# Let the dialogue begin

**Fire**logue

# D1.1 Review report of IA case studies including wildfire events, actors, WFRM measures, technologies and SOPs

Project: Cross-sector dialogue for Wildfire Risk Management

Acronym: Firelogue

## Document Information

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# Glossary

| Abbreviation | Meaning |
|---|---|
| AI | Artificial Intelligence |
| AR | Augmented Reality |
| BFSI | Banking, Financial Services and Insurance |
| EC DRMKC | European Commission Disaster Risk Management Knowledge Centre |
| CB | Communication Booster |
| CCTV | Closed-Circuit Television |
| EC | European Commission |
| EWE | Extreme Wildfire Events |
| EFFIS | European Forest Fire Information System |
| FAQ | Frequently Ask Question |
| GIS | Geographic Information Systems |
| HAP | High Altitude Platforms |
| HAPS | High Altitude Pseudo Satellites |
| IA | Innovation Action |
| IoT | Internet of Things |
| RIA | Research and Innovation Action |
| SOP | Standard Operation Procedure |
| TBD | To Be Decided |
| TRL | Technology Readiness Level |
| UAV | Unmanned Aerial Vehicle |
| UGV | Unmanned Ground Vehicle |
| VR | Virtual Reality |
| WFRM | Wildfire Risk Management |
| WG | Working Group |
| WUI | Wildland Urban Interface |
| **Consortium 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 | Universidad de Alcalá |
|---|---|
| UNIRIS | United Nations Research Institute for Social Development |
| VOST-PT | Virtual Operations Support Team from Portugal |

## Executive Summary

This deliverable reports on the survey results distributed to Green Deal (LC-GD-1-1) Innovation Actions DRYADS, FIRE-RES, and SILVANUS and the Research and Innovation Action FirEUrisk. The main aim of the survey is to understand better the scope of these projects and identify relevant areas for knowledge sharing and joint activities. Thus, the survey collects global inputs from the project for specific key thematic blocks: desired knowledge sharing activities, stakeholder management, impact assessment strategies, case study planning and deployment, WGs set up, and communication and dissemination activities. Nonetheless, a more detailed analysis has been performed around the case studies planned for each of the projects.

# 1   Introduction

The Firelogue project 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 wildfire community. It thereby focuses mainly on the support of the Green Deal (LC-GD-1-1) Innovation Actions DRYADS [1], FIRE-RES [6], and SILVANUS [13] (IAs henceforth) and the Research and Innovation Action (RIA) FirEUrisk [8] (funded under the call LC-CLA-15), as well as other projects working on wildfire management. Thus, Firelogue will simultaneously coordinate the integration of stakeholders and findings into cross-sectoral WFRM recommendations as a roadmap toward meeting the 2030 desired impacts and beyond.

To achieve the above-mentioned purpose, Firelogue presupposes that it is crucial to bring together the multitude of different WFRM stakeholders to uncover their potential synergistic and conflicting interests, aims, and means to achieve those in order to design holistically. Therefore, to properly manage the interaction with all the stakeholders, the project promotes the design and implementation of discussion and knowledge sharing formats, including an Annual digital conference, Peer Review, Joint Impact Assessment, webinars, or networking events. More specifically, these activities intend to facilitate multi-stakeholder networking, exchange, and continuous engagement and collect and synthesise their voices across the whole spectrum of politics, economics, civil protection, and civil society.

## 1.1   Connecting dimension: establishing synergies between WFRM-related projects

Firelogue contributes with a connecting dimension focused on the collection of knowledge, insights, and solutions from the WFRM-related projects, their integration, upscaling, and broader dissemination, as well as the joint management of stakeholder engagement in the project. It will gather the measures and solutions from the projects and their case studies and enrich this knowledge. Results will be analysed in terms of consistency and relevance at the European level and will be used as a base for further discussion and integration (see Figure 1).



*Figure 1: Activities under the FIRELOGUE connecting dimension.*

Firelogue activities will support the projects in disseminating their insights through joint dissemination activities which will be codesigned during the early stage of the projects. This involves the support of joint scientific publications, the development of a common White Paper and Roadmap towards 2030 and beyond, and a Technology Market Place that will combine a maturity assessment with an online exhibition space supported by the Firelogue Communication Booster (CB). The CB consists of a web-based platform for knowledge exchange and access, the so-called Firelogue platform, that combines different support services allowing for the central communication of measures and solutions, publications, and policy papers. At the same time, it serves as a "single face to the customer" of the projects. It showcases relevant technical solutions while interconnecting stakeholders from these projects and external parties in the WFRM domain.

### 1.1.1    Working Groups

Firelogue establishes five sectorial Working Groups (WGs) on (1) ecology/environment, (2) societal aspects, (3) infrastructures, (4) insurance and (5) civil protection aspects. WGs members will be formed by members from the three IAs, FirEUrisk, Firelogue, other WFRM projects as well as other invited experts, and their mission will be to foster transdisciplinary dialogues to review and analyse existing WFRM approaches, and innovations suggested by their members and other activities in the broader WFRM community. To ensure structured discussions and facilitate cross-working group exchange, WGs will work along four horizontal thematic strands, reflecting the main policy aspects (socioeconomic aspects, climate change mitigation and adaptation) and facilitators (technology, earth observation) in WFRM (see Figure 2).
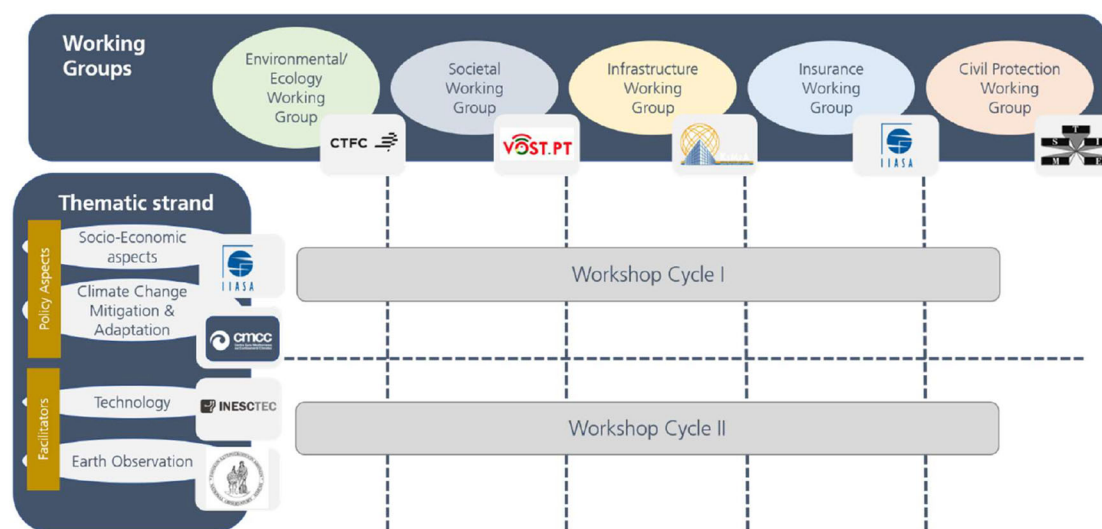


*Figure 2: Firelogue working groups (WGs).*

## 1.2 Purpose of the document

This deliverable reports on the survey results distributed to the IAs and FirEUrisk projects that aim to get a better understanding of their scope and identify relevant areas for knowledge sharing and joint activities. It should be taken into consideration that at the date of submitting this deliverable (30/04/2022), all these projects are in an early stage of implementation (i.e., they are between 2 and 4 months old), except for FirEUrisk, which began one year earlier. Therefore, the survey intends to know about their initial plans in terms of relevant aspects to be analysed/researched, stakeholders to get involved, intended participation in events, and other actions. The collection of this information is paramount to get underway the connecting dimension of Firelogue that will allow coordinated support actions for the effective internal and external flow of WFRM knowledge, insights, and solutions.

The survey collects global inputs from the project for specific key thematic blocks: desired knowledge sharing activities, stakeholder management, impact assessment strategies, case study planning and deployment, WGs set up, and communication and dissemination activities. Nonetheless, a more detailed analysis will be performed on the case studies planned for each of the projects. Relevant information from each case study has been also collected through the survey and includes the location, target activities (e.g., technology testing and validation, risk awareness campaigns, prescribed burning, forest monitoring…), main topics covered (e.g., biodiversity, social perceptions, preventive landscape management, pre- and post-disaster financing, evacuations, international cooperation…), and technologies used. These inputs will be synthesised in the form of tabular portraits (see chapter 5), one per case study and project, to help with the identification of key priorities and aspects of interest by each project, enabling complementarity and cooperation among the projects during the deployment of their case studies.

# 2    Rationale and objectives

It is at the core of Firelogue to facilitate coordinated exchange among the wildfire-related projects and the broad WFRM community, and, more generally, to enable successful interaction between them. Currently, there are several EU-funded projects focused on wildfire management from different perspectives and providing different solutions. Whereas Firelogue has an ambitious objective to give support to all these projects, it primarily focuses on the three Green Deal IAs DRYADS, FIRE-RES, and SILVANUS, as well as FirEUrisk, as they are the current benchmark projects in integrated fire risk management in Europe. To be able to provide this support it is paramount to understand their targeted challenges, objectives, and perspectives, and it is for that reason that a survey has been prepared and distributed to these four projects. Therefore, the survey signifies a first approach to these projects that will serve to acquire preliminary insight from their plans, and that will be later enriched throughout the continued cooperation and exchange actions.

The overarching objective of the survey is **to better understand the scope of the IA projects and FirEUrisk, and to identify relevant areas for knowledge sharing and joint activities over the next 4-5 years**.

Specific objectives to address the main objective are:
- To identify the type of data and information they are interested in and the main sources used to acquire it.
- To identify existing tools that they will be using to conduct their project activities as well as the new and innovative tools they will be developing.
- To map the array of stakeholders' groups that they aim to get engaged in their project activities for the appropriate development of practical solutions.
- To understand their methodological approaches towards achieving the 2030 expected impacts stated in the Green Deal call.
- To map the array of case studies defined and their plans for their deployment in demonstration scenarios.
- To identify their most relevant topics for discussion in the WFRM domain, how they will address these topics, and how they plan to contribute to them.
- To understand their plans for communicating and disseminating their project results and envisage the implementation of common communication activities and cooperation.

# 3   Survey design

This chapter overviews the survey design, describing the target respondents and the rationale behind selecting them and describing one-by-one each of the survey sections to better understand the type of questions and the scope of the information aimed to be collected from them.

## 3.1   Target respondents

The survey is targeted to the three IAs, DRYADS, FIRE-RES, SILVANUS, and FirEUrisk, which are the current benchmark projects dealing with integrated fire risk management in Europe. Given that the survey is composed of diverse questions covering different project technical and managerial areas (e.g., stakeholder management, impact assessment, communication, and dissemination…), it was not due to be responded by one single representative of each project (e.g., the project coordinator), but by the key members of the Consortium leading each of the project areas. To that end, the survey was first circulated to the project coordinators, and they were asked to forward it to the specific members of the Consortium who were in the position to respond to each specific group of questions.

The knowledge acquired from the consultation to these projects will be fundamental to start the initiatives of networking and knowledge promotion and exchange, but it will continue with follow up collaborative and interactive activities that Firelogue will coordinate. For these activities, the 4 above-mentioned projects will be targeted as well as other projects from the WFRM domain, thus fulfilling the Firelogue ambition to create a network of wildfire-related projects. Other projects from the WFRM domain that have been identified and already engaged in the scope of the Clustering Event for the European Commission (Research Executive Agency) that was held on April 5th and 6th of 2022 are Fire-In [4], Firelinks [5], SAFERS [12], NEMAUSUS, AFAN [1] and Pyrolife [11].

## 3.2   Survey structure

The survey, designed ad-hoc for the project, comprises 33 questions corresponding to seven thematic sections. The main topics of each thematic section are explained below. Question types are as follows:

- **Free text,** aimed to describe the project objectives, methods used, and implementation plans for conducting their activities.
- **Multiple-choice,** with a list of pre-defined options according to their relevance, including the option "Others". It should be noted that the stats of these results account for a total of four responses, which corresponds to the total number of target respondents (the three IAs and FirEUrisk project).
- **Contact information,** to obtain the contact details of key Consortium members of each project.

### 3.2.1   General questions

This is an introduction section in which respondents are requested to indicate to which project they belong and to provide information about the main objective and a general description of their project.

**Questions included:**

- **Select which project you represent.**
- **Please state the main objective(s) and a brief (150 words or less) description of the project.**

### 3.2.2 Knowledge sharing

The questions posed in this section aim to identify desired knowledge exchange and transfer actions to facilitate the interaction among the WFRM projects, and with other relevant EU and non-EU initiatives, and the broader WFRM Community. This involves queries the types of knowledge to be shared; relevant knowledge, data and information; the use of exiting platforms and plans for developing new platforms, with a special query about the Firelogue platform (see section 1.1) and their desired functions for it; and finally the type of participation activities where they would like to jointly participate with other projects, and relevant topics for discussion to be proposed.

