prevention, risk reduction and disaster management activities in DRB, in other EU macro-regions, and outside the EU will undergo a review.</p> <p># A training concept is elaborated (based on the analysis in D.2.1.1) for each PP country to harmonize DRB training schemes and adapt to the countries' needs.</p> <p>This concept helps the appropriate preparation, update and implementation of the Standard Operational Procedures (SOPs) or equivalent documents on emergency situations for responders in the form of a Handbook. It also supports the concerted complex practice in the frame of the pilot activities.</p> <p>The training concept includes theoretical and practical elements, on-site trainings for a 3-level training process.</p> <p>Three levels of responders are targeted in A.2.1. actions:</p> <ol style="list-style-type: none"> <li>1) strategic level: policy organizations, decision makers;</li> <li>2) tactical level: coordinators, expert-level advisors, operations coordination, local and regional level municipalities;</li> <li>3) operational level: first responders, operational staff of local and regional municipalities, experts on the ground.</li> </ol> <p>The training of the trainers approach ensures the sustainability of the updated capacity building curricula. Professional of the field will be trained, supported by training materials, tools, methodologies and instructions during the ToT process to pass the knowledge to participants of trainings in each participating country.</p>
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<b>Activity 2.1</b>	<p>The review process and the training concept lead to the creation of guidelines/model for the development of comprehensive training programs for all levels of intervention (national, local/regional, transnat.) in SAFETY4TMF countries, supporting the activities of A.2.2-3.</p> <p>The review and the guidelines in 2.1. will be crucial inputs for O2.2. (Action Plan), which aims to reform the disaster management education system in the whole Danube Region. UNILJUB will be responsible for channeling these learnings to O2.2.</p> <p>COST of the activity: 103.829,84 EUR including ext. expertise: 11.000 EUR</p>
<b>Partner(s) involved</b>	HUMoI, BGVOL, SPFIRE, OSU, MTDWD, BUDFIRE, CSONG, MDMoI, UNIBB, HARG, UNILJUB, VIACARP, RSMoE, VARES, ROMoE, SMO, ZAG

<b>Deliverables 2.1</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
D.2.1.1	Comparative analysis and summary of education programs	Comparative analysis and summary of national and cross-border/transnational (UNECE) education programs and procedures for TMF-related disaster management, including local level capacity building programs in participating countries.	Period 1, 1 - 6
D.2.1.2	Training concept for SAFETY4TMF countries	Under the coordination of the activity leader BUDFIRE, partners elaborate training concepts in P1 for each country, including the complex trainings in pilot Type 3. The training concepts will be updated following the pilot activities in P5.	Period 5, 25 - 30
D.2.1.3	Guidelines for enhancing capacity building programmes	Elaboration of guidelines to upgrade or develop comprehensive national (including local/regional levels where relevant) and transnational capacity building programs in SAFETY4TMF countries	Period 1, 1 - 6
D.2.1.4	Handbook for the elaboration /improvement	Elaboration of a concise handbook for the creation /adjustments of SOPs for responders, incorporating the state-of-the-art experience and knowledge in this area.	Period 1, 1 - 6

<b>Deliverables 2.1</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
	of SOPs		

<b>Activity 2.2</b>	
<b>Title</b>	Improving capacity building curricula for disaster management
<b>Start period</b>	Period 2, 7 - 12
<b>End period</b>	Period 3, 13 - 18
<b>Description</b>	<p>A.2.2 (coordinated by UNIBB) focuses on improving capacity building curricula for disaster management (coordinator: UNIBB):</p> <p># The activity begins with the application of the guidelines/model for the development of comprehensive training programs for all levels of intervention (national, local/regional, transnat.) (A. 2.1) in line with the training concept (based on the analysis in D.2.1.1) for the enhancement of national capacity building programmes in the SAFETY4TMF countries. In each PP country partner(s) with their expertise with the help of stakeholders work on the enhancement of the curriculum, with the guidance of academic partners.</p> <p>The improved capacity building curricula are targeted at three levels with various methods of knowledge transfer:</p> <ol style="list-style-type: none"> <li>1) strategic level: policy organizations, decision-makers;</li> <li>2) tactical level: coordinators, expert-level advisors, operations coordination, local and regional level municipalities;</li> <li>3) operational level: first responders, operational staff of local and regional municipalities, experts on the ground</li> </ol> <p>The most effective educational methods, tools will be identified and developed adapting to the needs of the three levels, taking into account the members of the stakeholder ecosystem in each PP country. The</p>

<b>Activity 2.2</b>	
	<p>online and offline training events (either classroom or on-site workshops in risk-affected project locations) will be adapted to these target groups. The training materials will contain instructions and tools for the trainers to ensure effective knowledge transfer.</p> <p>This approach ensures the the sustainability of the updated capacity building curricula which includes theoretical and practical elements and on-site trainings.</p> <p>The planned training activities aim for better preparedness, resilience and cooperation concerning TMF safety and risk management.</p> <p>The pathway to improving education and training curricula in each PP country will serve as an important contribution to the harmonization of disaster management education systems at the Danube Region level, as in O.2.2 a comprehensive action plan covering the entire DR will be prepared.</p> <p># Key elements of TMF related disaster management are the local procedures for preparedness, early warning and early actions are the Standard Operating Procedures (SOPs) for responders in SAFETY4TMF regions. The SOPs or equivalent procedures for response will be updated /developed jointly in the project countries that participate pilot type 3 based on the assessment in A.1.1 and in accordance with the training concept and materials, enriched by the project experience from the pilots in SO3/P5.</p> <p>Cost of the activity: 176.589,18 EUR Ext. expertise for curriculum development: 12.000 EUR</p>
<b>Partner(s) involved</b>	HUMoI, BGVOL, SPFIRE, OSU, MTDWD, BUDFIRE, CSONG, MDMoI, UNIBB, HARG, UNILJUB, VIACARP, RSMoE, VARES, ROMoE, SMO, ZAG

<b>Deliverables 2.2</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
D.2.2.1	Updated national	Improved national capacity building programme training	Period 2

<b>Deliverables 2.2</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
	capacity building curricula	materials for participants and for trainers in the SAFETY4TMF countries.	, 7 - 12
D.2.2.2	Updated procedures for preparedness, early warning and early actions	Updated local procedures for preparedness, early warning and early actions, such as the Standard Operating Procedures (SOPs) for responders, to be finalized following the complex trainings in SO3 in P5.	Period 5 , 25 - 30

<b>Activity 2.3</b>	
<b>Title</b>	Capacity building of actors of the TMF safety related cooperation ecosystems in SAFETY4TMF countries
<b>Start period</b>	Period 3, 13 - 18
<b>End period</b>	Period 4, 19 - 24
<b>Description</b>	<p>A.2.3. (coord. by BUDFIRE) will put emphasis on capacity building of the actors of the TMF safety related cooperation ecosystem in SAFETY4TMF countries.</p> <p># Capacity building activities are implemented based on the updated curriculum in various formats in the SAFETY4TMF countries (SI, HR, BA, RS, BG, CZ, SK, HU, RO, MD).</p> <p>The activity starts with the development of ToT training material and the implementation of the ToT approach. Trainers from the SAFETY4TMF countries participate in at least one ToT event and with the knowledge acquired they start organising the capacity building events for the three levels based on the training concept (3 trainings in each county for the strategic, technical and operational level). These trainings are executed by an integrated train the trainers element, by which the experts/trainers of BUDFIRE will prepare and support key personnel from partner organisations to be future trainers ensuring sustainability of the training process.</p> <p>The targeted and updated capacity building curriculum is converted (A.2.4) into online e-learning courses for the target group members of the</p>

