

# D7.7 STAKEHOLDER CLUSTERING REPORT II

Project: Cross-sector dialogue for Wildfire Risk Management

Acronym: Firelogue





#### **Document Information**

Grant Agreement Number	101036534	Acronym		Firelogue
Full Title	Cross-sector dialogue for Wildfire Risk Management			
Start Date	01/11/2021 <b>Duration</b> 48 months			
Project URL	https://firelogue.eu/			
Deliverable	D7.7 Stakeholder Clustering Report II			
Work Package	WP7			
Date of Delivery	Contractual	M24	Actual	
Nature	Report	Dissemination	Level	Public
Lead Beneficiary	PCF			
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Contributions from	FhG, CTFC			

# **Document History**

Version	Issue Date	Stage	Description	Contributor
D0.1	07/07/2023	Draft	Review of the previous deliverable	PCF
			D7.2. Table of contents for D7.7.	
D0.2	28/07/2022	Draft	Formulation of the deliverable goals	PCF
			and chapter 6 related to developing the	
			connecting dimensions	
D0.3	01/09/2022	Draft	Collection of the stakeholder	PCF, and representatives from FIRE-RES,
			engagement processes performed by	SILVANUS, TREEADS and FirEUrisk
			the IAs and FirEurisk	projects
D0.4	15/09/2022	Draft	Update on the stakeholder	PCF
			engagement activities and formulation	
			of the recommendations for WGs.	
D0.5	06/10/2023	Draft	Review from FhG	Berchtold, C. & Wagner, S. (FhG)
D0.6	13/10/2022	Draft	Review from CTFC	Nebot, S. (CTFC)
D0.7	20/10/2023	Draft	Final draft with all chapters	PCF
D0.7	23/10/2023	Draft	Final global review with last minor	Berchtold, C. & Wagner, S. (FhG), Nebot, S.
			comments	(CTFC)
F1.0	25/10/2023	Final	Final version	PCF

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# **List of Abbreviations**

Abbreviation	Meaning		
AB	Advisory Board		
AP	Associated Partner		
BFSI	Banking, Financial Services and Insurance		
CAMS	Copernicus Atmosphere Monitoring Service		
СВ	Communication Booster		
CEMPPR	Collaboration on Emergency Management, Policy, and Preparedness Research		
CSS	Center for Security Studies		
DG-ECHO	Directorate-General for European Civil Protection and Humanitarian Aid Operations		
DG-ENV	Directorate-General for Environment		
DRMC	Disaster Risk Management Cycle		
DRMKC	Disaster Risk Management Knowledge Centre		
DSS	Decision Support System		
EAB	Ethics Advisory Board		
ECMWF	European Centre for Medium-Range Weather Forecasts		
EWE	Extreme Wildfire Events		
ERWN	European Wildfire Risk Node		
FIRE-RES	Innovative technologies and socio-ecological-economic solutions for fire resilient		
	territories in Europe		
FirEUrisk	Developing a holistic, risk-wise strategy for European wildfire management		
HFS	Hellenic Fire Service		
IA	Innovation Action		
IoT	Internet of Things		
REA	European Research Executive Agency		
RIA	Research and Innovation Action		
SILVANUS	Integrated Technological and Information Platform for wildfire Management		
SOP	Standard Operating Procedure		
TREEADS	A Holistic Fire Management Ecosystem for Prevention, Detection and		
	Restoration of Environmental Disasters		
TRL	Technology Readiness Level		
UAV	Unmanned Aerial Vehicles		
UCKN	Union Civil Protection Knowledge Network		
UNDRR	United Nations Office for Disaster Risk Reduction		
WFRM	Wildfire Risk Management		
WG	Working Group		
WUI	Wildland-Urban Interface		



Consortium p	partners
ADAI	Association for the Development of Industrial Aerodynamics
CMCC	Centro Euro-Mediterraneo sui Cambiamenti Climatici
CTFC	Forest Science and Technology Centre of Catalonia
EDGE	EDGE in Earth Observation sciences Monoprosopi IKE
FhG	Fraunhofer Gesellschaft für Angewandte Forschung e.V.
IIASA	International Institute of Applied System Analysis
INESTEC	Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência
KEMEA	Centre for Security Studies
NOA	National Observatory of Athens
PCF	Pau Costa Foundation
SAFE	SAFE Cluster
TIEMS	The International Emergency Management Society
TRI	Trilateral Research
UAH	University of Alcalá
VOST	Virtual Operations Support Team from Portugal



# **Executive Summary**

This document is the second and last version of the Deliverable "Clustering Stakeholder Report" that aims to cluster all stakeholders involved in Firelogue, the related projects and their broader networks to develop a mechanism enabling synergies and interactions among them. This second version provides an update on the Firelogue networking activities where a variety of WFRM stakeholders have been approached for the purposes of enhancing the knowledge base within the Firelogue network as well as dissemination and upscaling activities carried out to share and transfer this knowledge among the WFRM community. The stakeholder clustering created in the previous deliverable D7.2, which identified all the WFRM stakeholder categories and profiles, has become a reference classification for stakeholder engagement processes relevant to multiple Firelogue activities, such as the select ion of Working Group members, speakers in webinars, or structure of contents in the already developed platform "Lessons on Fire - Powered by Firelogue". This deliverable examines the overall engaging process in the main Firelogue activities, placing particular focus on the WG activities, in which their WG members have been categorised, and provides future recommendations for the WG leaders to favour stakeholders' diversity that enhances and broaden the perspective of the outcomes resulting from the future WG activities. Furthermore, the deliverable analyses the degree of engagement of the main target groups identified: representatives from IAs and other WFRM projects, experts, Advisory Board members, Associated Partners, Third Parties, and others. Finally, the present deliverable further elaborates on the mechanism to develop the Firelogue network drawing from the initial plan described in D7.2.



# 1 Introduction: Stakeholder management at the core of Firelogue

Firelogue has as a core objective the creation of a network for the discussion on the future of European Wildfire Risk Management (WFRM), identifying and engaging relevant stakeholders within the WFRM community. It thereby focuses mainly on the support of the Green Deal (LC-GD-1-1) Innovation Actions TREEADS (formerly named DRYADS), FIRE-RES, and SILVANUS (IAs henceforth) and the Research and Innovation Action (RIA) FirEUrisk (funded under the call LC-CLA-15), as well as other projects working on wildfire management. As for other projects, during the first two years of the project, Firelogue has broaden the cooperation with stakeholders associated with ongoing projects working on the WFRM domain such as SAFERS, Firelinks, Pyrolife, FIRE-ADAPT, and others that have finalised within this period such as AFAN, Fire-In or Nemausus. In addition to this, stakeholders not associated with any particular project have been approached and involved in the project activities, mainly the Working Groups workshops (see 1.3 Working Groups), seeking to bring in their expertise on specific thematic areas that were not always covered by the project partners from the previous projects (e.g. insurance, infrastructures). With this, Firelogue aims to pool expertise by coordinating the integration of stakeholders and findings into cross-sectoral WFRM recommendations as a roadmap towards meeting the 2030 impacts as expressed by the Green Deal call and beyond.

The coordination role of Firelogue is to ensure the cohesion bonds across stakeholders involved in the EU fire projects and the broader WFRM community that contribute to enhance the status of WFRM from different disciplines, areas of expertise, and innovative approaches. Firelogue enables communication spaces to share knowledge and scientific research, interaction with counterparts from other regions, as well as with decision makers entities at different managerial levels (i.e., strategic, tactical, operational) through formal capacity building. This will result in increased chances to empower key stakeholders from EU fire projects, leveraging their knowledge and capacities, as well as the tools and approaches developed in their respective projects.

#### 1.1 Firelogue Connecting Dimension

Firelogue contributes with a Connecting Dimension that focuses on the collection of knowledge, insights, and solutions from the wildWFRM projects, its integration, upscaling, and wider dissemination, as well as the joint management of stakeholder engagement in the project. Firelogue is gathering various contributions from the projects including measures, solutions, and case studies to feedback into each other and to co-produce recommendations, policy, measures, strategies and solutions for future European WFRM that target different stakeholder groups and their diverse interests. Results are analysed in terms of consistency and relevance at the European level and fed into the Working Groups (see Section 1.3) for further discussion and integration (see Figure 1).



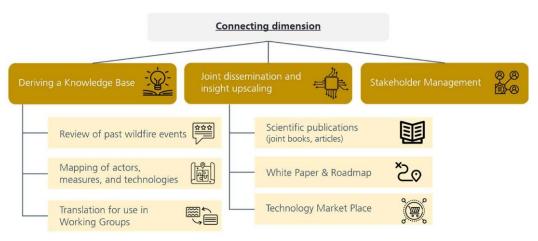


Figure 1: Activities under the FIRELOGUE connecting dimension.

One major objective of the Firelogue activities is to support the projects in disseminating their insights through joint dissemination activities, which will be co-designed during the first two years of the project lifecycle. This has involved the support of joint scientific publications [3][18], the development of a Technology Market Place that consists of an online exhibition space supported by the *Lessons on Fire Powered by Firelogue* platform [22] (see section 3.2 for more details), and a joint whitepaper and a Roadmap to 2030 and beyond, which will be produced towards the end of the projects.

A plan to effectively develop the Firelogue connecting dimension among WFRM stakeholders is presented in chapter 6.

#### 1.2 Discussion and Knowledge Exchange Formats

Firelogue presupposes that it is crucial to bring together diversity of WFRM stakeholders to uncover their potential synergistic and conflicting interests, aims and means to achieve those, in order to design holistically. To properly manage the interaction with all the stakeholders, the project is promoting the design and implementation of interactive activities including:

- 1. Discussion formats:
  - a. Annual digital conference (the so-called *Clustering Event*): the first one took place on April 5<sup>th</sup>-6<sup>th</sup> 2022 (virtual), whereas the second one has already been scheduled for November 22<sup>nd</sup>-23<sup>rd</sup> 2023 (in Brussels).
  - b. Peer Review (peer learning program): While initially, the idea had been to develop the Peer Review around scientific topics, the idea to structure it around case studies was developed and supported by the IAs. This approach will be referred to as "peer learning program" to better conceptualize it as a supportive activity within the scope of the case study collaboration promoted by Firelogue, and to distinguish it from a purely academic review. Since the case studies in the projects under consideration are only now starting to get underway, a more structured implementation is planned for 2024.
- 2. Knowledge Exchange Formats:





- a. Webinars: online space where the projects can convey and share with a wider audience the progress made. Two live webinars will be conducted with the assistance of the Horizon Results Booster from the European Commission [18] to help the SAFERS project disseminate their developed products. The first will be focused on citizens' engagement (Nov 6<sup>th</sup> 2023), and the second on technologies for enhanced WFRM (Nov 13<sup>th</sup> 2023).
- b. Networking events: joint participation in networking spaces such as conferences, congresses, or other events in order to share, and disseminate their projects experiences, priorities, and get the feedback from the audience. Several networking events have already taken place under the coordination of Firelogue, combining workshops (e.g., the Firelogue Working Group workshop organised in Solsona by the project partner CTFC, or the WFRM Workshop planning during the RISE-SD 2023 Conference [19]) and roundtables (e.g., the Fire Across Boundaries Conference [20], the networking session "Wildfire Risk Management research cooperation roadmap for Europe and beyond" organised in the framework of the IX International Conference on Forest Fire Research in Coimbra [21], or the track called "Integrated Wildfire Risk Management" organised in the scope of the 2024 ISCRAM Conference that will take place in Münster (Germany) [49]). The full list of networking event will be reported in deliverable D6.5: Mid-term report on Communication, Dissemination, website, helpdesk and User Engagement Activities.
- c. Trainings and demonstration exercises: co-participation, exchange and crossfertilisation among projects while deploying, testing, and validating their innovative technical or non-technical solutions in the scope of practical scenarios. Cooperation has occurred in the scope of the SAFERS pilot in Catalonia (Spain) in October 2023. While the SAFERS project is reaching the last stretch of its lifetime, the IAs have not started to carry out their case study demonstrations, and their tools are not fully developed yet. For this reason, further cooperation on trainings and demonstration exercises are expected during the last two years of the projects once the development of the tools is more mature and the test scenarios are prepared.

More specifically, these activities intend to facilitate multi-stakeholder networking, exchange, and continuous engagement, as well as to collect and synthesise their voices across the whole spectrum of politics, economics, civil protection, and civil society. The respective formats will be specified further in Deliverables D2.1a, D2.1b, and D2.2.