**Questions included:**

- **Which type of knowledge would you like to see shared between the different projects?**
- **Does your project plan to make use of knowledge, data, and information provided by any of the following existing platforms?**
- **Does your work plan contribute with knowledge, practices, and solutions into any of the previous platforms?**
- **FIRELOGUE will develop a web-based platform to support the exchange of information among the WFRM community. What are the key sections that you would expect from that platform?**
- **What type of joint participation activities and knowledge exchange actions come to your mind?**
- **Plans for joint participation in upcoming conferences (e.g., ISCRAM, Fire Across Boundaries, International Conference on Forest Fire Research) have been agreed on by project teams. Please propose some relevant topics for discussion in the frame of these events.**

### 3.2.3 Stakeholder management

The identification of all the stakeholders involved across the different phases of the DRMC (Prevention&Preparedness, Detection&Response, Restoration&Adaptation) is paramount for the implementation of an integrated fire management approach. This section aims to identify projects intentions in terms of stakeholder engagement. Thus, the questions of this section ask about the clustering of stakeholders they have established to get them engaged across the different project activities.

**Questions included:**

- **What are the target stakeholders that you will get involved in the different project activities (e.g., case study deployment, workshops, co-development dissemination…)?**
- **In the previous questions we have presented a clustering of stakeholder groups. If you have already clustered your partners/stakeholders, which groups did you identify?**

### 3.2.4 Impact assessment

Firelogue aims to facilitate the impact assessment of WFRM measures towards the expected impacts by 2030 set by the Green Deal work program with respect to 2019 (see Table 1), which all the Innovation Actions must target. Therefore, this section requests the assessment methodology set by each project to achieve the expected impacts, the stage and scale in which they will be performing the assessment, and the main expected challenges they expect to encounter.

*Table 1: Expected impacts by the Green Deal work programme.*

| |
|---|
| 0 fatalities |
| 50% reduction in accidental fire ignitions |
| 55% reduction in emissions from wildfires |
| Control of any extreme and potentially harmful wildfire in less than 24 hours |
| 50% of Natura 2000 protected areas to be fire-resilient |
| 50% reduction in building losses |
| 90% of losses from wildfires insured |
| 25% increase in surface area of prescribed fire treatments at EU level |

**Questions included:**
- **Please provide the contact details (name, email, organisation, and role in the project) of the main person/s responsible for impact assessment activities in your project.**
- **Have you already set a plan/methodology to measure the achievement of the EXPECTED IMPACTS by 2030, set by the work programme with respect to 2019 (0 fatalities, 50% reduction in accidental fire ignitions…)?**
- **At which stage of the project will you perform this Impact Assessment methodology (e.g., at end of the project, annually, on each case study…), how will the baseline data be defined and in which scale (e.g., household, municipality, regional, national, European…)?**
- **What are main challenges you expect in assessing the impact of WFRM innovations?**

### 3.2.5 Case studies

FIRELOGUE aims to consolidate the novel WFRM measures and solutions from the case studies deployed by the IAs and FirEUrisk and enrich this knowledge through additional background research. Understanding the projects' plan in terms of case study implementation is essential to serve this purpose. Thus, in this section, projects are requested information relevant to their case study, including the fire events to be analysed, the targeted activities, topics covered, technologies used, stakeholders to get engaged, and the timeline for implementation. Specific questions relevant to equity and fairness considerations (i.e., accounting for the Just for Transition Concept described in the deliverable D4.1) were included in WFRM practices during the case study implementation and potential conflicts between stakeholders in the test area.

It was stated in the proposal that the case study analysis would be the central aspect to analyse in the scope of this deliverable. While case studies have been analysed in-depth, the opportunity to reach out to the projects though the survey has served to acquire a global understanding of the projects' main challenges, objectives, and planned activities (not only the case studies' deployment) and as a result the survey incorporates a more comprehensive array of questions as it is reflected in the structure of the survey. Hence, this purposeful relevance given to the case studies results in the dedicated chapter 5 that presents the outputs from the survey formatted in a synthesized way together with the analysis performed in section 3.2.5.

**Questions included:**
- **Please list the case studies planned for the project, providing the information indicated in the table below.**
- **What is the format adopted for the deployment of case studies?**
- **Are equity and fairness considerations already included in wildfire risk management practices in the case studies? If yes, how do these considerations translate in practice? If not, is the topic relevant for the stakeholders involved?**
- **What are the main conflicts (if any) concerning wildfire risk management potentially arising between different types of stakeholders and their interests in the case studies?**
- **Please outline briefly how the project plans to implement the case studies during its lifetime? (E.g., Year 1: identification of challenges/shortcomings; Year 2: Scenario set-up & technology mapping; Year 3: Data collection camping; Year 4: Final tests).**

### 3.2.6 Working Groups

Firelogue has pre-established a dialogue format consisting of five sectorial WGs, which will be formed from the IAs, FirEUrisk, Firelogue as well as other invited experts, whose mission will be to foster transdisciplinary dialogues in order to review and analyse existing WFRM approaches (see section 1.1.1 for more detailed information about the WGs). This section poses questions that aim to identify relevant topics and general contributions that the projects could provide within the scope of the WG discussions and key stakeholders they would like to get involved in them.

**Questions included:**
- **Please name in the table below the main topics/questions related to the WGs and describe briefly the main intended contribution by your project.**
- **What stakeholder groups (from inside your Consortium or external) do you think should ideally join these WGs?**

### 3.2.7 Communication and dissemination

Firelogue envisages common communication activities and cooperation within the IAs and FirEUrisk projects. This section queries information related to the development of the main communication and dissemination activities undertaken by the projects, services, and tools that they will be employing for this, as well as their opinion on specific services that Firelogue will create to support joint communication activities among the different projects.

**Questions included:**

- **What are the services/tools/other components that your project website will provide?**
- **When do you expect them to be developed?**
- **FIRELOGUE plans to develop a Helpdesk tool for any WFRM related questions that serves as an entry point for external stakeholders. What specific functions would you expect from this Helpdesk?**
- **How do you plan to communicate and disseminate the results of your projects?**
- **FIRELOGUE aims to support the communication and dissemination of the IAs and FirEUrisk projects results. How do you envisage this support to boost you with this?**
- **We are planning to create communication material for FIRELOGUE (e.g., animation videos, dedicated social media campaigns, etc). Do you have any proposals for common communication activities?**
- **FIRELOGUE will create Common Communication Booster services. What kind of functionalities would you like this booster to include?**

### 3.2.8    Request of contact details

All the survey sections, except for the "general questions" and "Knowledge sharing", include a question asking for the contact details (i.e., name, email, organisation, and role in the project) of the main person/s in the Consortium responsible for each thematic area: stakeholder manager, leader of the impact assessment activities, case studies coordinator, experts on each of the 5 WGs themes, and communication and dissemination leader. Having these contacts is very useful for the Firelogue Consortium partners to identify the key members of the Consortium, other than the project coordinators, to reach out to in case of specific queries in their expertise/thematic areas. Due to reasons of personal data protection, these contact details will not be reported in this deliverable, which has been categorised as "public" in terms of dissemination level. Therefore, it will only be used internally by the members of the Firelogue Consortium.

## 3.3    Data privacy management

The information and data collected from the survey are compliant with the applicable rules on the protection of natural persons regarding the processing of personal data by the Union institutions, bodies, offices, and agencies and on the free movement of such data (currently, Regulation (EU) No 2018/1725). The survey was circulated through the Firelogue network of the Green Deal (LC-GD-1-1) Innovation Actions DRYADS [1], FIRE-RES [6] and SILVANUS [13] and the Research and Innovation Action (RIA) FirEUrisk [8]. The survey results reported in this deliverable present mostly aggregated data, but also individual results relevant to the inputs provided by each project. Access to raw survey data is restricted to members of the Firelogue Consortium. However, the processed and analysed information is reported in the present deliverable (D1.1) that, once approved, will be made public and available on the Firelogue website. The collected data will be stored electronically in the Firelogue project SharePoint platform within the servers of the project coordinator, Fraunhofer-Gesellschaft (FhG), abiding by the necessary security provisions. The survey includes a privacy statement on the protection of personal data (see Annex I: Survey – Privacy statement on the protection of personal data) that all the respondents need to read and accept before start responding to the questions.

# 4    Results and discussion

This section presents the results of the survey (see Annex I: Survey) collected from the three IAs and FirEUrisk projects, with brief data analysis and discussion for each question. Detailed information on the survey structure is provided in section 3.2, whereas the actual survey can be referred to in Annex I: Survey.

Results from **multiple choice questions** are displayed with bar charts, reflecting the number of positive responses out of the four projects that conducted the survey (e.g., a given option with three votes means that 3 out of 4 projects considered it relevant). The option "Others" was always included within this type of question, where the respondents have occasionally provided additional inputs other than those that were predefined. These additional inputs were not added to the charts with the predefined options but commented separately.

Results from **free text questions** outline the information provided by the projects, highlighting their key aspects, considerations, and general inputs on each subject.

Results from **questions requesting contact details** are not presented in this section for reasons of data protection privacy, as they contain personal data such as names and email contacts. However, as explained in section 3.2.8, this information will be kept confidential within the Firelogue Consortium, which will use it when it comes to contacting Consortium partners with specific expertise and/or responsibilities within their projects.

## 4.1    General questions

This section presents a one-by-one description of the three IAs and FirEUrisk projects, as provided by them in the survey. The project descriptions include the overarching objectives, relevant aspects covered and plans for developing tools and technologies across their project lifetime.

### 4.1.1    DRYADS

DRYADS [1] is one of the IAs funded under the Horizon Green Deal "LC-GD-1-1" call whose aim is to build upon state-of-the-art high TRL products and unite them in a holistic Fire Management ecosystem, focusing on the three main phases of wildfire management.

For the prevention and preparedness DRYADS propose the use of a real-time risk evaluation tool and a new risk factor indicator using DRYADS decision-making supporting tools. To create a model of fire adapted communities in parallel to insurance incentives, DRYADS will demonstrate alkali activated construction materials integrating post-wildfires wood ashes for fire-resilient buildings and infrastructures. DRYADS also uses a variety of technological solutions such as Unmanned Aerial Vehicles of different sizes, customized for accurate forest supervision at different heights.

In the area of Detection DRYADS proposes a variety of toolsets that will accommodate most needs. They stem from Virtual Reality for the training and wearables for the protection of the emergency responders, tools for hotspot detection, the fire spread propagation, and smoke cloud dispersion, to

Unmanned Aerial Vehicle (UAVs) and aircraft for temporal and spatial analysis improvement, but also for aerial firefighting.

Last, DRYADS will develop a new land and field-based restoration initiative that will use all modern techniques such as agroforestry, UAVs for seed spread, a state-of-the-art restoration DSS and IoT sensors that will be able to adapt the seeding process based on the ground needs and at the same time to determine post-fire risks factors with the help of Artificial Intelligence (AI) technology.

DRYADS solution will be demonstrated and validated under real operating conditions. Demonstration will involve eight complex pilot implementations executed in seven EU countries and in Taiwan.

### 4.1.2 FIRE-RES

FIRE-RES [6] is one of the IAs funded under the Horizon Green Deal "LC-GD-1-1" call whose aim is to provide Europe with the necessary capacity to avoid it collapsing in front of Extreme Wildfire Events (EWE), projected to increase as the result of a harsher climate. FIRE-RES is a 4-year project (2021-2025) whose scope is to effectively promote the implementation of a holistic fire management approach and to support the transition towards more resilient landscapes and communities to EWE in Europe. FIRE-RES brings together a transdisciplinary, multi-actor consortium of 34 partners, formed by researchers, wildfire agencies, technological companies, industry, and civil society from 13 countries, linking to broader networks in science and 11 reduction management. The project will deploy a total of 34 innovation actions across a set of eleven living labs representing different environments in Europe and Chile. FIRE-RES final mission is to boost the socio-ecological transition of the European Union towards a fire-resilient continent by developing a stream of innovation actions.

### 4.1.3 FirEUrisk

FirEUrisk [8] is a RIA project funded under the Horizon "LC-CLA-2020-2" call whose aim is to develop, test and disseminate an Integrated and Science-Based Strategy for wildfire risk management in Europe. Differently from the IAs, the FirEUrisk project general objectives based on three pillars:

1) To expand the capabilities of existing wildfire risk assessment systems, including critical factors and processes not currently addressed.
2) To use risk-assessment to drive wildfire management and reduce current fire risk conditions.
3) To adapt fire management strategies to expected future climate and socio-economic changes.

This new strategy will be co-designed and developed in close collaboration and interaction between researchers, practitioners, policymakers, and citizens. It includes technologies, tools, training materials, guidelines, and policy recommendations to improve wildfire management and reduce the most damaging effects of wildfires. The FirEUrisk project is particularly focused on extreme events (mega-fires), fires affecting the Wildland Urban Interface (WUI) and those impacting regions that were previously very rarely affected by wildfires particularly in Central, Eastern and Northern Europe.