<b>Activity 2.3</b>	<p>strategic, tactical and operational level. The online e-learning training course for the target group members precedes the offline theoretical and practical trainings.</p> <p>The online trainings are followed by the offline events organised at multiple locations within each PP country (12 events in HU and RO, 6 each in BG, HR, CZ, MD, SI, SK, BA and RS) to better reach target group members of these countries. Based on the training concept and the revised/developed capacity building curricula and SOPs, the offline events will be tailored to the needs of the target group members of each country such as interactive classroom sessions, practical small-scale, on-site trainings in risk-affected project locations.</p> <p>The capacity building events provide a mutual and concerted understanding and cooperation of the ecosystem of stakeholders (identified in A1.1) helping them to face the TMF-related accident risks with their highest possible preparedness, while also preparing them for the complex trainings planned as part of the pilots.</p> <p>COST of the activity: 440.355,65 EUR including ext. exp. for ToT, training organisation: 169.300 EUR</p>
<b>Partner(s) involved</b>	HUMoI, BGVOL, SPFIRE, OSU, MTDWD, BUDFIRE, CSONG, MDMoI, UNIBB, HARG, UNILJUB, VIACARP, RSMoE, VARES, ROMoE, SMO, ZAG

<b>Deliverables 2.3</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
D.2.3.1	Training of the trainers	Development of ToT material, and ToT events organised to train the trainers in the DR countries and support further training activities.	Period 3 , 13 - 18
D.2.3.2	E-learning training	The target group members sign up and complete the e-learning courses (developed in A.2.4) to ensure common understanding and baseline knowledge of the topic for the participants. 3 trainings will be held in each PP country for the strategic, technical and operational level.	Period 4 , 19 - 24

<b>Deliverables 2.3</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
D.2.3.3	Practical, on-site trainings	On-site theoretical and practical exercises in risk-affected project locations organised according to revised curriculum and locally enhanced Standard Operation Procedures (SOPs). At least 2 trainings in each PP country at multiple locations.	Period 4 , 19 - 24
D.2.3.4	Training report	Report describing the process of the review of training curricula, the elaboration of guidelines to improve and to organise trainings online and offline, and the results of the realized trainings.	Period 4 , 19 - 24

<b>Activity 2.4</b>	
<b>Title</b>	Elaborating and sharing online training tools and dissemination materials on national languages
<b>Start period</b>	Period 2, 7 - 12
<b>End period</b>	Period 5, 25 - 30
<b>Description</b>	<p>A 2.4 (coordinated by BGVOL) aims at improving sustainability of the project knowledge and making the available knowledge widely accessible for the stakeholders in the form of online training tools/e-learning. Moreover, stakeholders will be further engaged with targeted communication materials in national languages.(coordinator: BGVOL)</p> <p>This activity encompasses the development of an e-learning concept (D.2.4.1), building on SO1 and SO 2 results. Several modules will be developed to train TMF disaster responders and other selected target groups and will be available on the new e-learning platform on all project languages. Awareness raising activities (D.2.4.2) are also integral part of this activity, including the organisation of at least 2 events/PP country, where citizens, stakeholders and other interested parties of risk-affected locations /regions will be informed on project actions and training materials will also be introduced.</p> <p>Targeted materials will be produced increasing the efficiency of the capacity building process, converting major, key messages for specific target groups. These will be utilized in targeted awareness raising and specific engagement events (at least 2</p>

<b>Activity 2.4</b>	
	<p>events/PP country) organized in A.2.4 e.g. to improve 'risk and collaboration - communication process' among risk-affected citizens and other selected local/regional stakeholders maintaining attractive and direct link for the training activities.</p> <p>COST of the activity: 297.709,78 EUR including ext. exp. for e-learning + cost of awareness raising: 123.900 EUR</p>
<b>Partner(s) involved</b>	HUMoI, BGVOL, SPFIRE, OSU, MTDWD, BUDFIRE, CSONG, MDMoI, UNIBB, HARG, UNILJUB, VIACARP, RSMoE, VARES, ROMoE, SMO, ZAG

<b>Deliverables 2.4</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
D.2.4.1	E-learning platform including modules for key target groups	Targeted e-learning modules developed for key target groups (e.g. municipalities, local and higher level policymakers, citizens, volunteers, NGOs, etc.) on TMF risk and disaster management, to be shared via a knowledge sharing platform	Period 3 , 13 - 18
D.2.4.2	Awareness raising activities	Targeted communication materials and engagement events for risk-affected citizens and related local/regional stakeholders	Period 5 , 25 - 30

## Outputs

<b>Output 2.1</b>	
<b>Output Title</b>	Standard Operating Procedures (SOPs) for responders in project regions
<b>Programme Output Indicator</b>	2.2.3: Jointly developed solutions
<b>Measurement Unit</b>	solutions
<b>Target Value</b>	1,00
<b>Delivery period</b>	Period 5, 25 - 30
<b>Output Description</b>	Standard Operating Procedures define the operation and management processes of TMFs in case of emergency situations as well as the effective

<b>Output 2.1</b>	
	involvement and coordination of off-site responders in these situations. These SOPs will be updated /developed to incorporate the latest knowledge and applicable methods to maximise their effectiveness in reducing risks and hazards. Based on project generated knowledge and experience, at least 4 SOPs will be updated/developed in the DRB.
<b>Output 2.2</b>	
<b>Output Title</b>	Action Plan for TMF-related Disaster Management Education in DRB countries
<b>Programme Output Indicator</b>	2.2.4: Strategies and action plans jointly developed
<b>Measurement Unit</b>	strategy/action plan
<b>Target Value</b>	1,00
<b>Delivery period</b>	Period 2, 7 - 12
<b>Output Description</b>	The aim of the comprehensive action plan (elaborated by BUDFIRE in coop.with all PPs) is to outline (as a practical roadmap) the specific steps, activities, and measures to be taken to improve and harmonize TMF-related disaster management education in the PP countries and the DRB. It specifies the timeline, resource allocation, and responsible actors for each action, ensuring that the planned improvements are effectively implemented.

## Investments

## Specific objective 3

### Specific objective title

Testing enhanced processes/procedures to improve safety for TMFs and share results within the DRB

### Objectives

Your objectives should be:

- realistic and achievable by the end of the project;
- specific (who needs project outputs delivered in this specific objective, and in which territory);
- measurable – indicate the change you are aiming for.

Define one project specific objective that will be achieved when all related activities are implemented and outputs delivered.

S03 aims to test innovative solutions (improved modelling of TMF-related risks; , improved monitoring methodology of TMFs; improved coordination and preparedness procedures for early warning systems and disaster management) for TMF safety, disaster prevention, preparedness and safety management in multi-level governance settings, and the process, as well as lessons learnt will be communicated towards the relevant stakeholders.