# 1.3 Working Groups

At this stage of the project (M24) all the WG have been constituted by a number of representatives from the EU-fire projects, and other fire experts and professionals involved in the WFRM domain. Moreover, WG activities have got underway involving individual WG virtual kick-off meeting and the completion of the first WG workshop cycle that was physically held in Solsona in July 2023 with the participation of members belonging to all the WGs (see Figure 2). The workshop in Solsona was an opportunity to foster transdisciplinary dialogues as well as to review and analyse existing WFRM



approaches, and innovations suggested by the WG members, through discussions that occurred both at intra- and inter- WG level. The stakeholder manager has worked closely with the WG leader in helping them identify and engage of key experts involved in the WFRM domain, involving representatives from the Green Deal IAs and other EU WFRM projects, experts from the broader WFRM community as well as other professionals who have shown interest in Firelogue (e.g., Associated Partners, and other individuals whose interest has raised after the start of the project). Detailed information about the stakeholder engagement is provided in 4 Firelogue stakeholders.

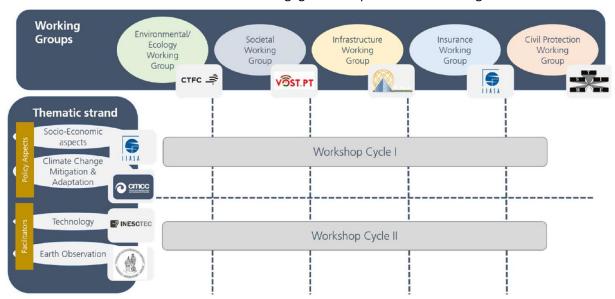


Figure 2: Firelogue Working Groups and Thematic Strands.

As illustrated in Figure 2, WGs are working along four thematic strands (Socioeconomic aspects, Climate Change Mitigation & Adaptation, Technology, and Earth Observation to ensure structured discussions and facilitate cross-WG exchange. The matrix displayed in Figure 3 has been designed to facilitate the exchange and reporting resulting from the interaction between the WGs and TSs. Horizontal rows serve to input relevant cross-WG topics, whereas the TSs can label existing topics and issues on the post-it's with their respective coloured tag and complement them by adding their own stimuli and ideas. This matrix will be used throughout the Firelogue project in order to reflect on the cross-WG/TS inputs [2].





Figure 3: Multi-dimensional WG/TS exchange matrix.

The stakeholder clustering made in the previous version of this deliverable [3] served to categorise the multitude actors involved in the WFRM domain (e.g., emergency management organisations, scientific community, policy making bodies...) as a basis to enable the purposeful dialogue and integration of these different disciplines during the course of the above spaces for discussion. Firelogue will therefore capitalise key outputs and knowledge that builds upon the synergies of key disciplines across scientific, technological, operational, and political domains, among others. This approach will contribute to deliver a valuable blueprint for EU level multi-stakeholder processes.



# 2 Objectives

The objectives stated herein are related with the tasks assigned to Pau Costa Foundation (PCF) as a stakeholder manager, giving continuity to the preliminary clustering performed during the early stage of the project, but also proving support to other project activities (e.g., WGs workshops) in line with the overall project goal to facilitate networking, exchange, and continuous engagement of WFRM stakeholders.

#### 1. Stakeholder analysis and clustering made by Firelogue and the three IAs and FirEUrisk.

The stakeholders mobilised by Firelogue through the different actions of the projects are analysed in section 4. The IAs and FirEUrisk were approached through 1) a survey conducted within WP1 [6] and b) asked to provide updates to prepare the contents of this deliverable. Their inputs from the IAs are mainly included in sections 5 where a stakeholder clustering is provided showing the main groups of participants that have been mobilised by the projects. While the projects may have similar aims in terms of providing integrated solutions to better manage wildfire risk in the future, they may approach it in different ways, which leads to the identification of different stakeholders in each case.

# 2. Development of the connecting dimension of Firelogue.

A mechanism to ensure the interaction between existing networks has been designed and is being implemented. The network of network proposed is developed in chapter 6.

3. Planning and proposed recommendations for the implementation of future actions.

Internal recommendations will be outlined assessing the outputs from the stakeholder engagement process performed during the networking activities organised by the Firelogue partners, while addressing the main participatory shortcomings detected.



# 3 Stakeholder management goals

Stakeholder management is a central part of Firelogue, supporting the IAs as a whole, their interaction with the Firelogue Working Groups but also their integration across sectors and risk management phases and exchange with the broader WFRM community. PCF is appointed to fulfil this responsibility with the mission to identify and cluster the broad variety of stakeholder involved across the different phases of the Disaster Risk Management Cycle (DRMC) (i.e., prevention, preparedness, response, and restoration), promote the dialogue between Firelogue, the IAs, FirEUrisk and other projects, and ensure that their knowledge is gathered and considered during the project duration.

While the stakeholder management is primarily committed to the 3 IAs funded under the Green Deal call, other projects such as FirEUrisk, and SAFERS, FIRE-IN or Firelinks have been approached and invited to take part in the Firelogue networking activities. The stakeholder engagement is made effective through a series of discussion [5] and knowledge exchange [7] formats coordinated by Firelogue in which dialogue space are generated, such as webinars, peer reviews, participation in networking events (e.g., Conferences, workshops), Working Group-specific meetings and workshops, etc.

The stakeholder manager is committed to boost the Firelogue role as "Network Facilitator" providing the following support to engage with Wildfire Risk Management Community networks. The three main goals and their achievement is outlined as follows:

- Support the Firelogue Consortium in the identification and engagement of key stakeholders to join the Firelogue network: the stakeholder manager has worked closely with the Firelogue Consortium partners (i.e., particularly WG leaders and Break-out Group leaders) to identify and engage key experts involved in the WFRM domain, involving representatives from the Green Deal IAs and other EU-WFRM projects, experts from the broader WFRM community as well as other professionals who have shown interest in Firelogue (e.g., Associated Partners, and other individuals whose interest has raised after the start of the project).
- Handle communications with the IAs, FirEUrisk and other wildWFRM projects in connecting with their networks: the stakeholder manager has orderly managed the communication with representatives from all these projects coordinating joint effort with other partners of Firelogue involving WG and TS leaders, and leaders from the Breaking Groups established during the first Clustering event (see deliverable 2.2 Design and implementation of knowledge exchange formats I [4]).
- Provide continued guidance to the Firelogue Consortium along the stakeholder engagement process: the stakeholder manager has provided recommendations in the continued engagement seeking to strengthen the networks built by the Firelogue partners, maximise the beneficial impacts provided to those taking part in the network, and being inclusive in terms of stakeholder diversity and general representativity of the broad WFRM community.



The involvement of a diverse array of stakeholders has been valuable for the consolidation of the WFRM **Knowledge Base** (see section 3.1) and is made effective through their participation in **Joint Dissemination and Upscaling Activities** (see section 3.2).

#### 3.1 Knowledge Base

The stakeholders involved in the activities coordinated by Firelogue are given the opportunity to share their knowledge and experiences with the WFRM Community at European level. These inputs build on the insights derived by or linked with the IAs and FirEUrisk, which were conducted by means of survey [6] and continued communication with project managers and representatives of these projects. The various knowledge, data and information gathered from the interaction with the IAs, FirEUrisk, other related wildfire projects and stakeholders, will build the basis for discussion and inform the development of WFRM recommendations.

The generated knowledge is clustered as WFRM solutions according to (1) stakeholder group (e.g., emergency management organisations, scientific community, policy making bodies...), (2) disaster risk management phase, (3) solution type (e.g., analysis of past wildfire events, policy recommendations, land management approaches...), and (4) the project and case studies related to it (if any) [8]. Upon being collected, this information is structured, stored, and made available via the "Knowledge Hub" section of the Lessons on Fire – Powered by Firelogue platform [16], which disseminates the knowledge and solutions developed by the projects and the broader WFRM community.

Moreover, with the assistance of technological partners involved in the Working Groups or other activities coordinated by Firelogue, the Firelogue Consortium is aiming to provide a standardized and efficient way of sharing the latest technology solutions, thereby giving visibility to the technological solution developed by the projects, and serving as a valuable resource for relevant stakeholders, keeping them informed about novel insights, technologies, and services available on the market [9]. A standardised visualisation is developed and made available via the "Knowledge Hub" section of the Lessons on Fire – Powered by the Firelogue platform [16], in the form of a "maturity card" to highlight strengths and potentials, communicate on potential identified gaps, and guide future R&D activities.

#### 3.2 Joint Dissemination and Upscaling Activities

Firelogue has by developed a joint communication and dissemination strategy that ensures ongoing coordination of communication and dissemination activities across the EU WFRM projects [10]. The #EUFireProjectsUnited initiative has been created to undertake common dissemination actions with the IAs (SILVANUS, TREEADS, FIRE-RES) and other projects including FirEUrisk, SAFERS, FIRElinks and FIRE-IN.

The Lessons on Fire – Powered by Firelogue platform [16] is acting as a tool to make the results of the EU WFRM projects available at a central place and link this service with an open line of communication to answer any question from stakeholders interested in the projects as well as WFRM related questions in general. Via the "Networking" section of the platform, users can be updated and get in touch with



other scientists and stakeholders, be aware about fire-related events (conferences, workshops, etc.), and the latest news from the WFRM domain. In addition to this, Firelogue has already published two scientific papers collecting initial inputs from the fire projects (see peer review in section 1.2), and will encourage common publications as the first research and development outcomes from the projects are realised, as well as the publication of a White Paper and 2030 Roadmap around the CL-GD-1-1 findings and conclusions.



# 4 Firelogue stakeholders

The network of Firelogue engages multiple stakeholders belonging to organisations from the WFRM domain. Some of these stakeholders were identified in advance at the proposal stage in order to guarantee a baseline, whereas others have been progressively joining the network, proceeding from existing WFRM-related networks, thus turning the Firelogue network into a network of networks (see chapter 6).

The Firelogue stakeholders that were identified during the proposal stage consist of Advisory Board members, Associated Partners, Third Parties and others. Their current engagement in the project is updated in the following sections.

#### 4.1 Advisory Board

The Advisory Board (AB) is a permanent body and an ongoing source of expertise along the Firelogue project. It comprises individuals who are considered to be leaders within the wildfire management domain who are not partners in Firelogue. AB members will be invited to plenary meetings and consult the Project Coordinator and overall Consortium on main content related aspects arising during the project lifetime. It will give guidance on key stakeholders to involve and existing knowledge that should be considered by Firelogue. The members of the Firelogue AB are:

- Prof. Cathelijne Stoof, Associated Professor at the Department of Geography and Landscape, Wageningen University (UW).
  During the Plenary meeting on 16th January 2023, Cathelijne Stoof gave valuable input with respect to considering diversity in the Firelogue activities. Not only with respect to geographic representation and hence experience with wildfires (North-South differences) but also for example in terms of personal expertise, i.e., involvement of early-career researchers. In addition, the contribution of the platform for the fire community as well as challenges in data availability and diversity in fire data across European countries were discussed.
- Mr. Marc Castellnou Chief of Forest Operations Group of Catalan Fire and Rescue Services (CFRS).
  - Marc Castellnou participated together with several colleagues in the Working Group workshop in Solsona, Spain.
- Dr. Frédérique Grioud, Directrice de CEREN, Entente Valabre.
   Dr. Frédérique Grioud enriched the discussions during the RISE-SD conference about integrated WFRM and the development of regional WFRM strategies.

An Ethics Advisory Board (EAB) was created to deal with ethics concerns, particularly those arising from the collection of knowledge, data, and information from external sources. The EAB is assisted by the project Ethics Manager, which has been appointed to the project partner Trilateral Research (TRI). The project Ethics Manager will flag potential issues and Deliverables that will be reviewed by the EAB. The members of the Firelogue EAB are:

 Ms. Solange S. Martinez Dimarco, Research Associate at the International Centre for Ethics in the Sciences and Humanities (IZEW, University of Tübingen)



• Dr. Dean Pierides Lecturer in Business and Management, University of Stirling
The EAB will be invited to the Plenary discussion hold in Brussels, in November 2023, where there will be a session prompting discussions related to the cross-WG topics identified during the workshop in Solsona as well as how to deal with dysfunction in policy coherence.