### 4.1.4 SILVANUS

SILVANUS [13] is one of the IAs funded under the Horizon Green Deal "LC-GD-1-1" call whose aim is to develop a climate resilient forest management platform to prevent and suppress forest fires.

SILVANUS relies on environmental, technical and social sciences experts to support regional and national authorities responsible for wildfire management in their respective countries. SILVANUS scientists and research engineers will aid the civil protection authorities to efficiently monitor forest resources, evaluate biodiversity, generate more accurate fire risk indicators, and promote safety regulations among the local population affected by wildfire through awareness campaigns.

## 4.2   Knowledge sharing

This section presents the results regarding the promotion of knowledge sharing and actions developed by the IAs and FirEUrisk projects.

### 4.2.1   Types of knowledge

Survey results show that the most desired type of knowledge to be shared among the different projects are the analysis of past wildfires events and WFRM policy recommendations, which were positively regarded by all the projects. The rest of the types of knowledge suggested were regarded as relevant by three out of the four projects (Figure 3). Also, they seem to recognise that collective effort targeted at the identification of main challenges and solutions and best practices might improve the capability to effectively generate an impact on WFRM management policies. In addition, one project remarked on the relevance of sharing knowledge on Integrated Fire Management Approaches to ensure that managerial processes are inclusive in identifying and integrating all dimensions of fire risk, types of expertise required, and subsequent stakeholders to join the process.

**Which type of knowledge would you like to see shared between the different projects?**
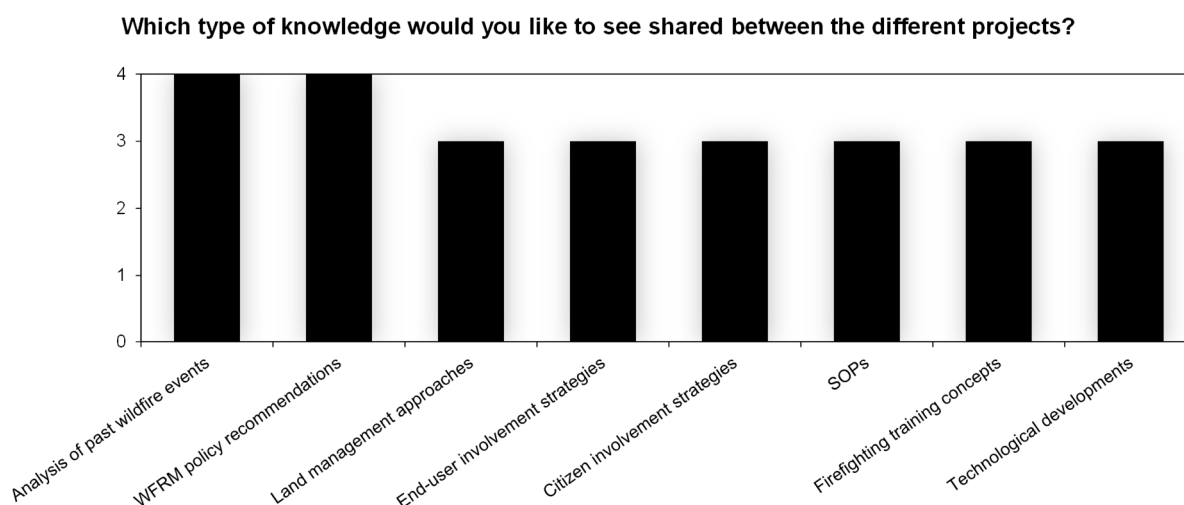


*Figure 3. Knowledge sharing – Type of knowledge to be shared for the different projects.*

### 4.2.2   Use of existing platforms

Different types of platforms are commonly used and/or developed by the projects for a variety of purposes, namely, to support decision-making processes, for knowledge transfer and sharing, as a source of data and information… Thus, it was necessary to identify the leading platforms that projects plan to use (Figure 4). There is a high interest in using the European Forest Fire Information System (EFFIS) which provides different fire indicators (e.g., Fire Weather Index (FWI) or Drought Code (DC) among others) and is highly used by many actors across Europe for purposes of risk monitoring and

analysis. Also, Projects show a high interest in data from The Copernicus Data Access Hub, most likely because of the increasing use of satellite data in risk assessments. On the other hand, the rest of the options aroused less interest, probably because the respondents were not familiarised with those platforms or even not know them; for instance, the Fire-In platform, developed in the frame of the Fire-In project, or Lessons of Fire, created by the Pau Costa Foundation to serve the WFRM community worldwide. It is remarkable the null interest in the new UCPM Knowledge network platform, which might be due to the lack of knowledge about the functionalities offered by this platform; however, the related DRMKC platform (also created by the EC), seems to be better known and so regarded as relevant among the respondents. Finally, two projects expressed interest in using two additional platforms: the "Regione Campania Wildfire Cadastre" and, more generally, the use of National platforms related to wildfires management within EU countries.
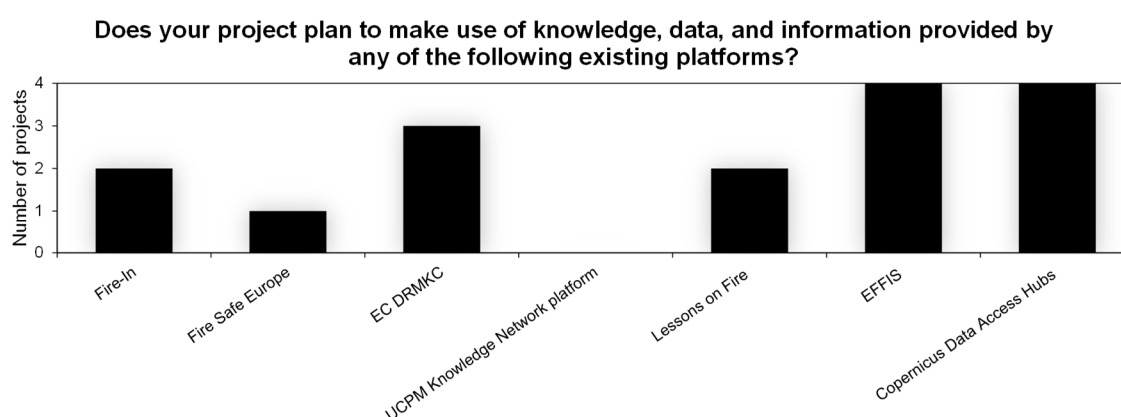


*Figure 4. Knowledge sharing – Platforms to be used for obtaining knowledge, data and information for the different projects.*

Furthermore, respondents were asked whether they plan to create their own platform and whether they intend to contribute with their knowledge outputs to any of these platforms. Along these lines, all projects said they plan to create their integrated platform with the technological components that will be developed. Besides, two out of the four projects plan to contribute to the following platforms:

- Lessons on Fire (LoF)
- European Forest Fire Information System (EFFIS)
- Disaster Risk Management Center
- Knowledge Centre for Biodiversity
- DRMKC Risk Data Hub
- Forest Information System for Europe
- CORDIS results pack
- European Commission Disaster Risk Management Knowledge Centre (EC DRMKC)
- Other national platforms

### 4.2.3    Firelogue platform

Respondents were asked about specific functions/services they would like to see integrated into the Firelogue web-based platform (see section 1.1).Figure 5 Up to four services were regarded as important by all the projects (Figure 5): the repository of digital files, as the basic library to store all digital files shared by users such as papers, articles, reviews, reports, or videos, among others; the directory of users, with a matching tool where users can contact other users searching by specific attributes such as language, expertise, organisation, or topics of interest; the schedule of wildfire-related events, to be aware of future activities such as relevant conferences and congresses, and particularly those organised by the WFRM projects (e.g., workshops, case study implementation pilots, webinars…); and a map were all the ongoing and planned activities of the WFRM projects can be visualised. This high interest in the map has also been expressed by the projects in other occasions (e.g., Clustering Event). As a result, it is already being developed for the visual representation of the case studies implementation (see chapter 5). Finally, a glossary (dictionary) of fire items and a forum for discussion were selected by half of the projects. In contrast, a section dedicated to posting job offers was demanded by only one project.

Results from this question can be complemented with the results from the question about the Communication Booster (CB) in section 4.7.4.
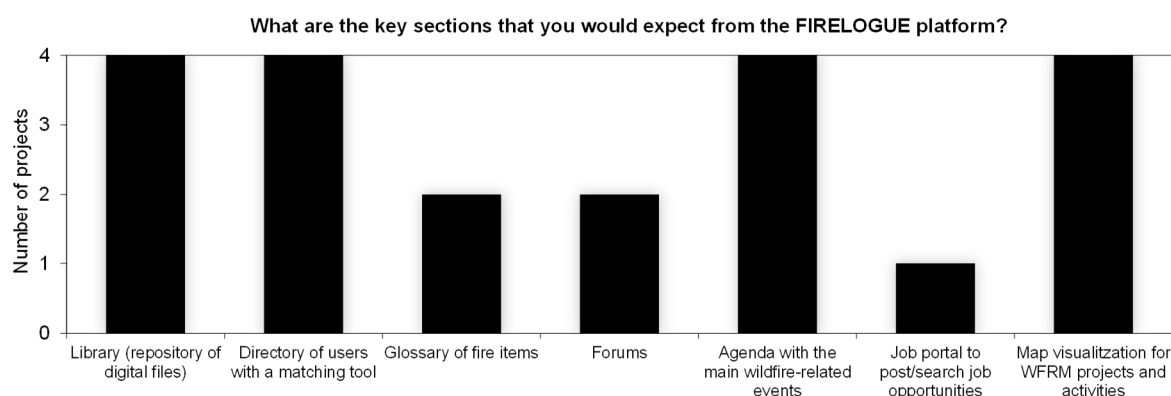


*Figure 5. Knowledge sharing – Key knowledge transfer and sharing areas to be developed among the Firelogue web-based platform.*

### 4.2.4    Joint participation activities and knowledge exchange actions

All the projects expressed their desire to undertake joint activities with other projects in the frame of their field and pilot demonstrations, international networking events, and webinars (Figure 6). Pilot demonstrations are an opportunity to interexchange invitations between projects so that members of a given project can attend as observers or actively participate in the performance of the pilot, contributing with related technologies or other actions. Participation in international events can be a good scenario to jointly propose discussion panels covering topics where each project can provide their contributions from their own perspective. Finally, webinars are a virtual event format that became very popular during the pandemics, and that continues to be attractive. In the frame of these webinars,

projects can invite as speakers, experts from other projects working on similar topics to the ones they are covering in their projects. Joint fire reviews to analyse relevant fire events occurring during the fire seasons were also found attractive by most of the projects. It is remarkable and must be discussed within the Firelogue Consortium that Thematic WGs meetings were only selected as the desired format by one project. While this format was pre-defined by the Firelogue Consortium during the proposal stage, little interest was observed across projects, maybe due to little information provided to the projects before distributing the survey. Finally, none of the projects expressed interest in attending hackathons.

Other joint activities proposed from the projects were awareness campaigns through social media or other channels, joint newsletters, and united efforts to ensure communication partnership with big organisations and networks.
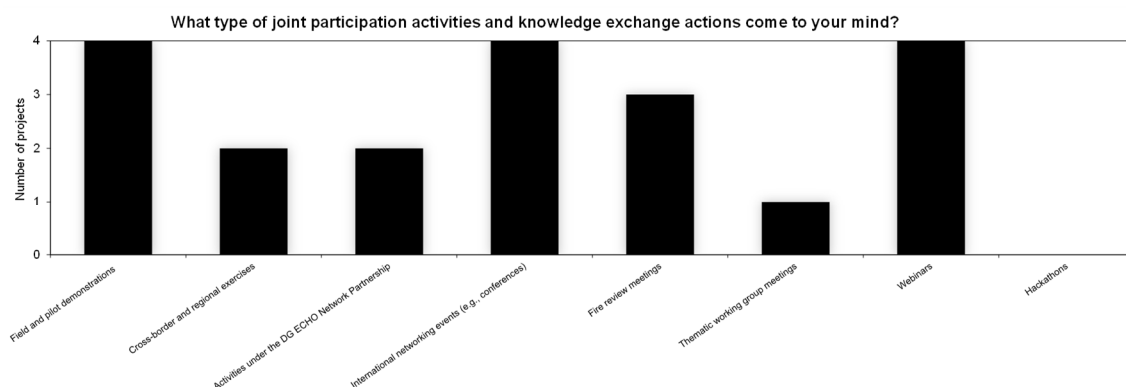


*Figure 6. Knowledge sharing – Different type of joint participation activities and knowledge exchange actions that could be developed among the Firelogue project.*

Finally, as Firelogue is already fostering joint participation in upcoming conferences for 2022 (e.g., ISCRAM2022 on May 22-25 [9], Fire Across Boundaries on October 4-7 [7], IX International Conference on Forest Fire Research [1]), the projects were explicitly asked to propose a list of relevant topics for discussion. Therefore, these topics will be considered in the first place when it comes to organising joint participation (e.g., discussion panels, workshops…) in these conferences. The topics are listed below:

- Fire emergency management strategy for transport infrastructures
- Forest restoration strategies
- Fire resilient forest governance
- Communication baselines and stakeholder engagement
- Technology development and holistic approach to wildfire prevention: relations between first responders, firefighters, citizens, and industry (e.g., timber, construction and energy, and water supply)
- Impact indicators and plans towards achieving 2030 goals
- EU policy perspectives on wildfire management
- Sustainability of solutions after the project end
- Joint impact indicators

## 4.3   Stakeholder management

Questions included in this section are formulated to identify the stakeholder groups targeted by the IAs and FirEUrisk to promote their engagement across their project activities.