Think about the communication objective that will contribute to the achievement of the specific objective. Communication objectives aim at changes in a target audience's behaviour, knowledge or belief.

S03 communication activities will enable experts and policy-makers of the target audience to have first-hand experience and lessons learnt about novel solutions for TMF safety improvement and to replicate innovative elements or whole solution via incorporating them into their own policies and practice, taking advantage of joint analysis of pilots, peer-review visits, a targeted transnational workshop and the final conference. The members of the EUSDR PA5 DM-WG members are planned to be involved within the framework of an observer programme.

### Activities

Activity 3.1	
<b>Title</b>	Pilot type 1: Improving TMF safety by applying advanced risk modelling and enhancing spatial plans
<b>Start period</b>	Period 3, 13 - 18
<b>End period</b>	Period 5, 25 - 30
<b>Description</b>	A.3.1 (led by UNIBB) will cover pilot activities of SAFETY4TMF partners aiming to test innovative solutions improving TMF safety by applying

<b>Activity 3.1</b>	
	<p>advanced modelling of TMF-related risks and thereby improving spatial planning.</p> <p>A.3.1. builds on SO1 activities in which a proposed improved modelling methodology is selected. It will be adapted to the selected pilot TMFs in SK, RO and HU. (The Romanian pilot activity will focus on the Valea Sesii site (Alba County), The Slovakian will be carried out in Nižná Slaná and Gočovo (Košice region), while the Hungarian pilot case will focus at the site along the Tisza river at Algyő (Csongrád-Csanád county)). Parallel to this, a baseline assessment for data collection occurs, connected to the pilot TMFs, that incorporates the application of revised checklist methodology (“TMF safety audit” with offline and onsite activities improved in SO1) and obtained data from the data collection e.g. hydromet data, assessment of the tailing materials stored etc. Furthermore, detailed relief mapping (by using drones, remote sensing e.g. satellite, LIDAR) will be carried out at the pilot TMFs in order to have proper resolution for the flow-model. Mathematical modelling will prioritise the most hazardous scenarios with the highest probability of risks to occur, and these scenarios will feed into the flow-model simulation. The simulated scenarios will be analysed and conclusions will be drawn in the form of recommendations. The more precise calculation makes it possible to revise and improve spatial plans connected to the pilot TMF at local and regional level, depending on the pilot area’s spatial planning system. Further lessons learnt from the modelling will feed into recommendations for safety improvement.</p> <p>Cost of activity: 152.662,16 EUR External expertise (planning, modelling), incl. equipment (drone, monitoring equipment) : 81.200 EUR</p>
<b>Partner(s) involved</b>	HUMoI, OSU, CSONG, UNIBB, VIACARP, RSMoE, ROMoE

<b>Deliverables 3.1</b>			
Running number	Deliverable title	Description	Delivery period
D.3.1.1	Baseline	Baseline analysis of TMF pilot cases resulting from the	Period 3

<b>Deliverables 3.1</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
	analysis for TMF cases	checklist methodology, data collection and mapping.	, 13 - 18
D.3.1.2	Scenario and flow-model analysis	Analysis of the accident scenarios based on mathematical modelling in terms of various aspects (sensitivity, uncertainty, etc.) and the flow-model simulation itself. It will result in recommendations concerning the use of the modelling.	Period 4 , 19 - 24
D.3.1.3	Recommendation for the improvement of spatial plans	Resulting from the improved modelling, lessons learnt will be translated into tangible detailed recommendations by the SAFETY4TMF partners on how to improve the official spatial plans in the areas of the concerned TMFs.	Period 5 , 25 - 30

<b>Activity 3.2</b>	
<b>Title</b>	Pilot type 2: Improving monitoring of tailing management facilities
<b>Start period</b>	Period 2, 7 - 12
<b>End period</b>	Period 4, 19 - 24
<b>Description</b>	<p>The A.3.2 (coordinated by ZAG) will cover pilot activities of SAFETY4TMF partners aiming to test innovative solutions enhancing TMF and dam safety by applying improved monitoring methods.</p> <p>The activity is building on SO1 activities in which a proposed improved monitoring methodology is selected resulting from the review of the state-of-the-art methods.</p> <p>A baseline assessment will be carried out based on data collection and the information obtained from the application of the checklist methodology for the selected pilot TMFs. Several measurements will be carried out by PPs staff as part of the baseline assessment and data collection.</p> <p>The baseline assessment serves as a fundament for selecting and adapting the appropriate monitoring methodology to the selected TMF site. Once the methodology is identified and the situation is</p>

<b>Activity 3.2</b>	
	<p>mapped locally, the monitoring plan will be updated. The pilot monitoring activities focus on the partial implementation of the updated monitoring plan highlighting a few aspects (e.g. dam stability, environmental monitoring) in a resource-efficient way. Following a baseline assessment and improved monitoring plan and realized monitoring activities, drawing conclusions from the experience at the pilot sites, recommendations will be formulated to the DRB TMFs.</p> <p>The pilot activity will take place in SI and in RO. (Žirovski Vrh in Todraz/SI and Valea Sesii/RO).</p> <p>The cost of the pilot activity: 195.986,3 EUR External expertise costs, including equipment (probes, sensors for automatic measurements): 43.000 EUR</p>
<b>Partner(s) involved</b>	HUMoI, UNIBB, HARG, UNILJUB, VIACARP, ROMoE, ZAG

<b>Deliverables 3.2</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
D.3.2.1	Baseline analysis for TMF cases	Baseline analysis of TMF pilot cases resulting from the checklist methodology, data collection and mapping.	Period 3 , 13 - 18
D.3.2.2	Improved TMF monitoring plan	The monitoring plan is elaborated based on the adapted and applicable monitoring methodology and the result of the baseline analysis.	Period 3 , 13 - 18
D.3.2.3	Recommendations for TMF monitoring	Based on the baseline assessment and improved monitoring plan and the realized monitoring activities, drawing conclusions from the experience at the pilot sites, recommendations will be formulated to the DRB TMFs.	Period 5 , 25 - 30

<b>Activity 3.3</b>	
<b>Title</b>	Pilot type 3: Testing coordination and preparedness procedures concerning TMF safety in the DRB

<b>Activity 3.3</b>	
<b>Start period</b>	Period 3, 13 - 18
<b>End period</b>	Period 5, 25 - 30
<b>Description</b>	<p>The A.3.3 (led by HARG) will cover pilot activities of SAFETY4TMF partners aiming to test improved coordination and preparedness procedures concerning TMF safety in the DRB.</p> <p>The activity is building on SO1 and SO2 activities (such as improved checklist methodology, enhanced training curricula, revised SOPs, thematic concept of the complex pilot disaster management trainings).</p> <p>The activity starts with a baseline assessment of the information (e.g. checklist results) on selected TMFs and scenarios that are subject of the complex training. Act.3.3. includes 2 pilots at 2 different venues (please also see Point 3. for pilot site details). For both pilots a training plan will be elaborated in the form of training handbooks, by the guidance of the leadership of the activity leader and with the involvement of the PPs.</p> <p>Applying the thematic concept of the complex training elaborated in SO2 for the trainings in HU and RO, the training will consist of two sections.</p> <p>#1 Preparation phase for the complex training in the home countries (5 days) with early-warning and early action phase with cross-sectoral participation of different agencies and stakeholders in concerned PP countries as well as risk communication exercise in selected territory(ies) vulnerable to TMF accident e.g. CZ, RO, HU etc.</p> <p>#2 Joint transnational TMF disaster management exercise will be organized with the participation of multiple partners at two locations in RO and HU (Vlahita (Harghita County/RO and Szolnok/HU). The 3-day long complex event starts with a discussion-based exercise to improve coordination at tactical level and finishes with a field exercise with the involvement of operational level responders (50-100 participants/exercise, including local bodies and ASP as well).</p> <p>The evaluation and lessons learnt at both trainings will be concluded in a conference (1 day), and recommendations for the update of training plans and SOPs in 4 countries will be drawn up.</p> <p>These activities will be subject to a transnational</p>