#### 4.2 Associated partners

The Associated Partners (APs) are organisations with acknowledged expertise in the field of wildfire management that are expected to provide input and feedback to the project. Some of them are members of the Firelogue sectoral Working Groups as they all received a dedicated invitation to join the WG that matches best with their expertise. The APs are formed by a compendium of organisations with different background such as research centres, policy, or civil protection bodies. While their degree of engagement varies among APs, all of them receive regular communications about the project (newsletters, emails informing about relevant activities...). Hence, they are all up to date of the project progress and know that they have the opportunity to get on board of the project activities, provided they have availability and motivation to participate.

The current list of Firelogue APs and the current engagement in the project is provided in .

Table 1.

Table 1: Firelogue Associated Partners

PROFILE	ASSOCIATED PARTNER	COUNTRY	ENGAGEMENT
Research Entities	BNHCR – Bushfire and Natural Hazards Co-operative Research Centre of Australia	Australia	Contacted, however no formal participation has occurred so far. Their participation will continue to be fostered while most likely limited to a virtual format, as the project has no budget to cover their travel expenses for in- person participation.
	SNS – Nordic Forest Research	Sweden	Contacted, however no formal participation has occurred so far.
	URIFFM – Ukrainian Research Institute of Forestry and Forest Melioration	Ukraine	They showed interest in participating in WG



			Environment but
			could not attend the
			workshop in Solsona.
	UPC – MBLandArch- Master Barcelona in		Participation in WGs
	Landscape architecture of the	Spain	Environment and
	Polytechnical University of Catalonia		Infrastructures.
			Joint participation in two past events from the Regional Offices Meeting: one in 2021 and the second one in
Policy bodies	UNOOSA/UN-SPIDER – United Nations Office for Outer Space Affairs	Germany	September 2023. Invitation to jointly participate in a future workshop on space technologies for forest fire management in Algiers on 22 – 23 or 23-24 November. Moreover, UNSPIDER
	MITECO Deputy Directorate of Forest		has integrated Firelogue into their website [41].
	MITECO – Deputy-Directorate of Forest		Contacted, however no formal
	Policy and Desertification of the Ministry	Spain	
	of Ecological Transition and	Spain	participation has
	Demographic Challenge of Spain		occurred so far.
	FEU – Federation of European Fire Officers	Belgium	Contacted, however no formal participation has occurred so far.
Civil Protection bodies	CFRS – Catalan Fire and Rescue Service	Spain	Participation in WG Civil Protection. Also, participation in Wildfire webinar addressed to the UK National Fire Chiefs Council (NFCC).
ĬΞ	AIB – FORMONT S.c.a.r.l. Centro Alta		Participation in WG
ō	Formazione AIB e Protezione Civile	Italy	Civil Protection
	CCMA – Croatian Crisis Management Association	Croatia	Contacted, however no formal participation has occurred so far.



	1	T	
Foundation	FCLP – Fundació Catalunya La Pedrera	Spain	Contacted, however no formal participation has occurred so far.
	FIRElinks – Fire in the Earth System: Science & Society	EU COST Action	This is a project from the Firelogue network #EUFireProjectsUnited that actively participates in joint activities promoted by Firelogue in the scope of workshops and conferences or other events.
and Projects	AFAN – UCPM Network Partnership Advanced Fire Analysis Network	vork Partnership ysis Network  tion this project  EU- funded project partre involve partre	This project ended in 2022. Insights gained in this project have been transferred to Firelogue and made extensive to its network through the involvement of AFAN partners involved across the Firelogue activities.
WFRM Networks and Projects	Pyrolife – PyroLife Innovative Training Network	EU- funded project	Involved in environmental and societal WG. Pyrolife was represented by ESRs who were given the opportunity to get involved in the WG related to their research topics. Moreover, this a project from the Firelogue network #EUFireProjectsUnited that actively participates in joint activities promoted by Firelogue in the scope of workshops and conferences or other events.
	MEDEA – Mediterranean practitioners' network for capacity building and	EU- funded project	Participation in the Civil Protection WG.



	effective response to emerging security		
	IAWF – International Association of Wildland Fire	USA	Contacted, however no formal participation has occurred so far.
	AFE – Association for Fire Ecology	USA	Interest in participating in the Environment WG.
Insurance Sector	AIR – AIR Worldwide	United Kingdom	The contact point from this organisation has moved to Mitiga solutions. Mitiga currently participates in the Insurance WG.
Insur	MCII – Munich Climate Insurance Initiative	Germany	Participation in the Infrastructure WG.
Infrastructure Sector	EHO – Egnatia Highway Operator	Greece	Contacted, however no formal participation has occurred so far.

#### 4.3 Third parties

The only linked party in FIRELOGUE is the Hellenic Fire Service (HFS) whose participation is facilitated by the project partner NOA. The HFS is the national agency of Greece for fire and rescue service, and it is part of the Ministry for Citizen Protection. A part of NOA's budget is reserved for refunding HFS for their provision of expertise in the Firelogue context.

The HFS has contributed so far through their participation in the Civil Protection Working Group led by the project partner TIEMS. While they could not attend the WG workshop in Solsona, they have participated in previous online meetings aimed to bring up and discuss relevant topics. They have also contributed in WP3, providing their requirements and feedback with respect to the expected impacts set by the Green Deal wildfire call, including the formulation of measures towards its reduction. It is planned that during the second half of the project they will likewise support communication and user engagement activities through their contacts around Europe as well as their continuous engagement in the Civil Protection WG.

#### 4.4 Others

After the start of the project, a number of representatives of relevant international organisations approached Firelogue expressing their interest to collaborate with the project, namely:



- CEMPPR Lab (Collaboration on Emergency Management, Policy, and Preparedness Research) at York University from the UK.
- Center for Security Studies (CSS) at ETH Zürich from Switzerland.
- Emergency Management Agency from Nigeria
- Copernicus Atmosphere Monitoring Service (CAMS) at the European Centre for Medium-Range Weather Forecasts (ECMWF) (European Organisation).

Up to date (Oct 2023), contact has taken place only with CSS through our project reviewer Christine Eriksen.



# 5 Stakeholder clustering

The identification of all the stakeholders involved across the different phases of the DRMC (prevention, preparedness, response, and restoration) is paramount for the implementation of an integrated fire management approach. Increased interaction between them enables inclusive processes of knowledge co-creation, favours participatory and reflexive planning, and improves decision making based on dialogue and deliberation. Along these lines, Firelogue is committed to (1) fostering the interaction and promoting activities among the different stakeholder groups identified by the IAs and FirEUrisk, (2) monitoring and assessing the evolution of the information and networking needs and their fulfilment, and (3) coordinating their participation across the Firelogue Working Groups (see 1.3).

The stakeholder clustering presented herein builds on integrated fire management and links with the different stakeholder groups targeted by the IAs and FirEUrisk, taking into consideration the Firelogue stakeholders (AB members and AP; see chapter 4) and other networks. Hence, the stakeholder clustering draws from the preliminary clustering made by the IAs and FirEUrisk. This information has been obtained via the survey conducted within WP1 [6], which has been designed to better understand the scope of the IA projects and FirEUrisk, and to identify relevant areas for knowledge sharing and joint activities during the project duration and beyond.

#### 5.1 IAs updates on stakeholder engagement

Cooperation between Firelogue, the IAs and other WFRM projects do not only occur at the coordination level (i.e., projects' coordination teams), but also between other relevant partners leading specific tasks, such as the stakeholder engagement. Along these lines, Firelogue has identified partners from other projects holding the role of stakeholder manager, or similar, to coordinate and exchange information relevant to stakeholder engagement processes.

The previous Stakeholder Clustering deliverable D7.2 [3] gathered the preliminary stakeholder clustering, whereas this deliverable collects updated information about their stakeholder management process in order to better understand and interpret the results achieved so far and to improve the quality of the engagement and overall interaction until the end of the project.

# 5.2 FIRE-RES stakeholder engagement

FIRE-RES distinguishes 3 engagement levels, each associated with a different strategy [13]:

- **Engage:** encourage specific groups/individuals to play an active role in the project, i.e., participation in project activities, innovation development, result exploitation.
- **Convince:** convey the relevance of the project objectives and innovation, and so the necessity to play an active role in the project, by disseminating the results or by discussing directly face to face during meetings and other networking activities.
- **Inform:** share information about the project approach, activities, co-creation solutions... with entailing an active commitment of the audiences.



The updated stakeholder clustering made by SILVANUS includes the following categories [13]:

- Risk management and emergency response
- NGOs
- Policy and decision makers
- Scientific community
- Asset managers and owners
- Citizens and general public
- Private sector
- Media

#### 5.3 SILVANUS stakeholder engagement

SILVANUS approach for stakeholder engagement is articulated around four dimensions [14]:

- Stakeholder outreach: dissemination of project results through regular channels such as website, social media, event presentations, newsletter distribution, press and TV coverage, etc.
- 2. **Advisory Board involvement:** contact with the External Advisory Board, whose members are regularly providing constructive feedback for the project.
- Identification and involvement of other external stakeholders recommended by SILVANUS
  project partners: These external stakeholders are a basis for the future formation of
  Sustainable and Resilient Working Groups.
- 4. **Further** contacts established through the SILVANUS website: The project website holds a contact form for those who express a specific interest in the project results and how their work activity can help with the implementation of the SILVANUS platform.

The updated stakeholder clustering made by SILVANUS includes the following categories [14]:

- First Responders
- Firefighting Associations
- Forest and/or land owners
- Forest Governance Associations
- IT business
- Timber industry
- Energy and construction industry
- Academia
- Research Organisations and Think Tanks
- Infrastructure, Transport and Road Network
- Local Residents and communities affected by wildfires
- Policy Makers
- Civil society organisations
- Health sector
- Public administration





#### 5.4 TREEADS stakeholder engagement

TREEADS has established a plan to conduct one Stakeholder engagement mapping per pilot. Pilot leaders mobilize the stakeholders formally and informally associated with wildfire management in the pilot areas. Pilot leaders make a preliminary work identifying a set of stakeholders, differentiating and categorising them according to their sector and functions, and across the phases of wildfire management. For the pilot activities, each pilot leader reviews the categorisation, checking the profile of each participant on multiple sources to standardise information on sectors, levels, and functions regarding wildfire management across the pilots [15].

TREEDS adopts a 3-step approach for the stakeholder analysis as a basis to monitor the engagement process. The analysis is particularly focused on the pilot activities: 1. Stakeholder identification; 2. Stakeholder differentiation and categorisation; and 3. Stakeholder relation mapping.

The updated stakeholder clustering made by SILVANUS includes 3 main sectors subdivided into the following categories [15]:

- Government:
  - Local Government
  - Regional Government
  - National Government
  - Fire and rescue services
- Civil Society:
  - Civil protection organisations
  - Local volunteering Association
  - Regional Civil Society
- Private companies:
  - Forest owner/land owner
  - Insurance Company
  - o R&D company
  - Research institutions/universities
  - Industry
  - Local NGO
  - Organisations/NGO related to fire safety
  - Tourism sector

#### 5.5 Proposed clustering

The stakeholder clustering from D7.2 Stakeholder Clustering Report I [3] created a reference framework to classify the diversity of actors involved in WFRM which has been used for various purposes including:

Working Groups: The classification of stakeholders involved across the WG activities. This
serves to analyse the actual composition of stakeholder in the frame of one of the key
knowledge exchange activities promoted by the project and evaluate it in the present
deliverable in terms of stakeholder engagement.



- Lessons on Fire platform powered by Firelogue: some of the sections of the platform include specific features to associate WFRM solutions with the target stakeholders that are classified based on the clustering report. Notably, this is the case of the TechMall and the WFRM measures sections, which compile a set of WFRM solutions related to standard operating procedures (SOPs), policy recommendations, land management approaches, technologies, or end-user engagement strategies, among others.
- Dissemination activities: the stakeholder management (project task T7.3) is closely related
  the dissemination activities (related to WP6) and therefore cooperate together under the
  purposes of stakeholder engagement and outreach. Hence, the Firelogue dissemination tasks
  uses the stakeholder clustering as a reference for more inclusive and comprehensive
  dissemination strategy.

The stakeholders included in the clustering resulted from the analysis of the individual clustering made by IAs and FirEUrisk (Figure 4), which was based on the survey responses provided by the projects in D1.1 [6], and supported by an additional research work performed by the leader of deliverable D7.2, PCF, who is experienced in stakeholder management processes with the WFRM community. It was grouped into 8 categories, each containing a number of stakeholder profiles involved —directly or indirectly— in fire management and wildfire risk reduction strategies.