### 4.3.1   Involved stakeholders

It is observed in Figure 7 that projects consider a broad and varied spectrum of stakeholders for their activities (e.g., case study deployment, workshops, co-development, dissemination…). Nevertheless, all the projects deemed as important the involvement of the majority of the WFRM stakeholder groups that were predefined for this question; only forest officials and fire prevention and firefighting equipment suppliers were not selected by one project. This demonstrates how projects recognise the need for WFRM strategies to be designed holistically and integrate all stakeholders' perspectives and contributions.

While the WFRM stakeholder clustering that was predefined for this question is rather comprehensive, it needs to be dissociated from the final clustering proposed by Firelogue (Figure 12 in the next section 4.3.2). The stakeholder clustering presented here is only illustrative and was defined during the preparation of the survey in order to provide a range of stakeholder options; whereas the stakeholder clustering shown in Figure 12 is conclusive and draws from the individual responses of the projects when they were asked about the clustering of stakeholder groups made in their projects (see section 4.3.2).



*Figure 7. Stakeholder management – Target stakeholders to involve in different project activities*

### 4.3.2   Stakeholder clustering

Figure 8, Figure 9, Figure 10, and Figure 11 show the clustering of stakeholders groups made by the IAs and FirEUrisk individually, which has inspired the clustering proposed by Firelogue in Figure 12. The clustering from each project does not necessarily reflect the organisations that are part of their consortiums, but organisation profiles they aim to get engaged throughout their project actions

because they are crucial actors that can contribute to or get benefit from the design, development, testing, and validation of their project solutions.

The clustering made by the projects is indicative but not exhaustive as it is a preliminary grouping made at the early stage of their projects. Thus, while little can be interpreted from them, a brief explanation is provided bearing in mind their project objectives.

### 4.3.2.1 DRYADS

As observed in Figure 8, the **DRYADS** project is instead focused on integrating technical, scientific, and industrial knowledge with activities strongly oriented to risk assessment and the development of decision support tools and related technologies for the fulfillment of the operational responsibilities in wildfire risk management. Because of that, a significant number of stakeholders are technology providers or specialists in industries dealing with wildfire risk mitigation.



*Figure 8: DRYADS stakeholder clustering.*

### 4.3.2.2 FIRE-RES

**FIRE-RES** is strongly devoted to building capacity to cope with EWE, with an emphasis on moving towards more resilient landscapes and communities. As a such, the stakeholder clustering in Figure 9 includes actors with the capacity to influence the implementation of landscape policies and to cause an impact society in terms of knowledge, risk culture, and education.



*Figure 9: FIRE-RES stakeholder clustering.*

### 4.3.2.3 FirEUrisk

**FirEUrisk** aims to holistically provide risk assessment and mitigation solutions with particular emphasis on EWE, WUI, and regions rarely impacted by wildfire in the past. This is somehow reflected in Figure 10 with stakeholder groups from the industrial, scientific, and operational fields with the capacity to provide safety and mitigation measures against wildfire risk events. Also, there is a significant number of stakeholders associated with the civil society, which reflects the strong component of the project to improve society preparedness and involvement in decision-making processes.



*Figure 10: FirEUrisk stakeholder clustering.*

### 4.3.2.4 SILVANUS

The clustering established by **SILVANUS** in Figure 11 reflects a strong interest on technology and industry, which is aligned with the project objective to provide tools to generate more accurate fire risk indicators. Although the clustering below looks rather comprehensive, there is a predominance of actors from diverse industrials sectors, as well as scientists, technology developers, and research engineers.



*Figure 11: SILVANUS stakeholder clustering.*

4.3.2.5 Firelogue proposed clustering

The analysis of the individual clustering made by IAs and FirEUrisk has led to the proposed clustering in Figure 12, which tries to be holistic and integrative, taking into consideration the clustering made by the projects individually. The stakeholders included in this proposed clustering have been grouped into 8 categories, each containing a number of stakeholder profiles involved —directly or indirectly— in fire management and wildfire risk reduction strategies.

**Emergency management organisations** refer to operational practitioners involved in response operations at the forefront of wildfire incidents. **(2) Scientific community** encompasses research and academic 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. **(3) Policy-making bodies involve stakeholders who have a key role in influencing strategic choices for wildfire management and, therefore,** become enshrined in territorial policies. **(4) Land management groups** refer to those stakeholders who have the capacity to conduct management actions on the territory, either because they own it or because they hold the right to act on it. **(5) Environmental associations** are devoted to the study of the natural environment, the protection of the landscape and ecosystems, and enforcing society's awareness of environmental issues via education. **(6) Media** refers to communicators with the capacity to reach many people and, therefore, influence people's opinions, beliefs, and attitudes toward wildfire management policies. **(7) Society** encompasses citizens and groups of citizens whose education on a fire risk culture is fundamental to improving society's resilience to wildfires. Finally, **(8) Industry, technology, and innovation** involve several industrial sectors with a key role in providing safety and adaptive capacity resulting from wildfire events.

A more detailed description of the stakeholder groups can be found in "D7.2 Stakeholder clustering report" [10].



*Figure 12: Firelogue proposed stakeholder clustering.*

## 4.4 Impact Assessment

The responses provided by the projects to this section will provide insights into their plans to measure the achievement of the expected impacts towards 2030 as well as the main foreseen challenges. Differently from the IAs, FirEUrisk was not funded under the Green Deal call, and therefore the achievement of the expected impacts was not one of its objectives. Indeed, FirEUrisk has not provided its plans to perform impact assessment methodologies for WFRM but only an approximate timeline to undertake it.

### 4.4.1 Plans to measure the achievement of the expected impacts by 2030

DRYADS and FIRE-RES have not yet set a methodology to assess the expected impacts by 2030 (see Table 1 in section 3.2.4). DRYADS plans to start preparing the methodology right after the first half-year of the project, whereas FIRE-RES is already working on it. Finally, FirEUrisk intends to perform its impact assessment on an annual basis after the first and a half year of the project. Only SILVANUS already presents a defined assessment methodology that involves the delivery of technological solutions endeavouring to engage both first responders and citizens. For this, SILVANUS will make use of advanced solutions such as UAVs, Unmanned Ground Vehicle (UGVs), communication mesh in the sky using swarm of drones, coordination among mobile command centres, advanced AI and machine learning algorithms through the citizen engagement platform and the developed communication toolkit.

The baseline data used for the impact assessment varies according to the project. All projects will define a standard impact assessment methodology, based on the use of common indicators that will be implemented during their case studies. In that regard, SILVANUS will be performing end-user surveys, incident reports as well as other sources to acquire that data. Furthermore, the project has categorised the impact assessment according to the four management phases: (i) preventive measures; (ii) detection technologies; (iii) response coordination, and (iv) restoration strategies.

### 4.4.2 Challenges to assess the impact of WFRM innovations

Based on the responses collected from the survey, projects are motivated to share, compare, and jointly define measures, indicators, and approaches to assess the impact of WFRM innovations. One of the main challenges pointed out by the projects to evaluate the impact of WFRM innovations is to establish a consistent and common baseline to evaluate the quantitative impact of projects interventions within the framework of the different case studies. Another highlighted challenge is the characterisation of the main targets and indicators to accurately measure the impact across IAs, as well as their scale and how to use reliable sources for information comparison.

## 4.5 Case studies

The following questions collect information about plans and considerations taken into account by the projects towards the case study implementation. The information provided herein is complemented with the case study portraits in chapter 5, which contains specific information about the target activities, topics, and technologies per case study and project.

### 4.5.1    Case study implementation formats

The most interesting case study deployment format for all projects is demonstration pilots (Figure 13. Case studies – Adopted format for the deployment of case studies), which was selected by all the four projects. On the other hand, workshops, living labs, and drills were poorly considered, with only one project selecting each of them. As additional options, projects also mentioned "Webinars" and "Scenario simulations" as another format for implementing their case studies.
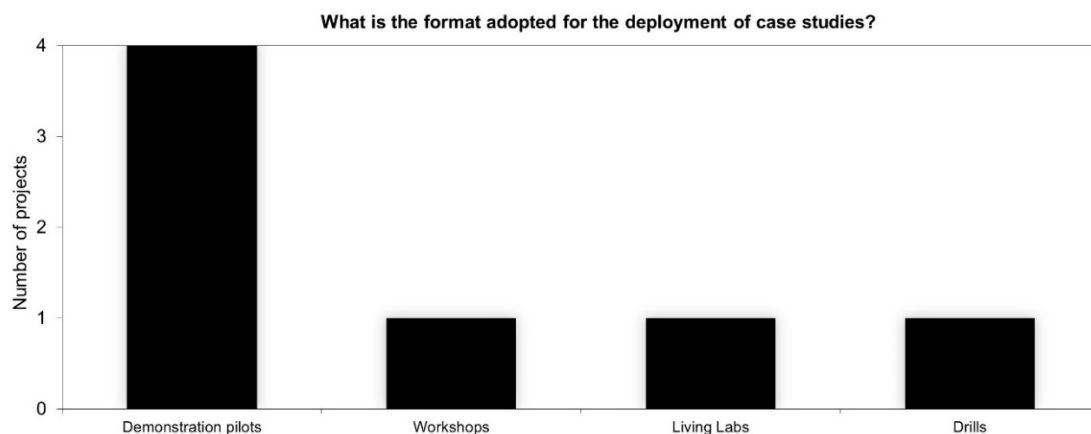


*Figure 13. Case studies – Adopted format for the deployment of case studies.*

### 4.5.2    Equity and fairness considerations

Only a few equities and fairness considerations were highlighted by two out of the four projects regarding the deployment of their case studies. Most of these considerations are related to the involvement of stakeholders in the project activities. On the one hand, it was remarked the importance of ensuring the participation of stakeholders throughout the case study preparation and implementation and promoting their active involvement from the outset and during the ongoing project activities. Further considerations were pointed out from the perspective of ethical principles and data protection privacy, considering that the data and information provided by the stakeholder are fundamental for the appropriate preparation of demonstrations scenarios and feedback gathering. Along these lines, it was suggested that a data management plan complemented with the ethics advisory board was necessary to ensure appropriate equity and fairness considerations and to carry out a real based scenario for case studies deployment.

### 4.5.3    Main conflicts between stakeholders

The main potential conflicts pointed out by the projects regarding their case studies are related to community preparedness and land-use changes (Figure 14. Case studies – Main conflicts concerning wildfire risk management potentially arising between different types of stakeholders and their inters in case studies.). All the projects indicated as the main conflict is the lack of community preparedness or proactive attitudes, which shows their concern with the increased amount of population living in or visiting WUI, their lack of risk culture, and the capacity to undertake preventive and self-protection measures in response. Also, the land-use changes (e.g., land abandonment, soil sealing in dense housing developments, agriculture intensification…) was considered as a primary conflict by all the projects. This issue is especially relevant in wildfire risk within the Mediterranean regions, where land

changes that occurred over the last century have led to an increase in fuel loads in the landscape, which is altering the fire regimes and emanating into more extreme and catastrophic events. Land ownership, devaluation of forest resources, policy and legal barriers, and the confrontation between conservation and productive management were considered the main issues by most projects. On the opposite, burning restrictions were only considered a conflict by one of the projects, probably because prescribed burning is becoming overtime a recognised effective wildfire suppression tool in more countries.
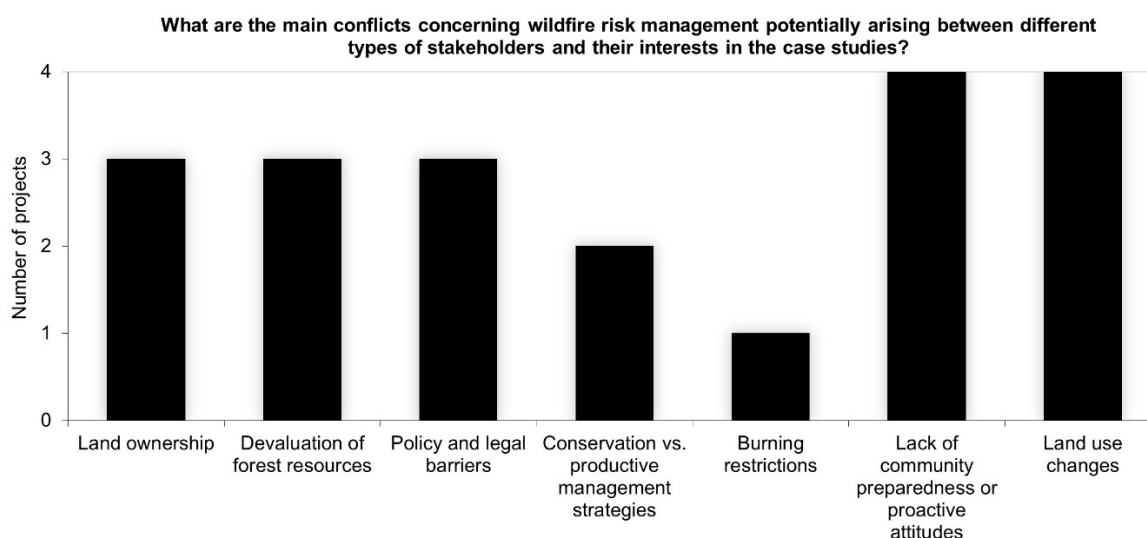


*Figure 14. Case studies – Main conflicts concerning wildfire risk management potentially arising between different types of stakeholders and their inters in case studies.*

### 4.5.4    Plans for case study implementation

The plan for the case study implementation of each project is presented in Table 2. Survey responses show that the projects have similar plans for their case study implementation, though there are slight variations in terms of the timeline defined and implementation phases. It should be stated that the extent of the project plans presented and commented herein rely on the information provided by the project respondents.