<b>Activity 3.3</b>	
	<p>observer programme inviting and involving relevant policy stakeholders (also from outside the partner countries) and the Disaster Management Working Group members of the EUSDR Priority Area PA 5. These observers will follow Pilot #3 (Act.3.3.), with at least 15 observers per pilot location.</p> <p>Cost of activity: 389.743,35 EUR  External expertise (training organisation, rent of venue, hosting, etc.), including equipment (required for the disaster management exercise): 110.950 EUR</p>
<b>Partner(s) involved</b>	HUMoI, BGVOL, SPFIRE, MTDWD, BUDFIRE, CSONG, MDMoI, RSMoE, VARES, SMO

<b>Deliverables 3.3</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
D.3.3.1	Observer Programme	The Observer Programme's main goal is to support the exploitation, transferability process involving EUASDR PA5 DM-WG members to accompany the pilot activities, ensuring close interlinkage of policy & practice, to take the experience into the DM-WG and into their networks within their countries.	Period 5 , 25 - 30
D.3.3.2	Training plan and Exercise Handbook	The training plan provides a comprehensive overview of each pilot activity regarding content and organisation. It will be complemented by the Exercise Handbook, that is a briefing of detailed activities, instructions to organise the exercise. The training plan is revised after the pilots	Period 5 , 25 - 30
D.3.3.3	Evaluation conference and report	1-day conference will take place to summarize, evaluate and draw conclusions from both complex trainings. The results will be converted into an evaluation report format to maintain sustainability of the experience.	Period 5 , 25 - 30
D.3.3.4	Recommendations for updating training plans/SOPs	Recommendations (at least 4) will be developed based on both pilots with the involvement of pilot exercise participants, including necessary improvements revealed during the evaluation phase. Based on these, the training plans/SOPs may be modified/new trainings organised beyond the project lifetime.	Period 5 , 25 - 30

<b>Activity 3.4</b>	
<b>Title</b>	Capitalisation on pilot activities and project experience via transnational peer-reviews, case studies and final conference
<b>Start period</b>	Period 3, 13 - 18
<b>End period</b>	Period 5, 25 - 30
<b>Description</b>	<p>A.3.4. (coordinated by LP) touches upon the capitalisation on pilot activities and project experience via transnational peer-reviews, case studies and final conference (coordinator: HUMoI):</p> <p># The activity incorporates transnational peer-review visits in pilot regions exploring improved risk reduction and disaster management techniques, and providing feedback on improved efficiency supported by the pilots and ensuring mutually applicable solutions.</p> <p># A case study analysis is carried out for each tested pilot solution for the transferability of the results to other DRB locations.</p> <p># Finally, a 3rd transnational partner workshop &amp; final conference is organised summarizing the results of the joint efforts of SAFETY4TMF for target group members facing similar TMF-safety challenges in the DRB. The conference incorporates a partner workshop with joint discussion about effective ways of impactful exploitation of the project results and further engagement of target groups beyond the project.</p> <p>Cost of activity: 282.382,9 EUR, incl. ext. exp. cost for final conf. and 3rd TWSH; cost of hosting peer-review visits: 31.000 EUR</p>
<b>Partner(s) involved</b>	HUMoI, BGVOL, SPFIRE, OSU, MTDWD, BUDFIRE, CSONG, MDMoI, UNIBB, HARG, UNILJUB, VIACARP, RSMoE, VARES, ROMoE, SMO, ZAG

<b>Deliverables 3.4</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
D.3.4.1	Peer-review visits	7 peer-review visits (in SI,HU,RO) offer partners first hand experience to learn from another pilot. Furthermore, the visits provide opportunities for discussing the improvement of the pilot	Period 5 , 25 - 30

<b>Deliverables 3.4</b>			
<b>Running number</b>	<b>Deliverable title</b>	<b>Description</b>	<b>Delivery period</b>
		efficiency and to ensuring mutually applicable solutions for transferability.	
D.3.4.2	Pilot case study analysis	Case study analyses (7) of solutions tested by pilots for applicability in other SAFETY4TMF locations	Period 5, 25 - 30
D.3.4.3	Final conference and 3rd transnational partner workshop	3rd transnational partner workshop & Final conference organised, summarizing the results of the joint efforts of the SAFETY4TMF project, inviting professionals from the DRB region dealing with similar TMF safety challenges & Joint discussion on best ways to reach out to specific target groups.	Period 5, 25 - 30

## Outputs

<b>Output 3.1</b>	
<b>Output Title</b>	Implementing pilot actions on 3 fields, aiming to increase TMF safety in the DRB: TMF-related risk modelling; TMF monitoring; coordination and preparedness procedures for disaster management
<b>Programme Output Indicator</b>	2.2.2: Pilot actions developed jointly and implemented in projects
<b>Measurement Unit</b>	pilot actions
<b>Target Value</b>	7,00
<b>Delivery period</b>	Period 5, 25 - 30
<b>Output Description</b>	Project partners implement at least 6 pilot actions testing solutions in 3 preselected areas of TMF safety: 1) TMF-related risk modelling; 2) monitoring of TMFs; 3) coordination and preparedness procedures for early warning systems and disaster management. These are based on jointly developed concepts and implemented in a way to ensure transnational relevance and application experience under different conditions of the selected pilot locations within SAFETY4TMF countries.
<b>Output 3.2</b>	
<b>Output Title</b>	3 solutions validated via pilots: improved modelling

<b>Output 3.2</b>	
	of TMF-related risks; improved monitoring of TMFs and improved process for applying coordination and preparedness procedures concerning TMF safety
<b>Programme Output Indicator</b>	2.2.3: Jointly developed solutions
<b>Measurement Unit</b>	solutions
<b>Target Value</b>	3,00
<b>Delivery period</b>	Period 5, 25 - 30
<b>Output Description</b>	<p>3 types of solutions will be tested in 6 pilot actions, under different circumstances. The results of the pilots will be assessed to make the solutions transferable to other DR contexts, to react to the TMF-induced challenges.</p> <p>These solutions are:</p> <ol style="list-style-type: none"> <li>1) improved methodology for TMF risk modelling and enhancing spatial plans;</li> <li>2) Improved monitoring methodology of tailing management facilities;</li> <li>3) improved process for applying coordination and preparedness procedures concerning TMF safety.</li> </ol>

## Investments

## C.5 Project Results

What do you expect to change because of the activities you plan to implement and the outputs you plan to deliver? Please take a look at the programme result indicators and select those that you will contribute to.