- (1) Emergency management organisations refer to operational practitioners involved in response operations at the forefront of wildfire incidents. On the one hand, this involves firefighters, civil protection, medical services and police, whose personnel can hold the role of commanders/decision makers, working at strategic and tactical levels, or first responders performing operations in the field, working at the manoeuvre level. On the other hand, fire analysts are likewise grouped as emergency managers, whose role in emergency operations mainly occurs at the strategic and tactical levels.
- (2) Scientific community encompasses research and academia institutions involved in diverse scientific areas related to wildfire risk management such as fire ecology, landscape management, risk governance, forest economy, rural policy, or civil protection. Fire safety engineers are also included in this group as the scientists providing engineering solutions to reduce vulnerability of people and infrastructures to wildfires.

The group of (3) Policy making bodies involves the stakeholders who have a key role in influencing strategic choices for wildfire management and therefore become enshrined in territorial policies. This includes several administrations acting at different territorial levels, EU commissioners, and politicians in general. Effective communication with this group is essential for the successful exploitation of wildfire solutions provided across the projects.

**(4) Land management groups** refer to the stakeholders who have the capacity to conduct management actions on the territory, either because they own it or because they hold the rights to act on it. This involves landowner associations, land managers, farmers, and foresters, whose activity has direct implications over fuel load management through burning, cutting, grazing and other activities.



The group of **(5)** Environmental associations are devoted to the study of the natural environment, the protection of the landscape and ecosystems, and enforce society awareness of environmental issues via education. When it comes to wildfires, they may want to understand the functionality of fire in the ecosystems and minimise the negative impacts. Examples of these stakeholders are conservation organisations, environmental consultancies, and environmental educators.

**(6) Media** refers to journalists, communicators in the environmental field, and even social media influencers, whose importance in wildfire management strategies rely on their capacity to reach a large number of people and therefore to influence people's opinions, believes and attitudes towards wildfire management policies.

Representatives from the **(7) Society** encompasses several social groups including volunteer associations that provide support in the wildfire management activities; civil society organisations that act as representatives and for certain citizen groups; vulnerable groups that may require special assistance in case of wildfire, such as disabled people, elderly, children, tourists or communities living in high-risk areas; and finally the general public as a whole whose education on fire risk culture is fundamental to improve the resilience of society to wildfires.

The last stakeholder group brings together representatives from the **(8)** Industry, technology and innovation. The array of stakeholders involved here is very varied and involves, firstly, several industrial sectors with a key role in providing safety and adaptive capacity resulting from wildfire events such as energy, construction, infrastructures, the timber industry, and companies supplying fire prevention and firefighting equipment. Moreover, the involvement of the Banking, Financial Services, and Insurance industry (BFSI) is also relevant so as to provide risk transfer solutions and products for the society and critical infrastructures in particular. Moreover, technology development coupled with emerging innovation, provided by IT technicians, software/hardware or the IoT supply chain industry, becomes for the design of innovative approaches and uses of technology to support the management of wildfires.



#### **EMERGENCY MANAGEMENT ORGANISATIONS** Firefighters, Civil Protection, Medical services, Police, Fire **LAND MANAGEMENT** SCIENTIFIC COMMUNITY **GROUPS** Landowner associations, land planners, Farmers, safety engineers **Foresters** INDUSTRY, TECHNOLOGY AND **ENVIRONMENTAL INNOVATION (2/2) ASSOCIATIONS** BFSI (Banking, Conservation organisations, Services, and Insurance) Environmental industry, IT technicians, Software/hardware consultancies, developers, IoT (Internet of **Environmental educators** INDUSTRY, TECHNOLOGY AND Things) supply chain industry **MEDIA INNOVATION (1/2)** Journalists, Communicators Energy, Infrastructure, Timber industry, in the environmental field, Fire prevention and firefighting social media influencers equipment suppliers

Figure 4: Proposed Stakeholder clustering.





# 6 Developing the connecting dimension among WRFM stakeholders

Currently in Europe there are many existing networks of stakeholders involved in the wildfire risk management domain. The motivation to create them is often connected to the increased need to collect and share knowledge, science, and experience to achieve better results in landscape and emergency management, such us improve planning and preparedness, and the decision-making process during wildfire events [11].

The networks are composed by individuals, teams or organisations that have a common purpose for instance, some networks are formed by geographic location, where links are established due to similar landscape characteristics, fire regime, language, or culture, among others. Whereas frequently networks exist at a wider scope (i.e., international level) as stakeholders from different countries acknowledge the common needs and opportunities for knowledge exchange. For example, the AFAN network (Advanced Fire Analysis Network, 2021-2022) was a project developed to support a thematic network composed by fire analysists across Europe. These groups, until then constituted an informal network, sharing expertise on fire analysis before, during and after wildfires in order to improve preparedness and response in future events. The AFAN project, helped getting together several experts from the international network to define and share the principles and capacities needed to perform fire analysis tasks efficiently [12].

Troncho et al (2022) [11] define four key principles for networks to work: trust, commitment, mutual need, and confidentiality. While the first three seem present in all the networks, the latter is more common in networks where the information shared is sensitive (e.g., data on ongoing wildfire incidents). The sustainability of a network on the long term will depend on these principles being present in the group.

EU-funded projects are often used to support and enhance the actions of the existing networks by carrying out activities to gather together a broad and varied number of stakeholders. Table 2 provides a list of 18 formal networks which have been identified from the analysis of current or recent projects and initiatives. Some of the networks have been approached for several reasons (e.g., join participation in some events, invitation to take part in webinars, invitation to be part of the Firelogue WGs...), whereas others have just been identified as benchmarking initiatives that Firelogue can explore and analyse to inspire new networking opportunities with the WFRM community. The interaction with the latter, however, could be sought during the second half of the project. Finally, some of these networks are already well integrated into the Firelogue project because they are project partners, associated partners or similar. This indeed helps Firelogue with its commitment to become a network of networks. It should be noted that the list is non-exhaustive, and some of these networks may be more active than others. Informal networks have not been identified due to their lack of a sharing platform.



Table 2: Existing formal networks of stakeholders where EU actors are highly involved (non-exhaustive list).

NETWORK	TERRITORIAL SCOPE	DESCRIPTION/THEMATIC	INTERACTION WITH FIRELOGUE
CTIF (International Association of Fire and Rescue Services) [28]	International	Organisation that brings together the people and resources you need in a non-hierarchical setting where chief and firefighter, professional and volunteer are on equal footing, appreciated by personal merits and achievements over title and rank.	Explored as a benchmarking initiative, but not approached yet
International Association of Wildland Fire [29]	International	Professional membership association for wildland fire professionals. The organisation is uniquely positioned as an independent organization whose membership includes experts in all aspects of Wildland fire management.	Explored as a benchmarking initiative, but not approached yet
Flamework [no website available]	International	Network of fire practitioners, sharing knowledge and experiences, organising meeting in person to conduct prescribed burning trainings.	Explored as a benchmarking initiative, but not approached yet
Association for Fire Ecology [30]	International	International organisation is dedicated to improving the knowledge of fire ecology and uses of fire in resilient landscape management.	Invited to participate in the WGs
PCF (Pau Costa Foundation) [45]	International	Organisation that aims to facilitate the exchange between researchers, stakeholders, and civil society with a vocation to disseminate knowledge and make projects real.	Member of the consortium
TIEMS (The International Emergency Management Society) [31]	International	Global forum for education, training and certification in emergency and disaster management, stimulating the exchange of information on the use of innovative methods and technologies within emergency and disaster management to improve society's ability to avoid, mitigate, respond to, and recover from natural and technological disasters.	Member of the consortium
FIRE-ADAPT [32]	International (Europe and Latin America)	EU project developing a science and knowledge exchange network on integrated fire management practices in tropical and subtropical regions.	Invited to participate in webinars
PyroLife (International Training Network) [33]	International	EU Project developing a PhD training network to prepare the next generation of wildfire scientists, supporting a total of 15 PhD students across the globe to pursue cross-disciplinary, wildfire-focused research projects with the support of a worldwide network.	Associated partner, invited to participate in the WGs
AFAN (Advanced Fire Analysis Network) [24]	European	EU project aimed to create a European wildfire expert knowledge-sharing network focused on fire risk analysis.	Associated partner, invited to participate in the WGs



FRISK-GO [38]	European	EU project aimed to define and elaborate in detail the core work pillars of a European Forest Risk Facility and develop a corresponding operational business plan and structural framework for the implementation of such a facility.	Explored as a benchmarking initiative, but not approached yet
VOST (European Virtual Operations Support Teams) [48]	Regional, National, and International	Federation that is aimed to create a space to interexchange experiences, best practices, mitigate common problems with common solutions, as well as to search for opportunities as representatives of a large number of digital volunteers.	Member of the Consortium through VOST-Portugal
@fire International Disaster Response Germany [23]	National (Germany)	German network of professional and volunteer firefighters which assists during natural disasters.	Associated partner, invited to participate in the WGs
England and Wales Wildfire Forum [39]	National (UK)	Voluntary strategic body, independent of government, created to expand knowledge and understanding of wildfire.	Explored as a benchmarking initiative, but not approached yet
CFOA (Chief Fire Officers Association) [26]	National (UK)	Network of Chief Fire Officers in Ireland aimed to expresses their professional opinion on matters related to fire service operations, fire safety and major emergency management.	Explored as a benchmarking initiative, but not approached yet
Croatian Firefighting Association [27]	National (Croatia)	Head organization that integrates all firefighting organizations and units within Croatia.	Associated partner, invited to participate in the WGs
APTB (Asociación Profesional de Técnicos de Bomberos) [25]	National (Spain)	Specialists in the field of Citizen Protection, Extinction, Emergencies and Rescue Services.	Explored as a benchmarking initiative, but not approached yet
FAST (Forest Fires Assessment and Advisory Team) [35]	National (Spain)	Team of experts in forest fire assessment and advice that brings together all the experience and knowledge of our country to provide support to those countries that request it.	Explored as a benchmarking initiative, but not approached yet
FuegoRed [40]	National (Spanish) and International	Network of researchers aimed to review scientific knowledge developed to date and discuss and propose future developments in scientific research about the effects of wildfires on soils.	Invited to participate in webinars

At the European level, networks have appeared and disappeared over time. Depending on the objectives pursued, type of network, members, etc. a network can be sustained or disappear. European fire actors are often part of multiple networks that evolve over time.

Troncho et al., 2022 [11] define the success of the network depending on the ability to set solid foundations and a robust line of action that brings unique values to each of the individuals. If this process of reflection and definition of objectives is not done correctly, that is, taking the necessary



time and dialoguing with all the parties, even if the network initially begins to work, it will not have continuity since each member will understand the needs differently, adapting them to their own and without considering the rest. A situation of instability that can lead to the disappearance of a network is generated when there are more members consuming knowledge than generating it.

Stakeholders belonging to those networks have therefore recognised the need to create communication channels between them to expand and make knowledge flow as part of a more global network [17]. Furthermore, this need has also been identified by several International and European institutions, which have provided the means and tools to build links between networks that apparently have little or no bonds. As examples of this intent, the Priorities of the Sendai Framework for risk reduction 2015-2030 managed by UNDRR [46] promote cooperation between emergency actors to face the current and upcoming challenges of emergency prevention and preparedness. The European Disaster Risk Management Knowledge Centre (DRMKC) was designed to provide a networked approach to the science-policy interface in DRM across the Commission, EU Member States and the DRM community within and beyond the EU [43]. Later in 2021, the Union Civil Protection Mechanism launched the Union Civil Protection Knowledge Network (UCPKN), an EU-level initiative to identify and support the existing networks of civil protection actors [44]. Since then, the UCPKN offers many opportunities for the existing networks to facilitate their activities: training programme, live exercises, exchange of experts programme, lessons learnt programme, calls for project proposals on science and innovation, and thematic workshops and conferences.

Firelogue contributes to the existing initiatives by closely following and interact with some of the most relevant projects working on WFRM and the networks of stakeholders around them, thereby contributing to fulfil the need to interconnect them (see section 1.1). While doing this, Firelogue will monitor the information produced by them, considering in the first place the needs identified by the IAs and FirEUrisk. The Firelogue effort conducted during the project is shared periodically with the DRMKC and the UCPKN, for instance, through the 7<sup>th</sup> DRMKC Annual Seminar (Nov 2023).

# 6.1 Initiatives for promoting synergies for networking: the example of the European Wildfire Risk Node

The **European Wildfire Risk Node (EWRN)** was an idea of a networking initiative created in the framework of the Net Risk Work project [17]. The concept was never implemented, but the principles are very interesting and useful to the end of the present report.