Generally, the case study design planning and preparation occurs during the first years of the projects (Table 2). For instance, DRYADS will carry out a pilot campaign planning throughout the first year. FIRE-RES project will set a preliminary design until the first 18 months of the project that includes gathering lessons learned, prototyping, and adapting them. The preparatory actions for SILVANUS will last for the first three years of the project by considering the stakeholder consultation through a participatory approach for the consolidation of the existing infrastructure. During this period, SILVANUS also plans to perform integrations and transfer them to the trial site and the trial scenario specification.

Once the design of the case study is finalised, projects start the deployment phase, which in some cases starts at the beginning of the second year and may last until the end of the project (Table 2). DRYADS plans to conduct the pilot actions throughout the second and third year. Likewise, FIRE-RES

will start during the second year, and it will involve impact assessment testing, demonstrating, and piloting. FirEUrisk aims to carry out the case study implementation during the last two years of the project. Finally, SILVANUS concentrates the case study deployment within the last year of the project.

Following, projects proceed with validating and replicating the tools, the methods, and solutions tested during the deployment. The timeline defined for this phase has only been specified by FIRE-RES (Table 2), which will perform the validation of the results and explore potentialities for future replication in parallel to the case study deployment.

*Table 2. Case studies – Timeline plans for case studies implementation*

| | DRYADS | FIRE-RES | FirEUrisk | SILVANUS |
|---|---|---|---|---|
| **Year 1** | Pilot campaign planning | Impact assessment design | | Stakeholder consultation |
| **Year 2** | Pilot actions development | | | Platform integration and transfer to the trial site |
| **Year 3** | | Impact assessment testing, demonstrating, piloting, large scale product validation and replication | Case study deployment | Trial scenario specification |
| **Year 4** | Case study impact assessment | Case study consolidation and replication | | Case study demonstration |

## 4.6 Working Groups

Inputs given by the projects concerning the thematic Working Groups provide insights into the main related topics each project is interested in, their potential contribution, and expectations regarding the involvement of relevant stakeholders with expertise in the field. With this information, challenges and expectations from the projects are identified that can be useful for preparing the joint discussion sessions within each Working Group.

### 4.6.1 Discussion topics

The main popular topics for discussion in the scope of the five sectorial WGs are depicted in Figure 15. Regarding the environmental and ecology WG, the topics to be covered are primarily based on the study of future fire risk scenarios resulting from climate predictions. This includes topics such as wildfire prevention, the creation of fire resilient landscapes, and the promotion of ecosystem restoration and adaptation. The general topics related to societal aspects generally refer to the study of fire impacts on socio-economic activities and people's safety and related preparedness strategies. The topics highlighted for the infrastructure WG stress policy and planning tools to improve the protection of major infrastructure assets and on the cooperation with the different infrastructures authorities, including transport, energy, and water. The insurance WG reported few contributions from the projects, probably because insurance-related topics are little discussed in the context of wildfire risk at the European level. Only insurance mechanisms and new insurance parametrisation were

pointed out as relevant topics. Finally, the civil protection WG includes different aspects common to other WGs, especially those related to social aspects (e.g., public awareness or citizens engagement), but unique concerns on topics related to effective emergency management such as interoperability, emergency agencies communications or training.
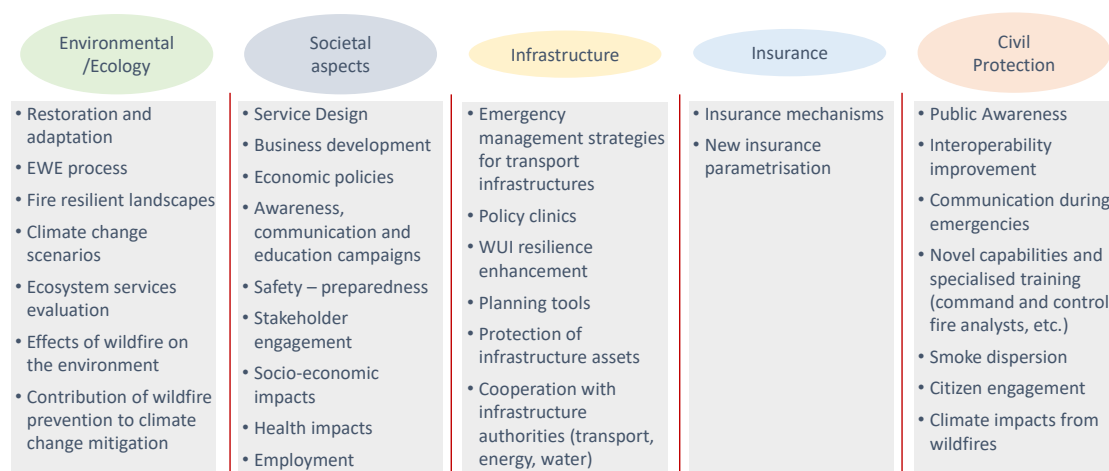


*Figure 15. Working groups – Main topics proposed by the projects for each working group (WG).*

### 4.6.2 Contribution to topics

In addition to the collection of topics presented above, the contribution from each project in the scope of each Working Group is outlined below. Differences in the contribution from each project within a given Working Group may result from the expertise provided by the members of their Consortiums.

Contributions by the environmental/ecology WG projects are related to land planning and best management practices considering future climate and associated fire regime scenarios. Considering this, FIRE-RES focuses on gaining an understanding of the impacts of EWEs by conducting a holistic approach with an emphasis on studying ecosystem services. DRYADS is particularly interested in the analysis of post-fire scenarios, considering management practices based on the study of fire severity and soil and vegetation vulnerability. SILVANUS studies ecological processes within an operational framework given relevance to management aspects such as early detection or efficient and quick response.

In broad terms, contributions in the WG covering **social aspects** are associated with promoting socioeconomic and cultural transformations to build social resilience from wildfires. FIRE-RES focuses on communication, education, and outreach campaigns to improve the adaptive capacity of communities exposed to fire risk. Also, FIRE-RES is highly concerned with rural development measures focused on fire-smart bioeconomy value chains and new models for payment for ecosystem services. DRYADS aims to provide solutions to socioeconomic systems building strategies focused on service design and business models towards optimal sustainable business development. SILVANUS plans to contribute to health, employment, infrastructure, and natural and cultural heritage. Finally, FirEUrisk is specifically concerned about human ignition drivers.

Contributions in the WG covering **infrastructure** have to do with vulnerability assessment, operational procedures, and policies to better integrate fire risk into urban planning. FIRE-RES seeks to build coherent fire risk governance mechanisms and support wildfire risk integration into urban and spatial planning. DRYADS is especially concerned about transport infrastructure, and for that, they want to apply behaviour modelling approaches with the aid of evacuation simulation tools. SILVANUS investigates into quick and reliable exchange of on-site information to prevent wildfire from affecting infrastructure, water supply, or energy transmission. Finally, FirEUrisk contributes to this topic with exposure and vulnerability assessment.

Regarding the **insurance** WG, the very few contributions provided from the project's target instruments for risk transfer ideation specific to wildfires. FIRE-RES plans to develop novel parametric insurance products that leverage resources from capital markets. At the same time, DRYADS intends to develop an insurance assistant module to identify and evaluate different risk management approaches, as well as a mechanism to renegotiate the insurance coverage and premiums based on the wildfire readiness level.

Projects' contributions in the **civil protection** WG are targeted at improving safety during wildfire emergencies by strengthening the operational capacity of first responders and the communication with citizens at risk. FIRE-RES is intended to develop an evaluation tool to monitor the interoperability in case of international cooperation and a smoke modelling tool to monitor the smoke dispersal and fire personnel and citizen exposure to it. Regarding communication with citizens, FIRE-RES aims to conceptualize a communication structure focused on real-time information and warning messages. FirEUrisk expressed its willingness to develop training programs for the capacity building of first responders. DRYADS aims to create a multidisciplinary certification oriented to improving operational capacities, provide recommendations for adaptation of firefighting equipment and vehicles, and establish a fair assessment of operational and functional mechanisms for appropriate communication with governmental instances. Furthermore, DRYADS wants to develop communication and outreach activities to promote a risk-assessment culture. Finally, SILVANUS plans to develop a mobile application for citizen engagement.

### 4.6.3    Stakeholders' involvement

Figure 16 reflects the projects' intentions to involve each stakeholder group across the five thematic WGs. The most transversal stakeholder groups are researchers, local administrations, policy makers, and land property owners and managers, as all projects concur with including them in every WG. The **ecology and environment** WG is one of the most multidisciplinary ones. It nearly includes the whole range of stakeholder groups proposed, with only the BFSI industry group missing (i.e., not included in this group by any project). It is relevant that a large number of stakeholder groups were included in this WG by all the projects: forest officials, landowners and managers, volunteers, local administration, researchers, policy makers, as well as representatives of media, environmental groups, and the civil society.

The composition of stakeholders in the WG on **societal aspects** is likewise approached in a multidisciplinary manner by the project respondents. All the proposed stakeholder groups were chosen at least by one project except for the Security practitioners (both commanders and first responders). In this case, a substantial range of stakeholder groups, whereas not as large as in the ecology/environment WG, were intended to be involved in this WG by all the projects, namely, volunteers' associations, local administrations, policy makers, environmental organisations, and the media.

Regarding the **infrastructures** WG there is again interest in including a broad spectrum of different stakeholders, with only the involvement of volunteer associations not considered as relevant by any project, and forest officials and environmental associations only considered as relevant by one project out of four. In this case, the relevance of the different stakeholder groups is rather disparate, with only the group of Security practitioners working in the field being considered relevant by all the projects.

The **insurance** WG is by far the one where the projects were interested in involving fewer stakeholders, both in number and in variety. This can be due to the little level of expertise/experience of the projects in this topic, as it is reflected in the very few contributions provided by the projects (see 4.6.2), or because it is perhaps the most specialised group with fewer stakeholders holding the expertise to contribute to the topic. Remarkably, none of the stakeholder groups was included by all the projects. The most demanded stakeholder groups in this WG, selected by three out of the four projects are land and property owners/managers, policy makers as well as the scientific community.