Result 1	
<b>Programme result indicator</b>	2.2.2: Organisations with increased institutional capacity due to their participation in cooperation activities across the borders
<b>Measurement unit</b>	No. of organisations
<b>Baseline</b>	0,00
<b>Target value</b>	56,00
<b>Delivery period</b>	Period 5, 25 - 30
<b>Result description</b>	<p>SAFETY4TMF is designed in a way to involve all PPs in all activities, and to create various opportunities to link ASPs (and relevant stakeholders) to these activities, thereby increase the institutional capacity of these actors.</p> <p>Certain activities in each SO are dedicated to involving not only partners, but also ASPs and stakeholders:</p> <ul style="list-style-type: none"> <li># Transnational workshops, 3 times during the project</li> <li># Stakeholder roundtables are organized in each partner country (2 times/country) fostering collaboration, knowledge exchange, problem-solving, monitoring, and stakeholder engagement.</li> <li># ASPs/stakeholders will be invited to participate in the national and transnational capacity building activities such as online baseline workshops, onsite-practical trainings in risk affected locations, e-learning modules</li> <li># A transnational observer program linked to Pilot type 3</li> <li># Transnational peer-review visits and the final conference will provide opportunity to strengthen the capacities of key external stakeholders.</li> </ul>
Result 2	
<b>Programme result indicator</b>	2.2.3: Joint strategies and action plans taken up by organisations
<b>Measurement unit</b>	joint strategy/action plan

<b>Result 2</b>	
<b>Baseline</b>	0,00
<b>Target value</b>	2,00
<b>Delivery period</b>	Period 255, -
<b>Result description</b>	<p>The White Paper and a related joint action plan of TMF safety-related improvement of coordination and policy measures in DRB countries will provide inputs for the next DRB Management Plan to be developed by the ICPDR. The EUSDR Disaster Management WG will also use these documents for planning purposes.</p> <p>An action plan for harmonizing capacity building curricula regarding prevention, preparedness and response within DRB countries sets the roadmap to improve the safety in the region through capacity building actions designed to better react to the needs and to include SOA knowledge. One PP /country is to implement the AP, while on DBR-level the ICPDR, Sava Commission and EUSDR PA5 DWG are to utilise it.</p>
<b>Result 3</b>	
<b>Programme result indicator</b>	2.2.1: Solutions taken up or up-scaled by organisations
<b>Measurement unit</b>	solutions
<b>Baseline</b>	0,00
<b>Target value</b>	4,00
<b>Delivery period</b>	Period 255, -
<b>Result description</b>	<p>1) Improved modelling of TMF-related risks helps to revise &amp; improve spatial plans connected to the pilot TMF at local &amp; regional level. PP/ASP local/regional municipalities/authorities are foreseen to use novel modelling method for their planning processes.</p> <p>2) The improved monitoring methodology for TMFs will be used by TMF operators, relevant ministries, sectoral institutions, research institutions, expert companies.</p> <p>3) The improved coordination and preparedness procedures for early warning systems and disaster management can be used by: # Municipalities/local communities,</p>

Result 3	
	<p># First responders &amp; emergency services, # National/regional authorities.</p> <p>4) Standard Operating Procedures (SOP), defining the operation and management of TMFs to manage risks and hazards are updated to incorporate the latest knowledge and applicable methods to maximise ability to reduce risks and hazards. The updated SOPs will enter into force in case of at least 2 relevant authorities.</p>

## C.6 Project Time Plan

	Period 1	Period 2	Period 3	Period 4	Period 5	After End
<b>WP1 Mapping and improvement TMF-related know...</b>						
A1.1 Mapping cooperation ecosystems of T...	D1.1.1	D1.1.4				D1.1.3
	D1.1.2	D1.1.5				
A1.2 Improvement of TMF-related knowledg...			D1.2.1	D1.2.4		
			D1.2.2	D1.2.5		
			D1.2.3			
2.2.1	O1.2					
2.2.4					O1.1	
<b>WP2 Enhance transnational TMF-related safety...</b>						
A2.1 Review of existing national and tra...	D2.1.1				D2.1.2	
	D2.1.3					
	D2.1.4					
A2.2 Improving capacity building curricu...			D2.2.1			D2.2.2
A2.3 Capacity building of actors of the ...					D2.3.1	D2.3.2
					D2.3.3	
					D2.3.4	
A2.4 Elaborating and sharing online trai...			D2.4.1			D2.4.2
2.2.3					O2.1	
2.2.4			O2.2			
<b>WP3 Testing enhanced processes/procedures to...</b>						
A3.1 Pilot type 1: Improving TMF safety...			D3.1.1	D3.1.2	D3.1.3	
A3.2 Pilot type 2: Improving monitoring ...			D3.2.1			D3.2.3

				D3.2.2	
A3.3 Pilot type 3: Testing coordination ...				D3.3.1 D3.3.2 D3.3.3 D3.3.4	
A3.4 Capitalisation on pilot activities ...				D3.4.1 D3.4.2 D3.4.3	
2.2.2				O3.1	
2.2.3				O3.2	
<b>Result indicator</b>					
2.2.1					R3
2.2.2				R1	
2.2.3					R2

## C.7 Project management

In addition to the thematic work you will do in your project, you will need time and resources for coordination and internal communication. Please describe below how you plan to organise yourself to ensure the project work runs smoothly.

### C.7.1 How will you coordinate your project?

Who will be responsible for coordination? Will you have any other management structures (e.g., thematic groups, SO/activity managers)? How will the internal communication work?

LP (HUMol) will be responsible for general management and smooth implementation of the project. It will delegate an experienced Project Management Team (PMT) in charge, assisted by external experts. The LP will head the decision-making body of the project (SCOM), and will be aided by the continuous work of partner Project Teams (PTs). The LP will set up a robust framework for the management and general coordination of the project: a Project Management Handbook (PMH), including quality assurance and risk management guidelines, as well as internal communication and reporting guidelines. The LP will ensure transparency of coordination and communication with and among PPs. It will set up clear internal communication structures that are appropriately used by all. In the start-up phase of the project, PPs will set up Project Teams (PTs) for operational-level management. PT's work will be guided and overseen by the LP's PMT. SAFETY4TMF will be kicked-off with a joint meeting of PPs in Month 2 (CZ) to discuss and agree on internal procedures, roles and requirements ensuring smooth and timely project implementation, also introducing the PMH to PPs. An SCOM meeting will run in parallel.

The decision-making body in charge of strategic management will be the Steering Committee (SCOM), composed of the project managers of each PP (detailed rules on the functioning of the SCOM are described in the Rules of Procedures to be discussed at the Kick-off meeting). The SCOM's tasks will be to make decisions, adapt to challenges and mitigate risks throughout the project. Risk management will be the main responsibility of the LP and the SCOM, to be supported by the PTs if required. The LP will be assisted by external expertise in continuous risk management. There will be time dedicated in each SCOM meeting to discuss perceived risks and to agree on actions to address them. The SCOM will make sure that the project's overall objectives are pursued, and thematic, financial, and communication activities and outputs are carried out in good quality, respecting the Programme's requirements. SCOM meetings will be organised once every project period, online or offline, parallel to Transnational Partner Workshops. SCOM meeting minutes will be promptly recorded and shared with the JS if required.