The EWRN acknowledged the large variety of networks that already existed within the European territories, and did not want to create additional networks, but rather a platform of services to complement and support them all. The EWRN was developed as a continental-scale initiative that proposed the creation of a space of interaction for the different European networks on wildfire risk, linking the existing formal and informal networks and communities of stakeholders as the owners of the expert knowledge on wildfire risk across Europe.



The term *node* was used as the intersection between the existing networks where the knowledge domain and the information exchange are expected to occur. The node is conceived to capitalise and organise the knowledge on relevant topics, so as to make it easier for the networks themselves to establish links, accessing existing knowledge and develop new knowledge and capacities. Thus, the node can facilitate knowledge-sharing among participants, creating synergies between the different participant actors. Figure 5 shows an example of connectivity among stakeholder networks with and without a node that acts as an interconnector [17]. Where there is no interconnector node (scheme on the left), there are links missing between some of the networks. However, where the interconnector node is present (blue circle of the scheme on the right), it creates links with all existing networks, and provides services and function that help connecting all of them.

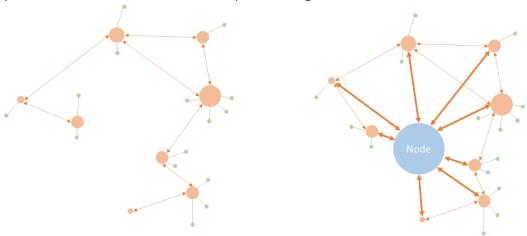


Figure 5: Example of connections among stakeholder networks with and without a node (left and right schemes respectively) as developed in the EWRN [17].

#### 6.2 The Firelogue approach

The Firelogue network of networks intends to address the networking needs, challenges, and aspirations that European actors face [17], this way contributing to an easier flow of knowledge, science, and experiences throughout Europe. To complement the already-existing initiatives, Firelogue ambitions to act as a node that facilitates the dialogue between the IAs, FirEUrisk as well as other projects and networking initiatives at the EU level (e.g., DRMKC, UCPKN), building the channels and spaces for knowledge exchange and access.

Firelogue network of networks objectives:

- 1. Facilitate the active exchange of information, knowledge, science and experience between the projects and their network of stakeholders. The knowledge belonging to a project or network on wildfire management is often in the form of publications in regional languages, management tools, regional or national events, etc.
- Upscale knowledge from regions with more experience in managing the fire risk and make
  it available to all European countries with the due adaptations. Also, it shall provide guidance,
  and services to all the regions. In general, the establishment of a node can also contribute to
  identify and face climate challenges more cooperatively.
- 3. Complement and support regional and national actions in Europe and provide the framework to share those experiences throughout the other networks.



#### 6.3 Main challenges

The development of the Firelogue network of networks has to overcome some challenges to avoid that they become barriers for its implementation, namely:

- Language. This is an essential element for networking and for the engagement of participation in a network. While Firelogue uses English as a language for communication, a large part of the wildfire knowledge in Europe is in the language used in the network, which is not necessarily English. Actions to address this challenge:
  - The representative of each project involved in the network leads the adaptation of the contents between the language of the network and English.
  - Projects and networks select a representative that speakers English to participate in the events of Firelogue.
  - If necessary Firelogue supports regional events in local languages and asks for translation of the outcomes for upscaling valuable contents.
- **Effective engagement.** Existing projects or individuals joining the Firelogue network should understand it as a space of interaction with all the other fire risk networks. Participants joining the network should expect to receive new approaches from other projects, but should also be willing to share the knowledge acquired from their knowledge [11]. Actions to address this challenge:
  - Effective communication will be paramount to explain the objective of Firelogue network of networks (see section 6.2) and the benefits it.
- Stakeholders not belonging to an existing EU project. The opportunity to participate and contribute with knowledge and expertise in the Firelogue network should not be denied to those not belonging to an existing EU project. Actions to address this challenge:
  - Individuals, companies, national networks, and informal networks can get engaged in the Firelogue network through the existing networks created by other projects undertaking similar tasks as them. The reason for this is to avoid overlapping of contributions and to achieve complementarity among the projects connected with the Firelogue network.
- **Structural funding.** Given that the Firelogue network is conceived as a collaborative initiative from multiple networks of stakeholders, there is no specific funding allocated to implement the Firelogue network of networks. Actions to address this challenge:
  - The networking activities organised in the scope of EU-funded like Firelogue will provide an opportunity for that.
  - Beyond the scope of the Firelogue project, external funding will be pursued to keep operative the Firelogue network as well as the exchange activities among the projects involved.
- Governance structure. All formal networks need to have a clear governance structure to make sure the principles and objectives defined are met and there is animation and engagement of participants. Actions to address this challenge:
  - While the Firelogue project is ongoing, the network of networks the role of coordinating the network is developed with the endeavour of all the Firelogue partners.



- By the end the project, partners will decide on the continuity of the network structures created (e.g., WGs, Break-Out Groups for strategic discussions during the Clustering event). The idea is that project partners explore future opportunities to continue to foster cooperation using the existing networks in other projects or initiatives.
- Long-term sustainability. The Firelogue partners commit to developing and maintaining the network of networks until the end of the project. This allows enough time to pilot the initiative and look for resources for long-term sustainability. Actions to address this challenge:
  - o Firelogue partners pursue additional funding to continue with the initiative.
  - The network of networks if absorbed by other initiatives that have similar objectives (e.g., DRMKN, UCPKN).
  - The Firelogue platform "Lessons on Fire Powered by Firelogue" will be taken over by PCF, that already owned the preceding "Lessons on Fire" platform, after the Firelogue lifecycle to continue creating new content and promoting and announcing networking opportunities for the WFRM community. Once this happen, the focus will not be much focused on EU-funded projects, but on the WFRM community in general, as it was with the former "Lessons on Fire".

#### 7 Stakeholder engagement planning and recommendations

The creation and the implementation of the Firelogue network is transversal across the project WPs and objectives in that all the project partners are responsible for organising and/or supporting engagement activities with stakeholders. To do that, the stakeholder engagement strategy can be particularly targeted at project partners of EU WFRM projects (FIRE-RES, SILVANUS; TREEADS, FirEUrisk, SAFERS, Pyrolife, Firelinks, and others), or, more generally, at other external fire experts or professionals not involved in any project but working on, or linked with, WFRM activities. It is a general objective for all the targeted stakeholders to facilitate knowledge sharing and exchange opportunities by setting the grounds to connect people and networks; whereas the primary support that Firelogue is committed to provide to the EU WFRM projects has to do with boosting cooperation for coordinated research and innovation activities and assisting them to gain visibility and maximise the impact of their project outcomes.

This engagement is made effective through a series of discussion and knowledge exchange activities involving the stakeholders from the network. This chapter analyses the stakeholder engagement in terms of stakeholder audience reached (section 7.1), as well as in terms of stakeholder categories involved (section 7.1.1). For both cases the stakeholders will be analysed according to the stakeholder clustered categories described in section 5.5. Analysing the audience reached is important to evaluate those spheres (e.g., policy making institutions, scientific community...) where the project is having greater impact, whereas analysing the stakeholder categories involved is crucial to evaluate the extent to which all the WFRM perspectives are properly represented and integrated in the discussions. Finally, section 7.2 illustrates the timeline that foresees the implementation of the stakeholder engagement activities.



#### 7.1 Summary of stakeholder engagement activities

Since the project start in November 2021, Firelogue has participated in multiple external events, such as conferences, workshops, or webinars, among others. Also, Firelogue has organised its own internal activities, such the Clustering event, the WG workshops, or regular coordination meetings with key partners from the EU WFRM projects. The latter occurs at different strategic management areas share by all the projects: communication leaders cooperate together with the creation of the #EUFireProjectsUnited initiative that is coordinated by the Firelogue partner EDGE; technical partner join the impact assessment discussions that is coordinated by the Firelogue partner NOA; case study leaders join the case study collaboration meetings that are coordinated by the Firelogue partner PCF; research leaders join the Research Integration Board discussions that are coordinated by the Firelogue partner ADAI. Last but not least, the Firelogue project coordinator Fraunhofer holds regular meetings with the coordination teams from other projects.

As a common denominator all these internal activities and external events are intended to strengthen the interaction with the EU WFRM projects by engaging their representatives that better fit into each correspondent activity. With regards to the external events, they are mainly proposed and coordinated by Firelogue in cooperation with other EU WFRM projects and usually accounting for the expertise of external fire experts who give presentations or take part in the discussions. As for the internal activities, they are proposed and coordinated by Firelogue with the active participation and contribution from the EU WFRM projects.

Up to date (Oct 2023), Firelogue has participated in **37 external events** (see Table 3 in Annex I: Firelogue activities in external events), usually promoting join participation with partners from EU WFRM projects and in some cases other external stakeholders. On the other side, Firelogue has organised a total **20 internal activities** (excluding regular coordination meetings) (see Table 4 in Annex II: Firelogue activities in internal events ) involving partners of EU WFRM projects. Following, the participation in external events will be analysed to identify the stakeholder audience reached. As for internal activities, only WG-related activities will be analysed in section 7.1.1 since so far, they have consisted of internal meetings with partners of EU WFRM projects.

#### 7.1.1 Stakeholder audience reached in external events: analysis and recommendations

Altogether, the Firelogue participation in external events has been witnessed by **more 2,000 people** who have signed up or just attended the activities organised by Firelogue across a total of **37 events** (see Table 3 in Annex I: Firelogue activities in external events), combining both virtual and in-person participation.

Figure 6 shows the type of events attended by Firelogue. They basically consist of networking events (mainly Conferences and Congresses as listed in Table 3), where the most recurrent form of participation is through projects presentations, followed by dedicated workshops, and by roundtables. Participation has also occurred through webinars, while the form of participation has likewise consisted of projects presentations. This type of events is generally attended by the scientific



community, who go to present their research projects, and sometimes by policy makers, to grasp and explain the overview of knowledge and innovation gaps, and representatives from industry, technology and innovation, to showcase their developments. They are therefore rather related to the academia and are good at conceptualising processes, methods are identifying needs and challenges, but often lack in taking the step forward for the implementation of solutions. More networking events organised by, or targeted at, operational organisations, such wildfire and forest practitioners should be identified to contribute to elucidate how science and innovation can be translated into practice. Though Firelogue is a CSA project whose objective revolves around in building collaborative frameworks, this collaboration should lead to the pathways to make real the implementation of WFRM solutions as a way to assess the final value in the work that is being developing by the benchmarking WFRM projects in Europe.

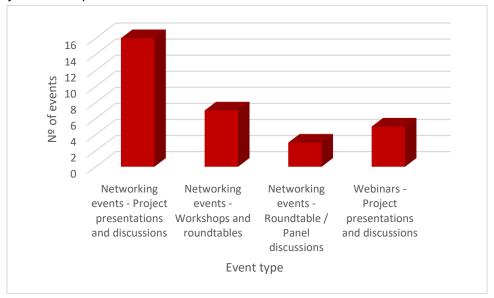


Figure 6: Type of events attended.

As displayed is Figure 7, most of the external events attended were organised in Mediterranean countries where wildfires are considered as a major issue, like Spain, Greece, Portugal, France, or Italy. Occasionally other countries like Germany, the Netherlands or Austria have hosted wildfire-related events. Whereas no events have been attended in Northern European countries. On one side, this is natural since fewer fire-related events are organised in Northern countries, however, Firelogue activity should keep in mind the importance to motivate the transfer of insightful experiences across European stakeholders, as the likelihood to experience major and catastrophic fires is not exclusive from Southern countries, but the thread is migrating north already causing unprecedented impacts on countries that have not experienced such events in the past. Northern European stakeholders are also involved in the WFRM projects, and their contribution is crucial in the networking discussions provided by Firelogue in the frame of such events. This is irrespective of where these events take place, while for the second half of the project, more thought should be given to the identification and participation in some vents organised by central-Northern European projects. Finally, the participation in oversea events (mostly occurring remotely) is positive to broaden the flow and the scope of the Knowledge



Base articulated by Firelogue, allowing the WFRM projects to benchmark and assess the integration of new solutions.

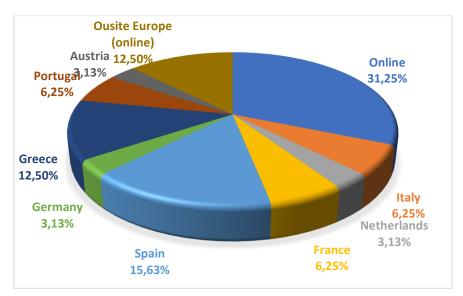


Figure 7: Events per country.