Finally, projects intend to include a broad spectrum of stakeholders in the **civil protection** WG, with only representatives of BFSI and environmental organisations missing. Still, it is again remarkable that none of them was unanimously selected by all the projects. The most wanted stakeholders within this group are security practitioners, local administration, researchers, and companies supplying firefighting equipment.
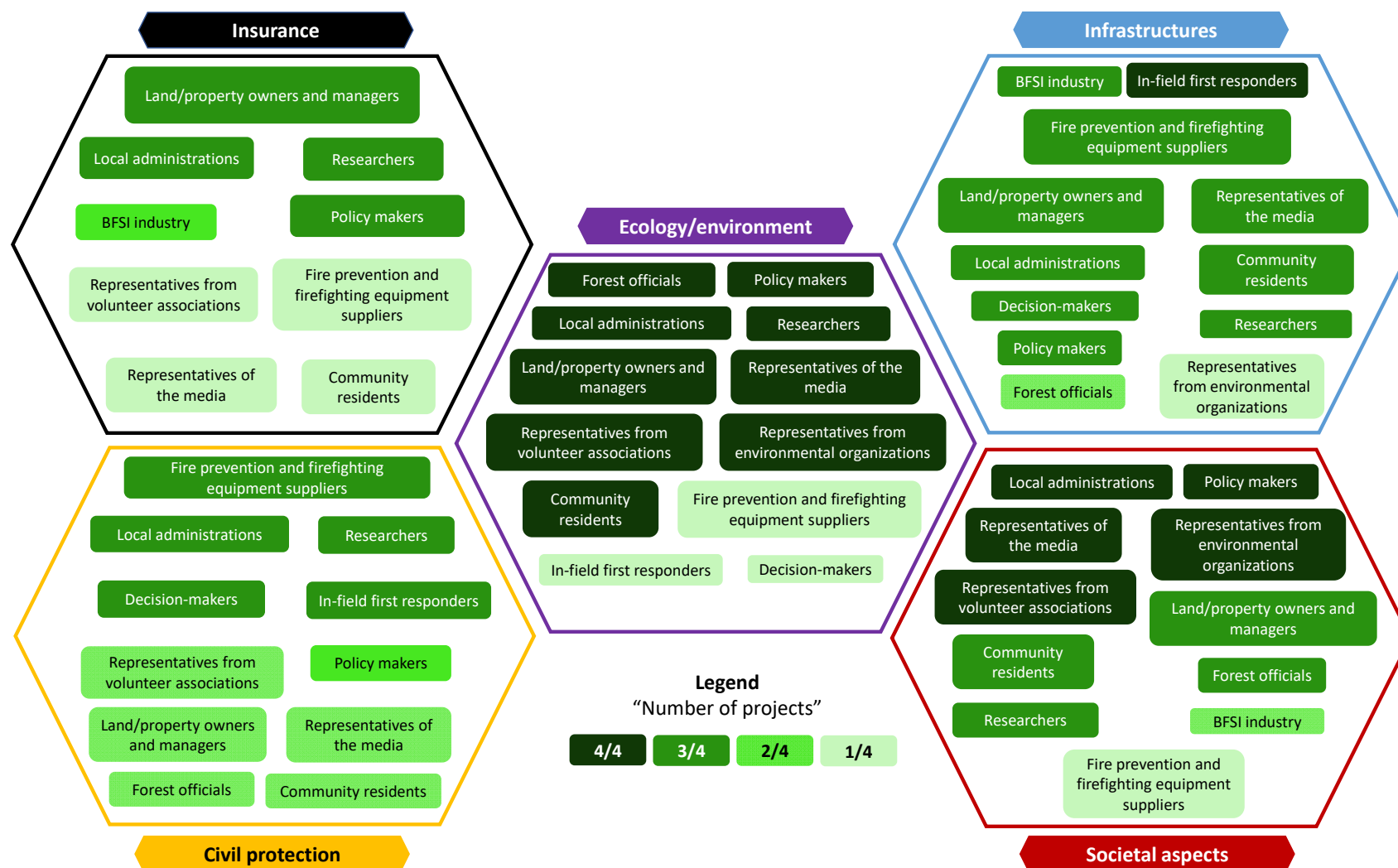
*Figure 16. Working groups – Stakeholders involvement across the different Working Groups (WGs). Colour gradient indicates the number of projects (from 1 to 4) interested in involving each specific stakeholder group within each of the WGs, and stakeholder groups that are absent in a given WG indicates that none of the projects desires to involve them in it.*

## 4.7 Communication and dissemination

The inputs provided by the projects in the following set of questions has served to identify tools and channels utilised to communicate/disseminate their results, desired support actions in the frame of cooperation between projects, and specific requirements for the development of certain tools that Firelogue will employ to make effective a joint communication and dissemination strategy, namely the Helpdesk and the Communication Booster (CB) (the so-called Firelogue platform).

### 4.7.1 Projects' websites

Projects were consulted about their intentions to use specific website components. None of the pre-defined options (networking features, marketplace, and match-making tool) seemed appealing for them (Figure 17). Half of the projects expressed interest in including networking features (chat rooms or platforms), and one in including matching-making tools components, whereas there was no interest in making use of an on-line marketplace. Beyond these three components, all projects expressed interest in providing additional tools and services. For instance, some projects expressed their willingness to provide information on the project objectives, their activities, and the expected impacts and solutions derived from them. Another component commented in the survey was the creation of a digital repository or blogs with all the information produced along with the project (e.g., deliverables, papers, and webinars, among others). Also, there is an interest in developing an interactive platform with a detailed and visual report of the case study implementation, a request that has already been collected and considered by the Firelogue consortium, whose first approach for its development is described in chapter 5. SILVANUS and FIRE-RES plan to develop their own platform, so complementarities will need to be sought between these and the Firelogue platform. While the SILVANUS platform will include visual reports on pilot demonstrations and access to dissemination materials produced in the project, the FIRE-RES platform will be strongly focused on educational purposes and will not be developed until the end of the project. Finally, when submitting this deliverable (30/04/2022), all the projects have their websites up and running, except for the SILVANUS which is expected to come soon.
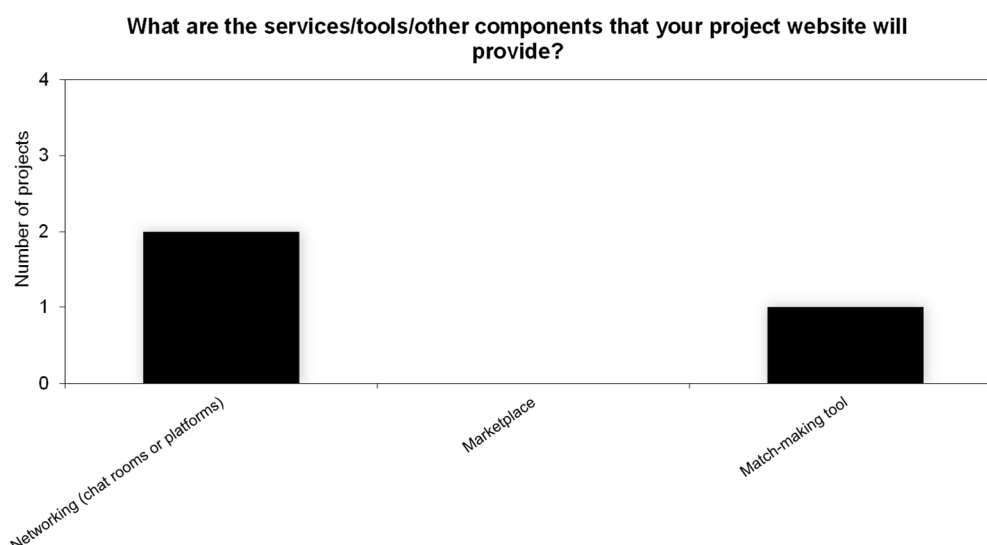
*Figure 17. Communication and dissemination – Activities, tools and other components to be provided for each project website.*

### 4.7.2 Helpdesk expectations

Very few opinions were provided regarding the desired functions for the Firelogue Helpdesk, which demonstrates that the projects are little aware of the potential of this tool. The views collected in this regard mention the provision of basic guidelines, the information about the WFRM related projects and their outputs, and the capacity to resolve questions from external questions stakeholders accessing the website. All this should be represented in an easy access and quick reply format.

### 4.7.3 Communication and dissemination common and support actions

Overall, there is a high interest in sharing the project results within the scientific community and civil society. This reflects their strong ambition to not only generate and transfer the technical knowledge but also involve the community along with the different phases of the project, which can certainly be good opportunities to showcase their results to a broad audience. Considering the predefined options in the survey, projects will conduct two differentiated actions for the communication and dissemination of their outcomes (Figure 18): those targeting a specialised public in the field (e.g., scientists, land managers, first responders…), and those targeting the society at large (i.e., the general public). Regarding the actions targeting a specialised public, there is unanimous interest in communicating their results within the scientific community by publishing papers in scientific journals and attending international conferences and scientific workshops. Still, only two projects expressed interest in publishing in scientific blog posts (e.g., HEPEX). As for the communication actions targeting the society at large, all the projects aim to make the most of social media communications by posting on different social media networks and other press releases media. Furthermore, every project is willing to bring its communication actions at national level by conducting National Range Campaigns. Nonetheless, only two projects plan to do it by generating brochures and other promotional material.
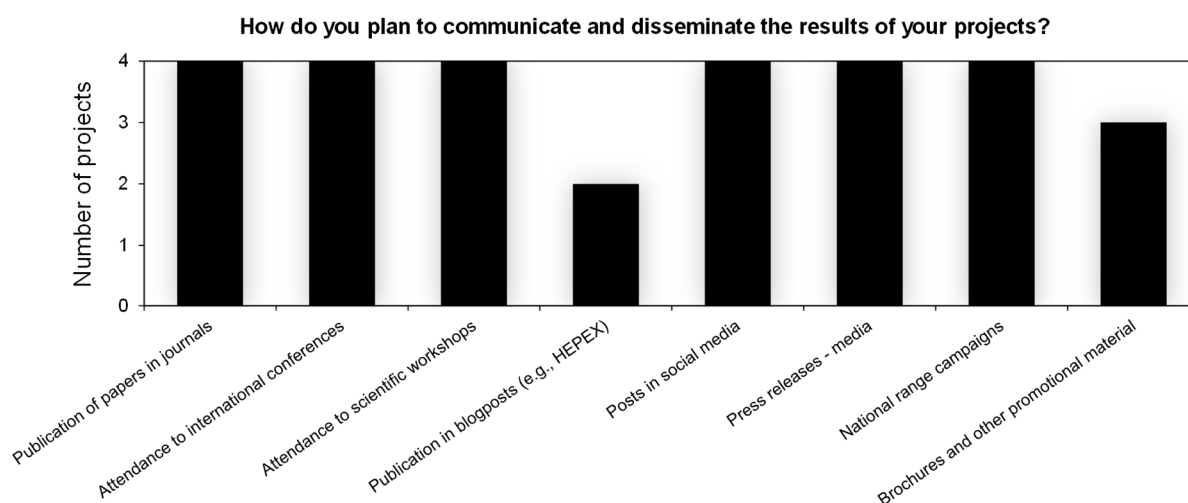
*Figure 18. Communication and dissemination – Tools for project communication and dissemination.*

Generally, the projects see as an advantage the support provided by Firelogue in the sphere of communication and dissemination (Figure 19). The most desired actions to boost this support are the organisation of workshops and webinars, the publication of their project results on the Firelogue platform and Firelogue social media to increase their recognition and maximise the project impacts. These actions were supported by all the projects. Moreover, all projects except for one expressed their desire to create activities for stakeholder engagement, which reflects their motivation to keep the different stakeholders aware of the project results and to cohesively work together with them to innovate on gathering and adapting the best-available knowledge on WFRM solutions.
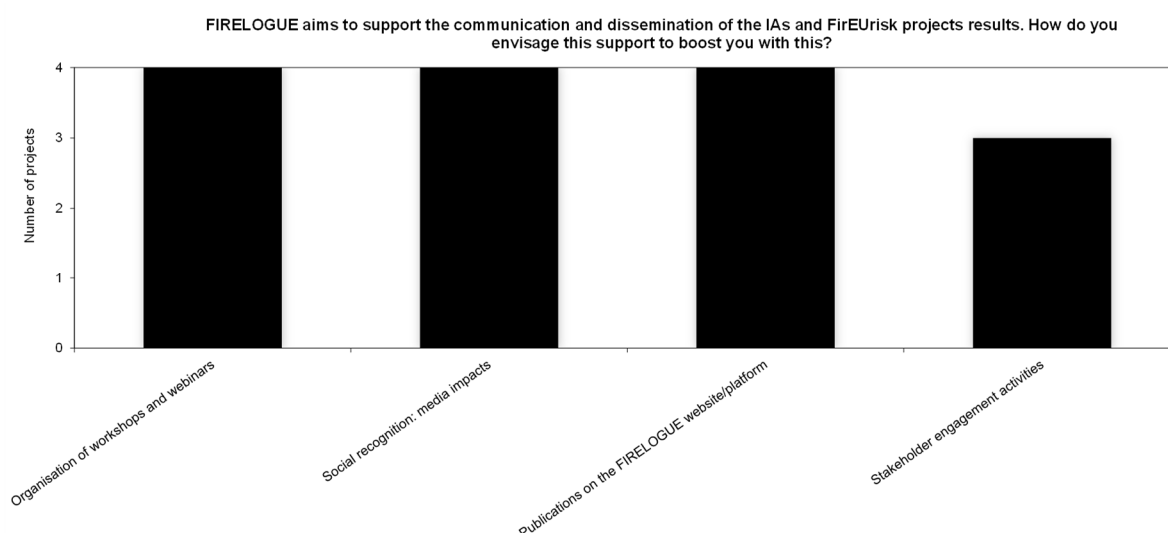


*Figure 19. Communication and dissemination – Expected communication and dissemination activities for all IAs and FireEUrisk projects supported by the FIRELOGUE project*

Overall, there is a general interest in carrying out joint communicative actions, although some of the proposed formats are preferred over others (Figure 20). All projects are highly motivated by the organization of a common IA/CSA day. This already happened with the Clustering Event for the

European Commission that was held on the 5th and 6th of April, and it has been agreed with the Research Executive Agency from the European Commission that will be held on an annual basis until the end of the projects funded under the Green Deal call. Participation in webinars was also highly demanded by all projects except for one. Further, there is a high interest in the creation of joint written (e.g., articles, newsletters) and graphical (e.g., infographics) materials, moderate interest in creating audio-visual materials (e.g., videos, visuals). The preparation of joint key messages addressed to the society, especially during the fire campaign session, and the launching of joint media/social media campaigns was also well considered. Finally, it is remarkable that there was no interest at all in creating a common website.