With regard to administrative requirements, including financial and activity reporting responsibilities toward the JS, the LP will submit joint Progress Reports (including output factsheets and output quality report) and Applications for Reimbursement on a six months basis, according to the deadlines set in the SC, based on the timely input of PPs.

Internal communication frameworks will be set in the Project Management Handbook. Day-to-day communication will be organised by means of written correspondence and regular online PMT coordination meetings organised by the LP. Partners will meet in person (in hybrid format) in the form of Transnational Partner Workshops 3 times during the project (M2 in Czechia, together with the kick off; M13 in Romania; M28 in Hungary), and 3 times online to discuss project progress, tasks and responsibilities of the upcoming period, risks and deviations, and interventions if needed.

LP will keep regular contact with the Programme management (MA/JS), while all partners will communicate with their respective NCPs and controllers.

### **C.7.2 Which measures will you take to ensure quality in your project?**

Describe specific approaches and processes and responsible partners. If you plan to have any type of project evaluation, please describe its purpose and scope here.

At the beginning of the project, a Project Management Handbook will be prepared by the LP, including a dedicated chapter on commonly agreed and followed standards for quality assurance in the delivery of timely and high-quality partner contributions and outputs (strategies, solutions and pilot actions).

In-person online and offline transnational partner workshops will include a continuous assessment and evaluation of jointly created outputs. The quality of thematic deliverables will be ensured by continuous co-creation and co-evaluation processes central to the project's implementation approach.

Besides these quality control processes embedded in day-to-day operation, a quality assurance management structure will be set up in the first quarter of implementation, led by an independent quality assurance manager (QAM), external expert of the BUDFIRE (as responsible partner for quality assurance). The QAM will be supported by a team of experts, appointed by BUDFIRE and PPs at the kick off meeting. These experts will be independent from the implementation team.

The role of the quality management team will be the proofreading, analysis and review of project outputs (strategies, solutions and pilot actions). Their findings will feed into the Output Quality Report, for which the QAM will be responsible. An Output Quality Report will be submitted together with each PPR, in case there is an output delivered in the respective period.

The recommendations of the QAM and his/her team should be taken into account by the partnership, and the actions implemented based on the findings shall be included in the quality report of the specific output. The QAM is also responsible for the validation of outputs before their submission to the MA/JS.

Besides independent quality assurance, partners plan to continuously evaluate the effectiveness, efficiency impact and durability of the project outputs and results on project level. The evaluation will cover 1) project management and implementation, in terms of procedures, workflow and coordination, 2) project achievements in terms of objectives, outputs and results. Evaluating impact at the level of target groups will be considered towards the end of the project, however, taking into consideration the subject of the project and the kind of activities this impact might only be assessed and evaluated in the longer term.

Project evaluation will be the main responsibility of the LP, who will be aided by PTs and experts of PPs. The main fora for evaluation will be the Transnational Partner Workshops and the corresponding SCOM meetings, which will have a dedicated session for this purpose. Two project evaluation reports are foreseen to be produced by the LP, one towards the mid-term of the project, and a second containing the overall evaluation of the project. The latter will be presented at the final conference.

### **C.7.3 What will be the general approach you will follow to communicate about your project?**

Who will coordinate project communication and how will he/she ensure the involvement of all partners? How will the communication function contribute to transfer your project results? Please ensure that the mandatory communication requirements are met. Please note that all communication activities should be included in the different specific objectives, as an integral part of your project. There is no need to repeat this information here.

Ostrava University (supported by the LP) will be responsible for coordinating project communication. At project start, it will draw up a Communication Plan in which PP responsibilities will be clearly outlined. The Communication Plan will include specific communication and dissemination actions designed for each target group listed under C.2.4., ensuring that project results effectively reach these audiences, and may be used for capacity building, capitalisation, policy enhancement and strategic planning.

UNIOS will also head the Project Team responsible for communication, made up of each PP's communication responsables, ensuring PP contribution to communication. UNIOS will be responsible for feeding the project website provided by the Programme with up-to-date information on project activities, results and events. It will create and maintain at least one social media account, a newsletter, will design and disseminate publications, and will gather PP input. The project will pay specific attention to the management of social media accounts, as they provide a platform which is highly popular and able to reach a wide variety of audiences.

PPs will also continuously communicate about the project through their own channels, including their organisations' websites (where short description of the project will be placed), social media posts and local media outlets.

Within six months after the approval of the project each partner will place one poster (minimum size A3) with brief information about the project including the financial support from the EU, at a location visible (for the whole duration of the project) to the public.

Two major project events will also serve the purpose of raising awareness towards the project and its activities, and to disseminate its results. These will be the kick-off meeting in M2 (Czechia) and the final conference (M28, Hungary), where key stakeholders and policy representatives, and MA/JS will also be invited.

Communication activities and communication material, including project branding (provided by DRP), will be in line with programme requirements, following the Branding Guidelines. Project communication activities will be designed to reach project audiences through the most appropriate and effective communication channels.

All communications will acknowledge and promote the EU support received from the programme, using the logo, acronym and the reference to the Fund's support.

The LP and the PPs will ensure that all the outputs and results produced as a result of the project are in the public interest and publicly available. They will be accessible and available to the general public in a usable format.

The LP shall ensure the proper means of communication between the project and the Programme, including: a) participation, whenever requested, in LP trainings organised by the MA/JS; b) participation, whenever requested, in other events organised by the Programme with the purpose of presenting/discussing/developing/sharing project results and creating synergies with other projects and relevant organisations.

All communication campaigns, media appearances and other publicity of the project will be communicated to the MA/JS for dissemination purposes, potential website updates or showcases.

The internal communication structures will be set by the LP in the Project Management Handbook, with the aim of facilitating effective and fluent communication among project partners and articulating clear distribution of responsibilities.

#### C.7.4 How do you foresee the financial management of the project and ensure that the spending forecast is kept?

Define responsibilities, deadlines in financial flows, reporting flows, project related transfers, reclaims, etc.

The Project Management Handbook developed at the beginning of the project will include the framework and guidelines for internal reporting and reviewing procedures. Overseeing regular internal reporting procedures with relation to project activities and spending will be the main responsibility of the LP, which will be supported by the SCOM and PMTs, if needed. The LP will also be assisted by external expertise in continuous internal and external reporting assurance and evaluation.

LP will appoint an experienced financial manager (FM) to ensure the proper financial implementation of the project and the timely reimbursement of funds. The FM will be responsible for the permanent monitoring of all financial aspects of the project, including internal management of funds, expenditure, spending rates, budget shifts, etc., as well as for financial reporting.

The FM will be responsible for developing an internal financial reporting system which ensures a high-frequency monitoring and alert structure for following partner-level spending. This system will facilitate timely budget adjustments to avoid disproportionate underspending by the mid-term of the project. Before each external reporting deadline, there will be internal deadlines to gather and verify PP input.

Regarding monitoring responsibilities towards the JS, PPs will have to carry out partner-level financial reporting, following the compulsory partner report template. Reporting is the basis for the reimbursement of the EU contribution part (Interreg Funds) of the project expenditure to the LP and eventually to the PPs. In the PPR, the LP reports about the project progress in order to prove that the implementation is in accordance with the approved AF and to justify the reported and verified expenditure included in the AfR.