The audience reached during the external events is displayed in Figure 8, and classified according to the stakeholder categories clustered in section 5.5. As argued before, most of the external events attended were organised by, or targeted at, the Scientific Community. This unbalanced numbers with respect to other groups can be explained through a couple of main reasons. Firstly, the Scientific Community is the most numerous stakeholder group represented both among Firelogue and the WFRM project partners; and secondly, this is the most active group in organising events gathering professionals from the WFRM community. The identification of such events and opportunities for participation are therefore more often. Moreover, considering that Firelogue is devoted to coordinate and support actions mainly addressed to these projects, it could be argued that it is fair to give relevance to these events; however, this can obviously jeopardise the integration of vision and perspectives coming from other groups, especially wildfire and forest practitioners (potential endusers of the solutions developed by the WFRM projects) such as Emergency Management Organisations or Land Management Groups. Actually, these groups (especially Emergency Management Organisations) took part in some of these events and occasionally were the main target group in some of them (e.g., webinar with the UK National Fire Chiefs Council), however more events where they are the main target audience should be considered, especially during the second half of the Green Deal projects, as their solutions will have achieved a degree of maturity that will be closer to an implementation stage.

**Policy Making bodies** are a strategic stakeholder target group approach by Firelogue to become more effective in the development and delivery of science driven policies for implementation. Indeed, many of the events organised by the Scientific Community extend an invitation to policy makers, usually at European level when they are organised by other EU-funded projects or institutions (e.g., European REA, DG-ECHO, DG-ENV...). In addition to their participation in the events, Firelogue organises the



Clustering event jointly with the Research Executive Agency (REA) (and the present year also with the DG ECHO) with the objective to showcase, exchange and discuss project results and approaches, and to outreach strategies towards the science-policy-practice communities. This close collaboration and engagement with EU-level policy makers is certainly the main arena for Firelogue, however, more interaction should be sought with policy-makers at national/regional level that could likewise adopt policy recommendations for the implementation of WFRM strategies. This is relevant for WFRM projects whose solutions could be directly tailored to the needs of specific countries. In fact, many WFRM project partners are public administrations that could bridge the connection with these bodies, and work on the adaptation of solutions in their territories.

Industry, Technology, and Innovation. Similar to the Scientific Community they are also frequent attendees and organisers of these events seeking to showcase their solutions and get them validated by potential end-users (wildfire and forest practitioners, civil protection authorities, software developing companies), sometimes potential customers. Their role in integrated WFRM is very important to bring the latest innovative solutions, but obviously the impact of this participation is minimised when the engagement of operational stakeholders (e.g., Emergency Management Organisations or Land Management Groups) is not that relevant. New types of events more attractive for operational stakeholder groups should be sought or promoted by Firelogue. For this, more dialogue should be fostered with these groups stimulating them to organise workshops focused on their top relevant requirements or promoting new event formats such as showrooms dedicated to engaging and experience operational stakeholders with thematic area solutions by direct contact with their developers from Industry, Technology, and Innovation.

The **Civil Society** is usually represented in these events by groups of volunteers' associations or social activists (usually ONGs) defending vulnerable groups. Their participation in these types of events shows good numbers, which contributes to integrating a practical view of how to manage wildfires from a safety point of view. This is indeed an imperative in a context of increased risk where fires become a civil protection problem. Although their participation is deemed as very positive, other event formats where they would become the central element such as preparedness, risk awareness and communication campaigns are necessary to bring into an implementation stage the solutions developed by the WFRM project partners.

Very few events have been attended by the **Media**, as most of them were highly technical where the participation of non-expert groups was little motivated. Although some events had a section aimed at journalists and professionals in the field of communication (e.g., the workshop "Communicating the important role of Sustainable Forest Management to prevent wildfires", or the webinar "Skills for clear Communication of Sustainability"), their participation in more events should be encouraged given their nuanced and vested interest in reporting and connecting to communities. This can happen in the frame of events covering risk communication thematic where communication expert groups (not necessarily experts on wildfires) are targeted. Furthermore, it is paramount that the communication teams form the WFRM project keep contact with relevant media organisations for the effective communication and dissemination of the project activities and outcomes, not only in the scope of particular events,



but also in the scope of communication campaigns aiming to convey proper messages and reach out to the general public.

Finally, **Environmental Associations** were not identified in any of the events attended, while some of the stakeholder groups that are classified as Scientific Community may also fall in this category. Anyhow, this is a shortfall to be addressed during the second half of the projects as their contribution is crucial to enhance the adoption of holistic landscape management solutions where fire can be analysed as a natural process in the ecosystems. As biodiversity loss and the increased wildfire risk are two pressing and interrelated issues that coexist in the context of climate crisis and global change, the need to bring Environmental Associations on board of the Firelogue discussions becomes more relevant to set management strategies that allow to integrate solutions that are environmentally and ecologically sustainable (e.g., nature-based solutions). For that, participation in events where the central topic is not necessary wildfire management, but other related topics such as landscape management, agroforestry, or landscape resilience, is important to better understand how wildfire risk reduction policies fit into broader landscape management policies that likewise integrate the conservation and restoration of ecosystem processes.

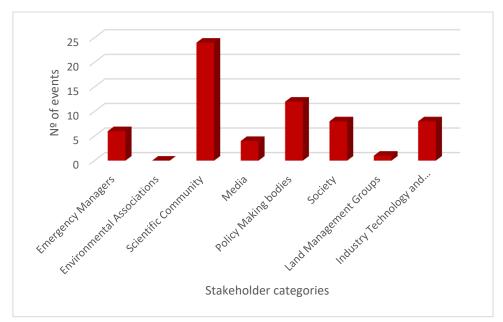


Figure 8: Stakeholder audience reached in external events.

# 7.1.2 Stakeholder engagement in internal activities (based on the WG activity): analysis and recommendations

The stakeholder engagement across the Working Groups is here used as a basis to analyse the diversity of stakeholder categories and profiles involved in Firelogue. While the Firelogue stakeholder engagement process is not solely related to the WG activities (there are discussion and knowledge exchange formats, described in section 1.2, where this engagement is promoted thought the EU WFRM projects), it is a good paradigm to perform this analysis as it will provide a good picture that can be



useful for the WG leaders to plan for the stakeholder engagement process in the future WG activities. The analysis is carried out using as a reference the Stakeholder Clustering proposed in section 5.5.

A total of 91 stakeholder have been in total engaged among the WGs up to date. While this number is expected to increase from now until the end of the WG activities, it is large enough to account for a rich variety of stakeholders from the WFRM domain. However, this analysis will not focus on the amount but on the diversity of stakeholders. The rationale is that given the variety of actors, perspectives, and interests involved in WFRM and the related management phases, it is paramount that the engagement process carried out by the Firelogue partners is inclusive, acknowledging, identifying, and eventually engaging the diversity of categories and profiles involved.

Figure 9 reflects the stakeholder diversity per WGs, accounting for the total number of stakeholders officially involved as members of the respective WGs, regardless of their participation in the virtual or physical (i.e., Solsona workshop) activities carried out up to date. These stakeholders were primarily selected from the Consortiums of the Green Deal IAs (i.e., FIRE-RES, SILVANUS and TREEADS) and other WFRM projects (i.e., FirEUrisk, SAFERS, Pyrolife and Firelinks), but many others were actually external experts that were contacted by the WG leaders after considering the added value of their contribution to the group. While the broader presence of specific stakeholder categories is specific WGs is natural and appropriate (e.g., emergency managers in the Civil Protection WG) some stakeholder categories may be underrepresented. The involvement of stakeholder belonging to both projects and externals were pretty much balanced by the WG leaders when selecting their members, however sometimes it was unavoidably unbalanced given the difficulties to find the suitable candidates for particular WGs. For instance, the Insurance WG is mainly formed by external experts because in the fire projects there are very few partners with background on insurance.



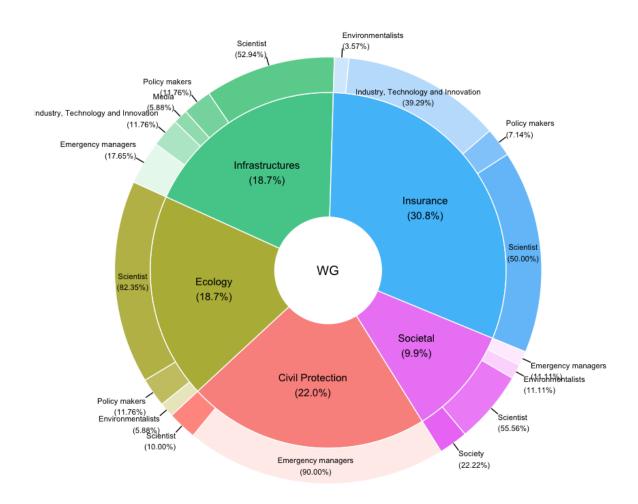


Figure 9: Stakeholder engagement across the Firelogue WGs.

Generally, the majority of the stakeholder involved in the WGs belong to the Scientific Community. This is rather natural considering that this is the predominant profile among the partners from the fire projects, and also because the Firelogue WG leaders belong to that group and so have more facilities to establish connections with other stakeholders from the scientific sphere. Nevertheless, other stakeholder categories are widely represented, namely the Industry, Technology and Innovation, and the Emergency Managers, in the Insurance WG and the Societal WG, respectively. Only one stakeholder category is missing from all WGs, the Land Managers, meaning landowners associations, land planners, farmers and foresters, nonetheless some stakeholder fitting this profile could be in reality included as environmental associations or policy making bodies (e.g., public administration performing land planning). Following them, the media is very little represented across the WGs. While their presence across the WGs is not expected to be very numerous, and rather exclusive to some WGs, these little numbers may indicate they are underrepresented.

The **Ecology WG** mostly involves stakeholders from the Scientific Community, that is, academia and research centres. Policy makers and environmental association are also represented but in significantly lower numbers. This WG could endeavour to engage a larger number of participants from categories other than the scientific community, especially environmental organisations, to integrate nature conservation criteria in the WG discussions, or land management groups and policy makers, to analyse the feasibility to implement innovative land management approaches proposed in the WG and to



identify stoppers and barriers for that. Also, the presence of Emergency Managers would be appreciated to provide criteria on the in critical firefighting infrastructure needed to be taken into consideration in forest management.

The Infrastructure WG also encompasses mainly scientists with also representativity of other categories including policy makers, industry, emergency managers and, to a lesser extent, the media. Infrastructures can be analysed from two perspectives: (1) critical infrastructure to be defended in the event of wildfires, and (2) defensive infrastructure to protect people and goods and other assets in the event of wildfires. For contribution to the latter, Environmental Associations is one of the key categories missing as they could bring into discussion the so-called nature-based solutions for infrastructure design in fire-prone areas. More combined presence between Emergency Management organisations and Scientists is recommended as the first play a relevant role in both perspectives mentioned above, expressing the needs for safe and effective firefighting (e.g., good road networks, availability of hydrants and water sources), and defending at-risk assets (e.g., evacuation and emergency plans for at-risk communities and facilities. The fact that there is another WG more directly related to their activity (Civil protection WG) may be the reason why Emergency Managers involved in the project have decided to join the other one. Moreover, Industry, Technology and Innovation becomes fundamental to bring in innovative solutions to improve safety and effective response in line with the needs expressed by Emergency Managers.

The **Insurance WG** is mainly composed of scientists and representatives from the insurance industry (i.e., BFSI – Banking, Financial Services, and Insurance). Due to the low expertise in the insurance field across the IAs partners, which was already detected in the survey distributed at the beginning of the project (see D1.1 [6]), the Insurance WG leaders decided to involve a large amount of insurance experts with no association with any of the fire projects. This is actually necessary to integrate the perspective of the insurance into wildfire risk reduction strategies but needs to be counterbalanced with fire experts working on diverse subjects that may interact with the insurance sector. For instance, broader representation of land managers and planners would be appreciated to better align financial protection by insurance with selected disaster risk reduction measures such as the implementation of building codes in high-risk areas, or ecosystem approaches inspired by nature-based solutions. Also, the contribution of representatives from Civil Society organisations would be of added value to institute requirements for homeowners to obtain fire insurance, possibly linking it with risk awareness initiatives promoting homeowners in the WUI to manage their home ignition zone.