**Do you have any proposals for common communication activities?**
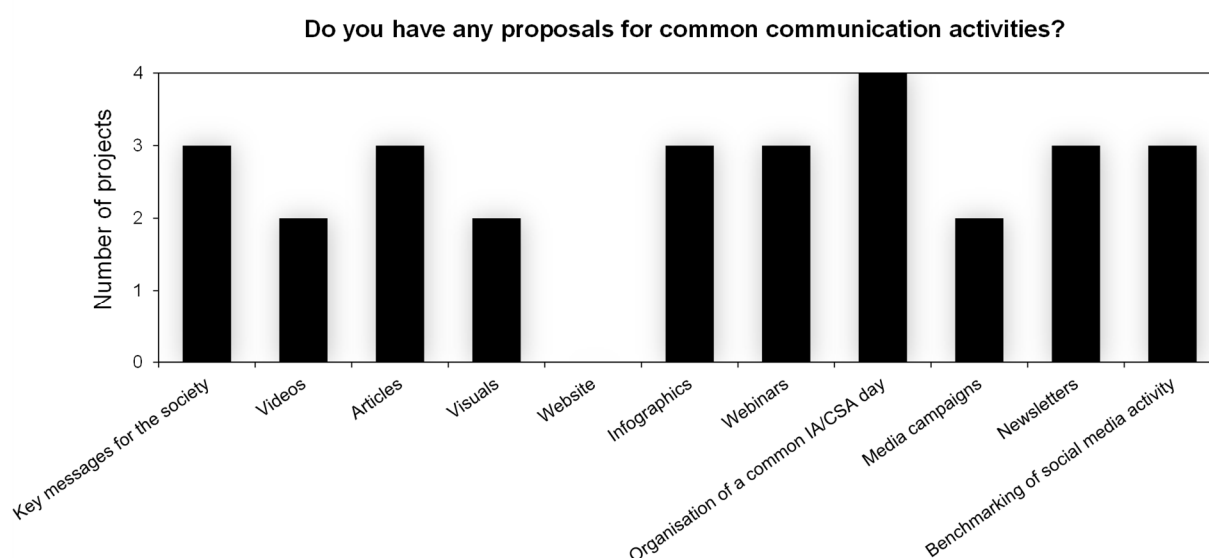


*Figure 20. Communication and dissemination – Proposals for common communication activities.*

### 4.7.4   Communication Booster (Firelogue platform)

By the time this question was formulated, and the survey was distributed to the projects, the plans to create a Communication Booster (CB) were still under discussion and were not entirely associated with the functions envisaged for the Firelogue Platform. As explained in previous sections (see sections 1.1 and 4.7), the CB ended up becoming the Firelogue platform, and so the results of this question are complementary to the results of the question about the Firelogue platform discussed in section 4.2.3.

As observed in Figure 21, all projects present a high interest in showcasing their technical solutions within the CB (Firelogue platform henceforth in this discussion). The Firelogue platform can serve these purposes by means of the Technology Market Place "TechMall" that will enable the exchange of information and the showcase related to the type of technological development that each project will conduct. Also, an expert's catalogue for WFRM topic discussions was demanded by all the projects. This function is identical to the directory of users with a matching tool which was likewise demanded by all the projects in the question about the Firelogue platform (see section 4.2.3). Three out of the four projects showed interest in including a Frequently Ask Question (FAQ) section and in developing a pool with the most popular topics, keywords, and hashtags relevant to the WFRM domain. Finally, only two out of the four projects deemed as relevant incorporating a ticketing service for WFRM

questions. The objective of this function is to provide an enquiry service to users so that they can ask questions that will be forwarded to the competent stakeholders involved in WFRM projects and beyond. There is a possibility that projects did not understand the purpose behind the ticketing service well, and for that reason, it was little demanded.
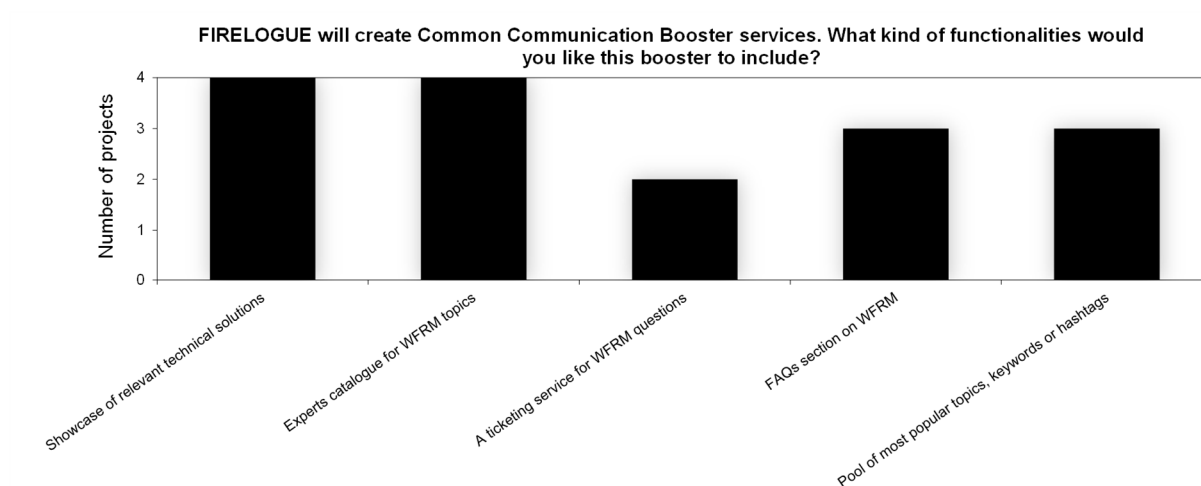


*Figure 21. Communication and dissemination – Functionalities to be included to the Common Communication Booster services*

# 5   Case study description and mapping

The information provided by the projects relevant to their case studies is herein presented in the form of tabular portraits. Hence, one portrait has been created for each case study of each project (sections 0 to 5.4).

Each portrait consists of a template including the following items:

- **Code:** unique alphanumeric string to identify each case study. It contains alphabets that correspond to one of the projects (e.g., DR=DRYADS), and numbers that serve to list the case studies in an orderly manner (e.g., 01, 02…).
- **Case study:** name of the case study as given by each project case study leader.
- **Project:** project in which the case study is developed.
- **Date:** the date on which the case study is deployed. As of the date when this deliverable is submitted (April 2022), the projects have not yet scheduled specific dates for their case study deployment. Since these portraits will be uploaded to the Firelogue platform, this information will be updated later once the projects fix a date for their deployment.
- **Target activities:** plans to conduct specific activities during the case study deployment, such as technology testing and validation, risk awareness campaigns, prescribed burning, or forest monitoring, among others.
- **Main topics covered:** relevant topics to build the narrative of the case studies during their deployments, such as biodiversity, social perceptions, preventive landscape management, pre- and post-disaster financing, evacuations, or international cooperation, among others.
- **Technologies used:** Technologies used for testing purposes during the case study deployment, such as simulators, drones, remote sensing, or wearable sensors, among many others.

All the case studies collected from the IAs and FirEUrisk will be embedded into and geolocated on an interactive map which will be added as a feature in the Firelogue platform. When the user clicks on the case study icon on the map a pop-up window will unfold the portrait with the case study information. This interactive map will not be available until the release of the Firelogue platform (by the end of the first year of the project). A preliminary static version of this map is presented in Figure 22 of section 5.5.

It should be stated that the description of the case studies contained in the current portraits consists of the information provided by the projects in the survey, which was distributed only a few months after these projects started. Since more detailed plans for the implementation of the case studies are expected to come nearer their date for the deployment, projects will have the possibility to update the information contained in the portrait templates that are displayed on the interactive map of the Firelogue platform.

## 5.1 DRYADS

*Table 3: DRYADS case study – DR-01: Wildfires in Norway.*

| CODE | DR-01 | CASE STUDY | Norwegian test site | PROJECT | DRYADS |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| **Target activities** | | <ul><li>Characterize wildfires in Norwegian forest and coastal heather land by field measurements of flame propagation speed, temperature, and heat flux.</li><li>Develop a realistic test method and perform controlled tests to evaluate the performance of passive fire protection products for wooden buildings and key steel and concrete infrastructure exposed to wildland fires.</li><li>Provide suggestions and guidelines regarding building technical requirements for wooden houses and cottages in areas with a high risk of forest fires.</li></ul> | | | | |
| **Main topics covered** | | <ul><li>Wildfire characterization in Norway</li><li>Fire testing</li><li>Passive fire protection systems</li><li>Fire detection</li></ul> | | | | |
| **Technologies used** | | <ul><li>Cameras and infrared sensors</li><li>GPS and communication devices on firefighters, aerial and ATV drones, helicopter, and fire trucks.</li></ul> | | | | |

*Table 4: DRYADS case study – DR-02: Italian test site.*

| CODE | DR-02 | CASE STUDY | Italian test site | PROJECT | DRYADS |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| **Target activities** | | <ul><li>Definition of a fire emergency management strategy for Infrastructures</li><li>Development of eco-sustainable (cement-free) construction materials</li></ul> | | | | |
| **Main topics covered** | | <ul><li>Fire emergency management strategy for transport infrastructures</li></ul> | | | | |
| **Technologies used** | | <ul><li>GIS data</li><li>Fire propagation scenarios</li></ul> | | | | |

*Table 5: DRYADS case study – DR-03: Romanian test site.*

| CODE | DR-03 | CASE STUDY | Romanian test site | PROJECT | DRYADS |
|---|---|---|---|---|---|
| | | DATE | TBD | | |

| Target activities | • Technology testing and validation<br>• Risk awareness campaigns<br>• Forest monitoring |
|---|---|
| Main topics covered | • Wildfire in Macin Mountains National Park |
| Technologies used | Fire detection technologies, monitoring:<br>• AR/VR training solution for first responders<br>• Devices and technologies for detection and response: sensor network, surveillance drones, cameras/IR cameras network and LiDAR scanners |

*Table 6: DRYADS case study – DR-04: Spanish test site.*

| CODE | DR-04 | CASE STUDY | Spanish test site | PROJECT | DRYADS |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Technology testing and validation<br>• Risk awareness campaigns | | | |
| Main topics covered | | • Wide Area Wildfires | | | |
| Technologies used | | • On-ground level sensors and sensors installed in aerial platforms<br>• IoT (Internet of Things) networks<br>• Drones<br>• HAP (High Altitude Platforms)<br>• Copernicus services | | | |

*Table 7: DRYADS case study – DR-05: Austrian test site.*

| CODE | DR-05 | CASE STUDY | Austrian test site | PROJECT | DRYADS |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Technology testing and validation<br>• Risk awareness campaigns | | | |
| Main topics covered | | • Peri-urban wildfire | | | |
| Technologies used | | • Drones<br>• Robots/UGVs<br>• Cameras and infrared sensors<br>• GPS and communication devices<br>• Fire trucks | | | |

Table 8: DRYADS case study – DR-06: German test site.

| CODE | DR-06 | CASE STUDY | German test site | PROJECT | DRYADS |
|------|-------|------------|------------------|---------|--------|
| | | DATE | TBD | | |
| Target activities | | • Technology testing and validation | | | |
| Main topics covered | | • Fire science of wildfires and safety measures | | | |
| Technologies used | | • Soil humidity sensors<br>• Ambient temperature and ambient soil temperature sensors<br>• Optical and infrared sensors<br>• Airflow and atmospheric composition sensors | | | |

Table 9: DRYADS case study – DR-07: Greek test site.

| CODE | DR-07 | CASE STUDY | Greek test site | PROJECT | DRYADS |
|------|-------|------------|-----------------|---------|--------|
| | | DATE | TBD | | |
| Target activities | | • Technology testing and validation<br>• On-field training | | | |
| Main topics covered | | • Human and animal evacuation | | | |
| Technologies used | | • Sensing Infrastructure<br>• Incident Management<br>• Acoustic Sensors<br>• VR Interfaces | | | |

Table 10: DRYADS case study – DR-08: Taiwanese test site.

| CODE | DR-08 | CASE STUDY | Taiwanese test site | PROJECT | DRYADS |
|------|-------|------------|---------------------|---------|--------|
| | | DATE | TBD | | |
| Target activities | | • Investigation on the performance of Alkali Activated Materials concretes using post wildfire ash | | | |
| Main topics covered | | • Mock-up house | | | |

| Technologies used | • Sensors<br>• Arduino<br>• Wifi-module<br>• ThinkSpeak<br>• Mobile phone |
|---|---|

## 5.2 FIRE-RES

*Table 11: FIRE-RES case study – FR-01: Galicia (Spain) test site.*

| CODE | FR-01 | CASE STUDY | Galicia (Spain) test site | PROJECT | FIRE-RES |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| **Target activities** | | • Smoke exposure<br>• Firefighter's monitoring<br>• Creation of innovative social activities to fire awareness<br>• HAPS (High Altitude Pseudo Satellites) contribution to EWE | | | |
| **Main topics covered** | | • Emergency management<br>• Fire responders' health<br>• Governance<br>• Risk awareness<br>• Wildfire monitoring | | | |
| **Technologies used** | | • Individual smoke sensors<br>• High Altitude Pseudo Satellites simulations | | | |