The LP will submit joint Progress Reports and Applications for Reimbursement on a six month basis, according to the deadlines set in the SC, based on the timely input of PPs. The PPR and AfR will be submitted by the LP to the MA/JS within 3 months from the end date of each reporting period. After the AfR is approved, the LP will be responsible for transferring the Interreg contributions to the PPs.

#### C.7.5 Cooperation criteria

Please select all cooperation criteria that apply to your project and describe how you will fulfil them. Please consider that at least 3 cooperation criteria shall be selected and Joint development and Joint implementation are mandatory.

Cooperation criteria	Description
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Cooperation criteria	Description
Joint development	<p data-bbox="371 277 1437 680">Yes The project is based on the research project about tailings management facilities in the Danube Region carried out by the ICPDR, led by the UBA German Environment Agency (both ASPs of SAFETY4TMF). It is built on one of the flagship topics of Priority Area 5 of the EUSDR. The project has been on the agenda for a couple of years. Its core concept was developed by the members of the EUSDR PA5 Disaster Management Working Group in 2021, but it was fully initiated in early 2022 when the HU Ministry of Foreign Affairs and Trade along with ICPDR approached HUMoI - being the policy owner and supervisor of Hungarian water management and disaster management while also being coordinator of municipalities - to become the lead partner of the SAFETY4TMF project.</p> <p data-bbox="451 725 1437 1016">The partnership was then formed by interested members of the EUSDR PA5 Disaster Management Working Group and by organizations involved in and affected by TMF related issues from the Danube Region. The intensive and joint project development process lasted for 12 months including 2 consortium meetings and several online bilateral meetings. Partners were involved from a very early stage in the project development and provided valuable inputs: key interest areas, special measures and policies regarding TMF, prevention, preparedness and disaster management activities and TMF-related risks.</p> <p data-bbox="451 1061 1437 1375">Following the publishing of the fact sheets of the 1st call for proposals of DRP, partners identified that the SAFETY4TMF concept fits into the scope of SO 2.2 and with targeted invitations extended the partnership. They prepared and circulated more elaborate versions of the project concept and the intervention logic, based on partner inputs and feedbacks. In the final stage of the joint project development, the strategic relevance, the workplan and the budget were all finalised with the consent of all partners. The final application form is the result of the joint project development process of the SAFETY4TMF partnership.</p>
Joint implementation	<p data-bbox="371 1429 1437 1756">Yes Partners will carry out all project activities jointly based on the Partnership Agreement. All partners have a share in the cooperation based on their capacities from lead partner role to contributor to activities, but they all take part in knowledge transfer, capacity building, development of pilot solutions, joint testing and joint capitalisation. There is a balanced distribution of responsibilities among partners: HUMoI, as lead partner, is in charge of overall project coordination, while thematic coordination roles are allocated to different partners, based on their capabilities, institutional strengths and capacities and professional ambitions.</p> <p data-bbox="451 1800 1437 1859">The even and fair allocation of tasks and responsibilities based on common objective makes the implementation a truly joint effort of partners.</p>

Cooperation criteria	Description	
Joint staffing	Yes	<p>Smooth project implementation requires joint efforts, delegation of staff members of the partners to carry out the planned actions.</p> <p>HUMoI as lead partner will provide the overall coordination and management, while on partner level local coordinators are appointed to manage project activities.</p> <p>Thematic coordination tasks are shared among partners, in order to avoid duplications and to exploit the various specific competences available in the partnership. Thematic coordinators will provide their well-qualified and experienced experts to provide high quality support for fellow partners. The partners will employ external expertise only to a minor extent to supplement the human resources of their own.</p>
Joint financing	Yes	<p>The project budget reflects the diverse roles and responsibilities of partners, and it was developed based on the calculated human and external capacities required to carry out the project implementation plan by all partners. This resulted in a justified and balanced budget, in which partner budgets are proportionate with the efforts and responsibilities as well as the different average staff costs applied in the project. All partners ensure the necessary co- and pre-financing of the project, while the LP provides overall financial management.</p>

### C.7.6 Horizontal principles

Please indicate which type of contribution to horizontal principles applies to the project, and justify your choice.

Horizontal principles	Type of contribution	Description of contribution
Sustainable development	positive effects	<p>The ultimate goal of the project is to improve prevention, preparedness and disaster management activities targeting potential transnational TMF-related risks in the DRB, with special focus on optimised cooperation of multi-level governance actors, including authorities, municipalities and other stakeholders. Improved disaster prevention measures and resilience against TMF-related risks will contribute to resource efficiency in many ways, supporting sustainability:</p> <ul style="list-style-type: none"> <li># Ecologic environment is prevented from being deteriorated or less impacted by anthropogenic disasters;</li> <li># Collaboration between professional actors and public/civil stakeholders will improve. Resulting in a more effective use of available capacities;</li> <li># Awareness and knowledge of professional stakeholders, policy-makers and citizens will be enhanced;</li> <li># Updating Standard Operating Procedures (SOPs) for responders in project regions will result in better prevention measures and the sustainability of the natural environment.</li> </ul>

Horizontal principles	Type of contribution	Description of contribution
EU Charter of fundamental rights, gender equality, non-discrimination	positive effects	<p>The project improves prevention, preparedness and disaster management activities of potential transnational TMF-related risks in the DRB, thus it contributes to public safety and living standards in affected regions. As vulnerable social groups are more likely to be exposed to the negative effects of any TMF-related disasters, this means that the project indirectly contributes to equal opportunities.</p> <p>The project implementation will consider non-discrimination principles: venues of project events, on- and offline information provision will be accessible for people with disabilities.</p> <p>With its primary focus on TMF-related risk prevention, not related to any gender or race, SAFETY4TMF does not directly address gender equality. However, partners will be encouraged to achieve an equal representation of men and women in all project bodies, and this recommendation will be laid down in the working methodologies regulating the operation of these groups.</p> <p>Communication, on- and offline information provision, community involvement and knowledge sharing activities will be open to all individuals.</p>
Strategic Environmental Assessment (if applicable)	positive effects	<p>SEA is not directly applicable for the SAFETY4TMF project in general. However, certain selected pilot actions of the project under SO3 may fall under the prescription by national regulations for SEA of specific activities. Also, in case of type 2 activities, the revision of designated spatial plans may require SEA in order to be officially adopted. However, the limited timeframe of the project most probably excludes official approvals to take place before the end of the project.</p> <p>The project does not include any other strategies or plans with immediate, potentially significant impact on the environment or on human health, but it will closely follow and analyse national regulations connected to pilot TMF activities and the respective partners will elaborate the documentation (such as Environmental Impact Assessment) during preparation and permitting activities.</p>

## C.8 Durability and transferability

As a programme, we aim to support projects that have a long-lasting effect in the DRP territory and those who will benefit from them. Please describe below what you will do to ensure this.

### C.8.1 Not applicable

Please enter the text "N/A" in the field!