The **Societal WG** is bringing on board mostly socials scientists, followed by representatives of the society, and, to a lesser extent, environmental associations, and emergency managers. As risk awareness and communication are salient topics in this WG, stakeholders from the Media, including journalists, social media specialists, or communicators in the field of environment, are the main category missing representation. The combination between social scientists (sufficiently represented) and Media representatives could prompt insightful discussions concerning communication strategies and effective ways to design and convey accurate and adapted content to engage and inform people. Moreover, considering this is the proper group to get civil society organisations on board, not many have been engaged; this would not merely target the general public, but representatives from civil organisations with experience on defending the interest of communities living in fire-prone areas. This could be eventually confronting discussions raised in other WGs regarding landscape planning and risk



mitigation, in which the voice of civil society representatives is very necessary to guarantee better democratic development and implementation of management actions.

The **Civil Protection WG** is basically formed by Emergency Managers with occasional representation of scientists. The contribution of fire operatives is crucial in this WG, who are well represented with firefighters, civil protection personnel and fire analysts, in order to arise security concerns in risk assessment and planning strategies. Nevertheless, this insight could be complemented with contributions coming from stakeholders related to Land Management groups or Industry, Technology, and Innovation, who would broaden and enrich the discussions bringing up methods, tools, and innovative knowledge to bring into practice fire and security planning and operations. Also, civil society organisations could join providing useful perspectives for effective citizens' preparedness and the management of at-risk communities during ongoing emergencies.

In conclusion, while not all the stakeholder categories are expected to be necessarily represented in every WG, some categories are underrepresented, which may prevent them from integrating valuable approaches and perspectives. The scientific community is by far the most represented category across the WGs, which is understandable considering that this is the predominant profile among the fire project partners, who represent the majority of the WG participants. This is not a deviation from the WG scope and objectives, but the contrary, since Firelogue is aimed at promoting interaction among the Green IAs, and other WFRM projects, however the main representation of the scientific community may lead to biased assessment of WFRM approaches across most of the WGs. Emergency and land managers would bring in key perspectives so as to move theoretical approaches into practical solutions; environmental organisations would provide necessary insight into how wildfire management solution can be made compatible with mitigation strategies for global biodiversity loss, likewise increasing resulting from the climate change scenario; civil society organisations should be given more voice, especially in the Societal in Civil Protection WGs, as key actors to plan for appropriate strategies that enhance societal resilience, build capacity, increase connectedness and foster cooperation in decision-making processes; also the Media should more prominent at least in the Societal WG, in order to review and discuss communication guidelines to convey appropriate messages to the public and ensure compliance with recommendations provided by fire experts; finally the contribution from Industry, Technology and Innovation should be leveraged across WGs where it is missing. Thus, diversity is encouraged within every WG aiming to reach strategical approaches drawing from multiple perspectives. However, the interaction among WGs is likewise necessary to put in common general approaches raised at the level of each WG thematic subjects, as WGs are not independent from each other, but have common grounds in which joint strategies should be put in place. Mixed group discussions combining participants from different WGs already occurred in the physical workshop in Solsona and this format is expected to be revalidated in the next physical workshop planned for 2024. These are great opportunities to leverage and the best-available knowledge and technical know-how in a manner that results in the formulation of integrated WFRM policies setting the path to address the challenges and expected impacts set by the Green Deal.

#### 7.2 Activity implementation timeline

Figure 10 provides an overview of the approximate timeline expected to implement each of the above actions towards the implementation of the Firelogue network of networks. The dark red lines depict the duration of the actions, whereas the light red lines depict the duration of the actions that will be



further developed. Finally, the dark and light red dashed lines indicate that the durations of those actions are expected to continue beyond the scope of the Firelogue project.

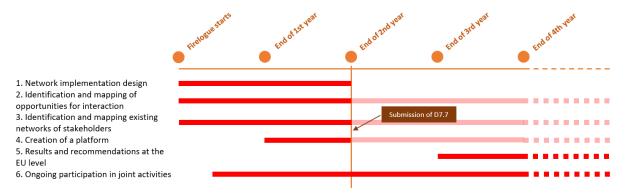


Figure 10: Timeline for the implementation of actions to create the Firelogue network.



#### 8 References

- [1] Berchtold, C. and Overmeyer, M. (2022). Conceptualisation of discussion formats. Deliverable D2.1 Firelogue.
- [2] Berchtold, C. and Wagner, S (2023). Set-up of WGs. Deliverable D4.3 Firelogue.
- [3] Martin, D.; Vendrell, J.; Prat, N; Borràs, M. (2022). Stakeholder Clustering I. Deliverable D7.2 Firelogue.
- [4] Schinko, T., Berchtold, C., Handmer, J., Deubelli-Hwang, T., Preinfalk, E., Linnerooth-Bayer, J., Scolobig, A., Serra, M. and Plana, E. (2023). A framework for considering justice aspects in integrated wildfire risk management. *Nature Climate Change*, pp.1-8.
- [5] Berchtold, C. and Overmeyer, M. (2022). Conceptualisation of discussion formats. Deliverable D2.1 Firelogue.
- [6] Martín, D.; Juan, X.; Vendrell, J.; Borràs, M. (2022). Review report of IA case studies including wildfire events, actors, WFRM measures, technologies and SOPs. Deliverable D1.1 Firelogue.
- [7] Juan-Díaz, X.; Martín, D.; Vendrell, J.; Prat-Guitart, N; Borràs, M. (2022). Design and implementation of Knowledge Exchange Formats . Deliverable D2.3 Firelogue.
- [8] Ballereau, D. (2022). Consolidated WFRM Knowledge Base Report on the mapping of WFRM actors, approaches, measures and strategies and SOPs I. Deliverable D1.2 Firelogue.
- [9] Maragkos, D., Papakonstantinou, M. (2022). WFRM technologies and maturity indicators I. Deliverable D1.3 Firelogue.
- [10] Maragos, D. (2022). Communication Strategy and Action Plan. Deliverable D6.1 Firelogue.
- [11]Troncho, J., Caamaño, J., Conde, C., Fàbrega, A., Vendrell, J., Abelló, L., Prat-Guitart N. (2022). AFAN principles for a sustainable network structure. AFAN project.
- [12] Castellnou, M.; Miralles, M.; Nebot, E., Estivill, L. (2021). Guidelines of fire analyst competencies and skills. AFAN Project.
- [13] Camus, B.; Clotteau, M.; Caruso, F.; Corradino, C.; Ferrari, L.; King, K.; Lostrangio, M.C. (2022). Communication and dissemination plan. Deliverable D7.1 FIRE-RES project. 40 pages.
- [14]Marić, L. et. al. (MD) (2022): D10.3 SILVANUS Annual Report on SILVANUS Dissemination Activities v2.
- [15] Froes, I., Vallim, D., Giannakopoulou, A., Coco Schmid, A.J., Drews, M., Giannakidou, S, and Luceri, D. (2023). Report on Organizational Structural and Sociotechnical factors. Deliverable D3.2 TREEADS.
- [16] Grundy S., McMorrow J. (2015). Using the Incident Recording System to define wildfire in Great Britain. In Wildfires 2015, Cambuslang, Glasgow, 10–11 November 2015.
- [17]Held, A.; Hengst-Ehrhart, Y.; Hörl, J.; Prat-Guitart, N.; Vendrell, J.; Borràs, M.; Ballart, H.; Conde, C.; Vilalta, O. (2018). Report with recommendations and experiences on facilitating cooperation and risk management and recommendations for enhancing network in risk management (referred to regional nodes). Deliverable 10 & 11. Networking for the European Forest Risk Facility initiative. ECHO/SUB/2016/740171/PREV10 Project. 25 pp.
- [18] Horizon results Booster website: https://www.horizonresultsbooster.eu/.
- [19]RISE-SD 2023 Conference (Research and Innovation Symposium for European Security and Defence): <a href="https://rise-sd2023.eu/">https://rise-sd2023.eu/</a>.
- [20] Fire Across Boundaries Conference website: <a href="http://fireacrossboundaries.org/">http://fireacrossboundaries.org/</a>.
- [21]IX International Conference on Forest Fire Research in Coimbra: https://www.adai.pt/newevent/event/home/index.php?target=home&defLang=2&event=4.
- [22]Lessons on Fire Powered by Firelogue platform: <a href="https://lessonsonfire.firelogue.eu/">https://lessonsonfire.firelogue.eu/</a>.
- [23]@fire website: <a href="https://www.at-fire.de/">https://www.at-fire.de/</a>.
- [24]AFAN project website: https://fireanalysisnetwork.eu/.





[25]APTB website: <a href="https://www.aptb.org/">https://www.aptb.org/</a>. [26]CFOA website: <a href="https://www.cfoa.ie/">https://www.cfoa.ie/</a>.

[27] Croatian Firefighting Association: <a href="http://vatrogastvo.hr/english/">http://vatrogastvo.hr/english/</a>.

[28]CTIF website: https://www.ctif.org/.

[29]IAWF website: <a href="https://www.iawfonline.org/">https://www.iawfonline.org/</a>.

[30]AFE website: <a href="https://fireecology.org/">https://fireecology.org/</a>.
[31]TIEMS website: <a href="https://www.tiems.info/">https://www.tiems.info/</a>.

[32]FIRE-ADAPT website: <a href="https://www.fireadapt.eu/en/">https://www.fireadapt.eu/en/</a>. [33]Pyrolife website: <a href="https://pyrolife.lessonsonfire.eu/">https://pyrolife.lessonsonfire.eu/</a>. [34]DRYADS project website: <a href="https://dryads-project.eu/">https://dryads-project.eu/</a>.

[35]FAST technical sheet: <a href="https://www.miteco.gob.es/en/biodiversidad/temas/incendios-forestales/01 doc1 fact sheet fast spain 20200218 tcm30-544296 tcm38-524541.pdf">https://www.miteco.gob.es/en/biodiversidad/temas/incendios-forestales/01 doc1 fact sheet fast spain 20200218 tcm30-544296 tcm38-524541.pdf</a>.

[36]FIRE-RES project website: <a href="https://fire-res.eu/about-fire-res/">https://fire-res.eu/about-fire-res/</a>.

[37]FirEUrisk project website: <a href="https://fireurisk.eu/">https://fireurisk.eu/</a>. [38]FRISK-GO project website: <a href="http://www.friskgo.org/">http://www.friskgo.org/</a>.

[39]England and Wales Wildfire Forum website: https://www.northumberlandfireandrescue.gov.uk/ewwf.

[40]FuegoRed website: http://fuegored.weebly.com/.

[41] Firelogue in the UNSPIDER website: <a href="https://un-spider.org/news-and-events/news/un-spiders-rso-greece-and-partners-present-their-firelogue-project">https://un-spider.org/news-and-events/news/un-spiders-rso-greece-and-partners-present-their-firelogue-project</a>.

[42]Net Risk Work website: <a href="http://netriskwork.ctfc.cat/">http://netriskwork.ctfc.cat/</a>.

[43]DRMKC - Disaster Risk Management Knowledge Centre website: <a href="https://drmkc.jrc.ec.europa.eu/overview/about-the-drmkc">https://drmkc.jrc.ec.europa.eu/overview/about-the-drmkc</a>.

[44]EU Civil Protection Knowledge Network website: <a href="https://civil-protection-humanitarian-aid.ec.europa.eu/what/civil-protection/eu-civil-protection-knowledge-network\_en.">https://civil-protection-humanitarian-aid.ec.europa.eu/what/civil-protection/eu-civil-protection-knowledge-network\_en.</a>

[45]PCF website: <a href="https://www.paucostafoundation.org/en/">https://www.paucostafoundation.org/en/</a>.

[46]Sendai Framework for Risk Reduction: <u>Sendai Framework for Disaster Risk Reduction 2015-2030 | UNDRR.</u>

[47] SILVANUS project website: <a href="https://cordis.europa.eu/project/id/101037247">https://cordis.europa.eu/project/id/101037247</a>.

[48] VOST Europe website: <a href="https://vosteurope.org/">https://vosteurope.org/</a>. [49] ISCRAM Conference: <a href="https://iscram2024.ercis.org/">https://iscram2024.ercis.org/</a>.



#### 9 Annexes

### 9.1 Annex I: Firelogue activities in external events

Table 3: List of external events attended by Firelogue.