N/A

### C.8.2 (in case of 1ST CALL FOR PROPOSALS): Durability / (in case of PAC / DSP CALL): Durability and transferability

(in case of 1ST CALL FOR PROPOSALS): All outputs should be used by relevant groups (project partners or others) after the project's lifetime, in order to have a lasting effect on the territory and the population. For example, new practices in urban transport need to be used by local authorities to have cleaner air in the city, and the whole population will benefit from this. Please describe how your outputs will be used after the project ends and by whom, as well as how the institutional and financial support will be ensured. / (In case of PAC/DSP CALL): please describe below what you will do to ensure the durability and transferability of the project.

SAFETY4TMF adopts a long-term strategic perspective from the beginning, considering the desired results for the target groups over an extended time frame. This perspective ensures that the project's activities and outputs are designed with long-term sustainability in mind.

Partnership and key ASPs are actively involved from the early stages of the project development and implementation (e.g. via stakeholder roundtables, project events, peer-review visits). Their needs and perspectives are considered to ensure that the project outputs are relevant, suitable, and address the real challenges faced by the stakeholders. This involvement creates a sense of ownership among stakeholders and increases the chances of continued support and utilization of the project results.

The project actively engages with policy-level actors and decision-making bodies throughout its duration (LP, MDMoI, HARG, RSMoE, ROMoE and several ASPs). By involving these stakeholders, the project facilitates the handover of project outputs and results to the policy level, increasing the likelihood of their integration into regional or national policies, strategies, or action plans.

One of the most important outputs of the project are the White Paper and the related joint action plan of TMF safety-related improvement of coordination and policy measures in the Danube River Basin countries. This jointly developed instrument has an impact far beyond the project lifetime, which is ensured by the active involvement of the ICPDR and the EUSDR Disaster Management Working Group.

Joint, transnational actions for TMF safety require a common ground from the responders and all relevant stakeholders. This can be reached via systematic, specialized capacity building activities (updated curriculum, ToT approach, onsite trainings, e-learning platform), which ensure solid and durable results, contributing to better prepared responders and stakeholders deployed in case of emergency situations. An e-learning platform created in the frame of the project will enable stakeholders and a wider audience in the DBR region to access these materials, and enhance their capacities. The e-learning platform will be set up, operated and maintained also after the project's end by PP6 BUDFIRE. The platform will be developed in such a way, that it will be possible to enrich with new training materials and knowledge, developed either by BUDFIRE or other organisations. National and EU resources will be also sought by PP6 to support the further development and maintenance of the platform.

Key outputs of the project are the 3 types of pilot actions, in which innovative solutions for TMF safety, disaster prevention, preparedness and management solutions are tested.

# Improving modelling of TMF-related risks used for local and regional spatial planning.

The simulation and modelling of risk and hazard calculation for TMF accidents are not sophisticated and precise enough and the project goes beyond this by testing and developing solutions in RO and potentially in HU and SK. The PPs and ASPs will jointly develop and be involved in the pilot development, implementation, and follow each other's progress via peer-review visits. Involved actors' experience will be channelled into the policy level in order to transfer the solutions into other DRB regions, countries through the transnational observer programme and stakeholder visits.

# Improving the monitoring for TMFs.

SAFETY4TMF will develop and test such an approach for the monitoring of TMFs that require special attention with low resource demand. PPs, including responsible authorities for monitoring (TMF) dams in the respective countries, will participate and take over the practice of the solutions beyond the academic partners.

# Improving coordination and preparedness procedures for early warning systems and disaster management.

2 complex practices (Szolnok,/HU, Harghita/RO) are planned with the participation of relevant PPs preceded by national preparation events for early-warning and early action, and communication trainings in PP countries. The complexity and wide involvement of actors from various steps of the disaster management cycle ensure better coordination and future implementation of the solution developed. Recommendation created and SOPs finalized, enriched by an experience-based evaluation process, can also be used in project regions, also beyond the partnership.

The EUSDR Disaster Management Working Group members accompany the pilot process under Observer Programme and will be involved in the evaluation process (conference etc.) and the discussions of the exploitation and transferability of the tested solutions.

By considering these aspects and adopting a long-term, strategic perspective, SAFETY4TMF can enhance the durability of its outputs and results, ensuring territorial impact and long-term benefits that continue beyond the project's end.

**C.8.3 (in case of 1ST CALL FOR PROPOSALS): Transferability / (in case of PAC / DSP CALL not applicable - add "N/A")**

(in case of 1ST CALL FOR PROPOSALS): All outputs that you will deliver ideally could be adapted or further developed to be used by other target groups or in other territories, even outside the DRP area. What will you do to make sure that relevant groups are aware of your outputs and are able to use them?

In SAFETY4TMF all partners and ASPs play a vital role in transferring the project's outcomes. The partnership is selected to cover most of the DRB countries with competent partners such as ministries, public/sectorial authorities, universities, strong associations etc.

The project develops a comprehensive Communication Plan that outlines strategies, channels, and target groups for sharing project outputs, as well as partners' tasks in these activities. Online platforms, publications, reports, and training activities are utilized to disseminate knowledge and resources to a wider audience. By making project outputs accessible and widely available, their transferability is enhanced.

SAFETY4TMF actively involves stakeholders throughout the project. Through stakeholder roundtables, workshops, conferences, capacity building and engagement events, Observer Programme and peer-review visits, the project fosters collaboration, knowledge exchange, and problem-solving. This engagement ensures that the project's outputs and results are relevant and applicable to the needs of different target groups, increasing their transferability and potential adoption in other territories.

The transferability of the projects' outcomes and results is ensured through various activities, on different levels of various actors.

On a national level, the most important partners are ministries HUMoI, RSMoE, ROMoE, MDMoI, HUMFA, who, as policy-owners, can influence national, and can mainstream policy recommendations (D.1.1.5) into national policies and strategies concerning TMF safety.

Other local/regional public authorities and their associations (Vares, SMO, HARG, ASP county councils), national water and environmental authorities involved as PPs (MTDWD, CSONG), or ASPs (such as OVF, UBA) will play a significant role in knowledge transfer. The knowledge transfer capacity of these organisations is also substantial, as they can influence the mindset of their stakeholders and professionals, as well as public opinion through their interventions.

Academic, research partner's role lies within the capacities they have. The four academic and research partners OSU, UNIBB, UNILJUB, ZAG have an extensive network to share project findings with other researchers and practitioners in their countries and beyond. Academic partners will actively collaborate with other universities, research institutions, and stakeholders outside the project's scope to promote project outputs, reaching some of them via the stakeholder roundtables. By their active participation in the upgrading of TMF-related risk reduction curricula and training programmes (SO2), universities will facilitate the replication and application of the utilization of these capacity building tools in different contexts. The training activities, such as online baseline workshops, onsite-practical trainings, and e-learning modules, can be adapted and transferred to other regions and sectors facing similar challenges.

On a transnational level, the project's White Paper and the related joint action plan (O.1.1), providing concrete recommendations and measures for TMF safety improvement, can be transferred. These outputs will be used to inform revision of the Danube River Basin Management Plan by the International Commission for the Protection of the Danube River (ICPDR) and the planning activities of the EUSDR Disaster Management Working Group. By integrating the project's findings into macro-regional policies and plans, the results become durable and can be transferred to other regions facing similar challenges.

Throughout the project cycle, partners will closely follow project activities, establish evaluation steps to assess the effectiveness and impact of project outputs, results and other key outcomes.

Findings will be used to refine and improve the transferability and provide evidence for replicability in different contexts.