EVENT TITLE	INTERACTION FORMAT	DATE & LOCATION	OBJECTIVES	AUDIENCE REACHED	TARGET STAKEHOLDER CATEGORY
UN SPIDER Bonn International Conference (virtual), Space- based Solutions for Disaster Management in Africa: Networks and Information, Technologies in times of crisis	Networking events - Project presentations and discussions	17/11/2021, online	Presentation of Firelogue; Enlargement of Firelogue network	~100	Industry     Technology and     Innovation     Scientific     Community
Regional UN-SPIDER Meeting of Experts "Space Solutions for Risk Reduction Management and Disaster Response in Latin America" CEPREDENAC para América Latina	Networking events - Project presentations and discussions	23-25/11/2021, online	Presentation of Firelogue; Enlargement of Firelogue network	~30	Industry     Technology and     Innovation     Policy Making     bodies     3. Society
3rd International Conference on Fire Behavior and Risk	Networking events - Project presentation	03-06/05/2022, Alguero (Italy)	To present Firelogue project to the WFRM communities and to connect with possible relevant stakeholders, meet representatives of the IAs	~40	1. Scientific Community 2. Society
Firelinks WG1 meeting	Networking events - Project presentation	11-12/05/2022, Arnhem (Netherlands)	Presentation of Firelogue; interaction with other Fire Projects such as Firelinks, PyrioLife	~30	1. Scientific Community
Aerial Firefighting and Search & Rescue Europe Conference and Exhibition	Networking events - Project presentation	18-20/05/2022, Nimes (France)	To present Firelogue project to the audience (specialists on Aerial Firefighting) the along with the IAs	~70	Emergency     Management     organisations     Endustry     Technology and     Innovation
9th International Conference on Information Systems for Crisis Response and Management - ISCRAM	Networking events - Project presentation	22-25/5/2022, Vancouver (Canada), online participation	Present Firelogue project, connect with las	~30	1. Scientific Community
Fire and Climate 2022	Networking events - Project presentation	23-27/05/2022, Pasadena (USA), online participation	To present Firelogue project	~50	1. Scientific Community
Towards fire resilient landscapes in Europe	Networking events - Project presentation	14-15/06/2022, Solsona (Catalonia, Spain) & online	To examine the concept and the role of "resilient landscapes" in integrated wildfire risk management and governance.	~30	Scientific     Community     Policy Making     bodies



Interschutz Exhibition	Networking events - Project presentation	20-25/06/2022, Hannover (Germany)	Introduce Firelogue to (mostly German) firefighting community	~50	1. Industry Technology and Innovation
Roadmap project meeting	Networking events - Workshops and roundtables	01/06/2022, online	Recording of ROADMAP project results, i.e. the collection and review of good practices, recommendations and lessons learned in the areas of prevention, preparedness and response, which have been published in regular bulletins to support decision- makers to be able to reproduce the most promising procedures in Firelogue.	~30	Scientific     Community     Policy Making     bodies
Green Deal Board of coordinators	None	01/06/2022, online	Bring all Green Deal Call funded projects together to receive information on recent policy developments, take stock of ongoing project clustering activities, discuss cross- cutting opportunities and challenges, identify cooperation actions, and foster the establishment of the Green Deal Projects community. Moreover, during the meeting the ongoing and future support activities of the GD-SO will be outlined.	~50	1. Policy Making bodies
Fire Ecology Across Boundaries	Networking events - Roundtable / Panel discussions	04/10/2022, Florence (Italy)	Round table discussion about resilience concept, the feasibility of GD expected impacts and how IAs and other invited projects (SAFERS, PYROLIFE) are approaching both in the frame of the GD Call. Additional meeting to introduce WGs of Firelogue project was host later.	~40	Scientific     Community     Emergency     Management     organisations     Policy Making     bodies
	Networking events - Roundtable /	05-06/10/2022, Florence (Italy)	Roundtable on pathways for wildfire risk adaptation	~30	
	Panel discussions	05-06/10/2022, Florence (Italy)	Discuss equity aspects of WFRM	~40	



9th International Conference on Civil Protection & New technologies	Networking events - Project presentations and discussions	29/09/2022- 01/10/2022, Thessaloniki (Greece)	Conference aiming to bridge the gap between civil protection authorities, first responder organizations and scientists. The results of scientific studies and projects have been presented and discussions on wild fire management practices have been moderated.	~75	1. Industry Technology and Innovation 2. Scientific Community 3. Emergency Management organisations
TIEMS 2022 Annual Conference	Webinars - Project presentations and discussions	17-21/10/2022, Atlanta (USA)	Panel Presentations And Discussion On The Fire-Res And Firelogue EU Projects	41	1. Scientific Community 2. Industry Technology and Innovation 3. Emergency Management organisations
FIRE-IN Final Conference	Networking events - Project presentations and discussions	20-21/10/2022, Nimes (France)	Firelogue Project presentation and discussions about FIRE- IN exploitation of results and networks (landscape fire working group)	~50	1. Scientific Community
9th International Conference on Forest Fire Research & 17th International Wildland Fire Safety Summit	Networking events - Roundtable / Panel discussions	14-17/11/2022, Coimbra (Portugal)	Project presentations, Coordination of sessions, networking, Discussion about the impact assessment, case studies, fuel map,	~200	Scientific     Community     Policy Making     bodies
Understanding Risk 2022	Webinars - Project presentations and discussions	28/11/2022- 02/12/2022, Florianópolis (Brazil), online participation	Firelogue Project presentation and introduction (kick-off) of the Insurance Working Group	~100	Policy Making bodies     Scientific Community
EUFireProjectsUnited Joint Dissemination Workshop	Networking events - Workshops	23/01/2023, online	Connect EU-research projects in WFRM, create a space for them to get to know each other and identify areas of cooperation; identify their achievements, networking, find areas of collaboration	~140	1. Scientific Community 2. Policy Making bodies 3. Society
Communicating the important role of Sustainable Forest Management to prevent wildfires	Networking events - Workshops	07-09/02/2023, Barcelona (Spain)	Raise the social and political awareness in order to develop general recommendations to strengthen the communication related to wildfire prevention and the associated importance of SFM	45	1. Media 2. Scientific Community 3. Society



PyroLife 2023 Conference: the four axes of diversity of wildfire	Networking events - Project presentations and discussions	14-16/3/2023 Barcelona (Spain)	Get to know the novel research conducted by the 14 PyroLife research projects and discuss the education and training of future generations of fire scientists.	~30	1. Scientific Community
FirEUrisk annual meeting	Networking events - Project presentations and discussions	27-29/03/2023, Lleida (Spain)	Short presentation of Firelogue general objectives and hand over of leaflets during the FirEUrisk annual meeting	~70	Scientific     Community     Industry     Technology and     Innovation
Austrian Climate Days	Networking events - Project presentations and discussions	12-13/04/2023, Vienna (Austria)	Presentation of ongoing Firelogue work to Austrian climate research community	~40	1. Scientific Community 2. Society
8th International Wildland Fire Conference	Networking events - Workshops	16-19/05/2023, Porto (Portugal)	Dissemination of Firelogue results	~400	1. Scientific Community 2. Policy Making bodies
RISE-SD 2023	Networking events - Workshops Networking events - Project presentations and discussions None	29-31/05/2023, Rhodes (Greece)	Implementation of a wildfire risk management workshop jointly with the IAs and SAFERS Dissemination Firelogue platform after launch on March 2023 Social media campagne, representing the project at the booth	~150	1. Policy Making bodies 2. Media 3. Scientific Community
Green Deal-Support Office Board of Coordinators Meeting	Networking events - Workshops	05/06/2023, online	Networking with SUBERB & RESONATE on forest restoration, providing input for case studies mapping (FIRELOGUE volunteered to co-lead the task)	~30	1. Policy Making bodies
Skills for clear Communication of Sustainability	Webinars - Project presentations and discussions	07/06/2023, online	Following the webinar, the gathered insights will be used to create a simple document that can serve as a set of guidelines for effectively communicating sustainability.	~150	1. Society 2. Media
MAIA webinars: Creating synergies between different EU Climate Change Research projects	Webinars - Project presentations and discussions	14/07/2023, online	Share EU funded projects related to wildfire risk / Look for synergies across CSA (possibility of having a MAIA-FIRELOGUE- Other CSA webinar was commented)	~15	1. Scientific Community



EUGEO Congress - Geography	Networking	04-08/09/2023,	Present results of	~50	1. Scientific
for our common future	events - Others	Barcelona (Spain)	Firelogue, specifically: Just Transition into WFRM (task 4.1)		Community 2. Land Management Groups
Virtual UN-SPIDER Regional Support Offices Meeting	Networking events - Workshops	12/09/2023, online	Present the Firelogue project and platform to the UN-SPIDER community	22	Policy Making     bodies     Scientific     Community
8th THESSALONIKI INTERNATIONAL FAIR	Networking events - Others	12/09/2023, Thessaloniki (Greece)	Provide exhibition visitors/participants with information about the Firelogue project and platform	~100	1. Society 2. Industry Technology and Innovation
Webinar Agenda UK National Fire Chiefs Council	Webinars - Project presentations and discussions	18/09/2023, online	Share with the UK National Fire Chiefs Council information about Firelogue	~40	1. Emergency Management organisations
Safe Attica 2023 - 10th international conference on Civil protection & new technologies	Networking events - Project presentations and discussions	25-27/09/2023, Athens (Greece)	Presentation of the Firelogue project, the infrastructure working group and the platform to the audience of the SafeAttica International Conference	~150	1. Scientific Community 2. Society 3. Emergency Management organisations



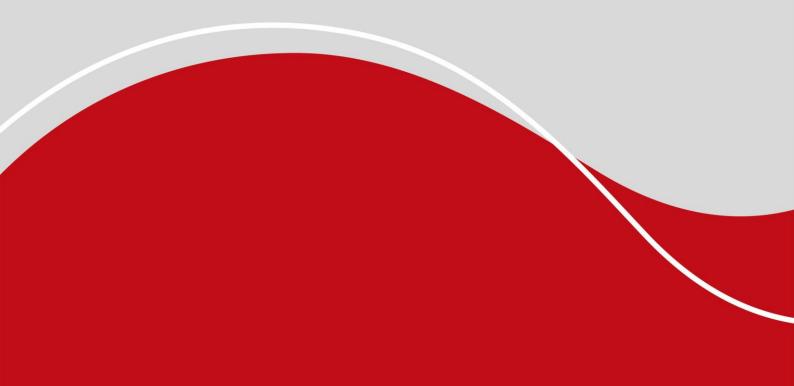
## 9.2 Annex II: Firelogue activities in internal events

Table 4: List of internal events organised by Firelogue

EVENT TITLE	INTERACTION FORMAT	DATE & LOCATION
First Clustering event	Digital Annual Conference (Clustering event)	05/04/2022, online
Firelogue-DRYADS	Networking events - Workshops and roundtables	10/02/2022, online
Impact assessment call with Silvanus	BG meeting - Impact Assessment	23/02/2022, online
Impact assessment call with Treeads	BG meeting - Impact Assessment	25/02/2022, online
Impact assessment call with FIRE-RES	BG meeting - Impact Assessment	23/02/2022, online
EUFireProjectsUnited	BG meeting - Communication & Dissemination	23/03/2022, online
Fire occurrence, dynamics and prevention	Networking events - Workshops	11-12/5/2022, online
2nd Joint Impact assessment Workshop	Joint Impact Assessment Workshops	19/05/2022, online
EUFireProjectsUnited	BG meeting - Communication & Dissemination	09/06/2022, online
3rd Joint Impact assessment Workshop	Networking events - Workshops and roundtables	08/09/2022, online
Case studies collaboration	BG meeting - Case study collaboration	15/09/2022, online
EUFireProjectsUnited	BG meeting - Communication & Dissemination	21/09/2022, online
EUFireProjectsUnited	BG meeting - Communication & Dissemination	05/12/2022, online
EUFireProjectsUnited	BG meeting - Communication & Dissemination	02/01/2022, online
EUFireProjectsUnited	BG meeting - Communication & Dissemination	04/04/2022, online
4th Joint Impact assessment Workshop	Joint Impact Assessment Workshops	13/12/2022, online
5th Joint Impact assessment Workshop	Joint Impact Assessment Workshops	14/06/2023, online
1st physical WG workshop	WG Workshop	04-06/07/2023, Solsona (Spain)
1st RIB Meeting	Research Integration Board meetings	28/10/2022, online
2nd RIB Meeting	Research Integration Board meetings	12/09/2023, online



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THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME UNDER GRANT AGREEMENT NO 101036534