*Table 12: FIRE-RES case study – FR-02: Vale do Sousa and Municipality of Lousã (Portugal) test sites.*

| CODE | FR-02 | CASE STUDY | Vale do Sousa and Municipality of Lousã (Portugal) test sites | PROJECT | FIRE-RES |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| **Target activities** | | • Creation of management models<br>• Improving the use of fire as a management tool<br>• Atmospheric data analyses<br>• Recommendations to WUI<br>• Novel fuel management practices<br>• Post-fire vegetation design<br>• Landscape fire prevention<br>• Creation of innovative social activities to fire awareness<br>• WUI communication methodology<br>• Fire educational program<br>• EWE simulations<br>• Smoke exposure firefighters monitoring<br>• Creation of innovative social activities to fire awareness<br>• Ecosystem services evaluation<br>• Vertical atmospheric structure models based on satellite constellation | | | |

| | | |
|---|---|---|
| | • HAPS (High Altitude Pseudo Satellites) contribution to EWE | |
| **Main topics covered** | • EWE drivers<br>• Fuel management<br>• Fire as a management tool<br>• WUI management<br>• Post-fire vegetation restoration<br>• Governance<br>• Risk awareness<br>• Communication<br>• Fire simulation<br>• Emergency management<br>• Fire responders' health<br>• Wildfire monitoring | |
| **Technologies used** | • GIS<br>• Simulators<br>• Novel wood machinery<br>• Modelling<br>• Individual smoke sensors<br>• Remote sensing techniques and AI<br>• Nanosatellites<br>• High Altitude Pseudo Satellites simulations<br>• Demonstrations | |

*Table 13: FIRE-RES case study – FR-03: Catalonia (Spain) test site.*

| CODE | FR-03 | CASE STUDY | Catalonia (Spain) test site | PROJECT | FIRE-RES |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| **Target activities** | | • Creation of management models<br>• Improving the use of fire as a management tool<br>• Atmospheric data analyses<br>• Recommendations to WUI<br>• Novel fuel management practices<br>• Post-fire vegetation design<br>• Landscape fire prevention<br>• Creation of innovative social activities to fire awareness<br>• WUI guidelines for exposure reduction<br>• EWE simulations<br>• Smoke exposure firefighters monitoring<br>• Early warning indicators of EWE<br>• Improving data acquisition<br>• Advance fuel characterization based on Earth Observation<br>• Engaging wineries in maintaining fire-resilient territories<br>• Payment for ecosystem services | | |

| | |
|---|---|
| | • Parametric solutions for insurance products<br>• Policy clinics<br>• Firewise planning platform<br>• Smart communication to citizens<br>• Innovative training certificates<br>• Vertical atmospheric structure models based on satellite constellation<br>• HAPS (High Altitude Pseudo Satellites) contribution to EWE<br>• Ecosystem services evaluation |
| **Main topics covered** | • EWE drivers - atmosphere<br>• Fuel management<br>• Fire as a management tool<br>• WUI management<br>• Post-fire vegetation restoration<br>• Governance<br>• Risk awareness<br>• Communication<br>• Fire simulation<br>• Emergency management<br>• Fire responders' health<br>• Early-warning risk assessment<br>• Fuel characterization<br>• Financial instruments for fire prevention<br>• Spatial planning and risk reduction<br>• Policy evaluation<br>• Training<br>• Wildfire monitoring |
| **Technologies used** | • GIS<br>• Simulators<br>• Novel wood machinery<br>• Modelling<br>• Individual smoke sensors<br>• Weather indexes<br>• Remote sensing techniques and Artificial Intelligence<br>• Alternative risk transfer solutions<br>• Nanosatellites<br>• High Altitude Pseudo Satellites simulations<br>• Demonstrations |

*Table 14: FIRE-RES case study – FR-04: Canary Islands (Spain) test site.*

| CODE | FR-04 | CASE STUDY | Canary Islands (Spain) test site | PROJECT | FIRE-RES |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| **Target activities** | | • Post-fire vegetation design<br>• Creation of management models<br>• Improving the use of fire as a management tool | | | |

| | | | | |
|---|---|---|---|---|
| | • Policy clinics<br>• Firewise planning platform<br>• EWE simulations | | | |
| **Main topics covered** | • Post-fire vegetation restoration<br>• Fuel management<br>• Fire as a management tool<br>• Policy evaluation<br>• Spatial planning and risk reduction | | | |
| **Technologies used** | • Simulations<br>• Demonstrations | | | |

*Table 15: FIRE-RES case study – FR-05: Sardinia (Italy) test site.*

| CODE | FR-05 | CASE STUDY | Sardinia (Italy) test site | PROJECT | FIRE-RES |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| **Target activities** | | • Creation of management models<br>• Atmospheric data analyses<br>• Post-fire vegetation design<br>• WUI communication methodology<br>• EWE simulations<br>• Advance fuel characterization based on Earth Observation<br>• Early warning indicators of EWE | | | |
| **Main topics covered** | | • EWE drivers - atmosphere<br>• Fuel management<br>• Fuel characterization<br>• Post-fire vegetation restoration<br>• Communication<br>• Early warning risk assessment | | | |
| **Technologies used** | | • Simulations<br>• Remote sensing<br>• Demonstrations<br>• Weather Indexes | | | |

*Table 16: FIRE-RES case study – FR-06: Kassandra Peninsula, Lesvos Island, and Peloponnese (Greece) test sites.*

| CODE | FR-06 | CASE STUDY | Kassandra Peninsula, Lesvos Island, and Peloponnese (Greece) test sites | PROJECT | FIRE-RES |
|---|---|---|---|---|---|
| | | DATE | TBD | | |

| Target activities | • Improving data acquisition<br>• Landscape fire prevention<br>• Ecosystem services evaluation |
|---|---|
| Main topics covered | • Fuel management<br>• Fuel characterization |
| Technologies used | • Simulations<br>• Remote sensing |

*Table 17: FIRE-RES case study – FR-07: Netherlands-Germany transboundary area test site.*

| CODE | FR-07 | CASE STUDY | Netherlands-Germany transboundary area test site | PROJECT | FIRE-RES |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Creation of innovative social activities to fire awareness<br>• Policy clinics<br>• Firewise planning platform | | | |
| Main topics covered | | • Policy evaluation<br>• Spatial planning and risk reduction | | | |
| Technologies used | | • Demonstrations | | | |

*Table 18: FIRE-RES case study – FR-08: Concepción and Constitución & Empedrado municipality (Chile) test sites.*

| CODE | FR-08 | CASE STUDY | Concepción and Constitución & Empedrado municipality (Chile) test sites | PROJECT | FIRE-RES |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Atmospheric data analyses<br>• WUI exposure reduction<br>• Landscape fuel management<br>• Creation of innovative social activities to fire awareness<br>• EWE simulation | | | |
| Main topics covered | | • EWE drivers – atmosphere<br>• Fuel management<br>• WUI management<br>• Risk awareness<br>• Governance | | | |

| Technologies used | • Simulations<br>• Modelling<br>• Demonstrations |
|---|---|

Table 19: FIRE-RES case study – FR-09: Nouvelle Aquitaine (France) test site.

| CODE | FR-09 | CASE STUDY | Nouvelle Aquitaine (France) test site | PROJECT | FIRE-RES |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Atmospheric data analyses<br>• Early warning indicators of EWE<br>• Creation of management models<br>• Ecosystem services evaluation<br>• WUI communication<br>• Test of interoperability tool<br>• HAPS (High Altitude Pseudo Satellites) contribution to EWE | | | |
| Main topics covered | | • Early warning risk assessment<br>• EWE drivers – atmosphere<br>• Fuel management<br>• Emergency management<br>• WUI management<br>• Communication<br>• Wildfire monitoring | | | |
| Technologies used | | • Weather Indexes<br>• Demonstrations<br>• High Altitude Pseudo Satellites simulations | | | |

Table 20: FIRE-RES case study – FR-10: Norway-Sweden test sites.

| CODE | FR-10 | CASE STUDY | Norway-Sweden test sites | PROJECT | FIRE-RES |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Atmospheric data analyses<br>• Improving data acquisition<br>• Vertical atmospheric structure models based on satellite constellation<br>• Advance fuel characterization based on Earth Observation | | | |
| Main topics covered | | • EWE drivers – atmosphere<br>• Fuel characterization | | | |
| Technologies used | | • Remote sensing<br>• Nanosatellites | | | |

*Table 21: FIRE-RES case study – FR-11: Stara Zagora (Bulgaria) test site.*

| CODE | FR-11 | CASE STUDY | Stara Zagora (Bulgaria) test site | PROJECT | FIRE-RES |
|------|-------|------------|-----------------------------------|---------|----------|
| | | DATE | TBD | | |
| **Target activities** | | <ul><li>Creation of management models</li><li>Improving the use of fire as a management tool</li><li>Landscape fuel management</li><li>Atmospheric data analyses</li></ul> | | | |
| **Main topics covered** | | <ul><li>Fuel management</li><li>Fire as a management tool</li><li>EWE drivers – atmosphere</li></ul> | | | |
| **Technologies used** | | <ul><li>Demonstrations</li></ul> | | | |

## 5.3  FirEUrisk

*Table 22: FirEUrisk case study – FEU-01: Northern Europe test site.*

| CODE | FEU-01 | CASE STUDY | Northern Europe test site: South-Eastern Sweden | PROJECT | FirEUrisk |
|------|--------|------------|--------------------------------------------------|---------|-----------|
| | | DATE | TBD | | |
| **Target activities** | | TBD | | | |
| **Main topics covered** | | <ul><li>Future fire risk scenarios</li></ul> | | | |
| **Technologies used** | | TBD | | | |

*Table 23: FirEUrisk case study – FEU-02: Central-Eastern Europe test site.*

| CODE | FEU-02 | CASE STUDY | Central-Eastern Europe test site: Saxony (Germany), Bohemia (Check Republic) and Silesian (Poland) | PROJECT | FirEUrisk |
|------|--------|------------|-----------------------------------------------------------------------------------------------------|---------|-----------|
| | | DATE | TBD | | |
| **Target activities** | | TBD | | | |

| Main topics covered | • Transboundary cascading effects |
|---|---|
| Technologies used | TBD |

*Table 24: FirEUrisk case study – FEU-03: Mediterranean test site in Central Portugal.*

| CODE | FEU-03 | CASE STUDY | Mediterranean test site: Central Portugal | PROJECT | FirEUrisk |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | TBD | | | |
| Main topics covered | | • Fire risk reduction and prevention<br>• Forest management<br>• Wildland-Urban Interface | | | |
| Technologies used | | TBD | | | |

*Table 25: FirEUrisk case study – FEU-04: Mediterranean test site in Spain.*

| CODE | FEU-04 | CASE STUDY | Mediterranean test site: Barcelona (Spain) | PROJECT | FirEUrisk |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | TBD | | | |
| Main topics covered | | • Fire risk reduction and prevention<br>• Forest management<br>• Wildland-Urban Interface | | | |
| Technologies used | | TBD | | | |

*Table 26: FirEUrisk case study – FEU-05: Mediterranean test site in Greece.*

| CODE | FEU-05 | CASE STUDY | Mediterranean test site: Attica (Greece) | PROJECT | FirEUrisk |
|---|---|---|---|---|---|
| | | DATE | TBD | | |

| Target activities | TBD |
|---|---|
| Main topics covered | • Catastrophic peri-urban wildfires |
| Technologies used | TBD |

## 5.4 SILVANUS

*Table 27: SILVANUS case study – SL-01: Gargano (Italy) test site.*

| CODE | SL-01 | CASE STUDY | Gargano (Italy) test site | PROJECT | SILVANUS |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Phase A: Awareness activities, citizen engagement<br>• Phase B: Technology validation, including detection, response<br>• Phase C: Forest monitoring and restoration | | | |
| Main topics covered | | • Landscape management<br>• Social campaigns on fire danger and climate impact<br>• Pre- and post- disaster management<br>• Public safety | | | |
| Technologies used | | • Mobile application campaigns<br>• Biodiversity record maintenance<br>• Forward command centre and cloud command centre<br>• Climate and weather data services | | | |

*Table 28: SILVANUS case study – SL-02: French test site.*

| CODE | SL-02 | CASE STUDY | French test site | PROJECT | SILVANUS |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Phase B: Technology validation | | | |
| Main topics covered | | • Platform performance assessment for fire detection and response coordination | | | |
| Technologies used | | • IoT gateways<br>• Earth observation data sources<br>• CCTV (RGB, Infrared, multi-spectral imaging) stream analysis<br>• Deployment of drones for early-stage fire detection | | | |

*Table 29: SILVANUS case study – SL-03: Slovakian test site.*

| CODE | SL-03 | CASE STUDY | Slovakian test site | PROJECT | SILVANUS |
|------|-------|------------|---------------------|---------|----------|
| | | DATE | TBD | | |
| **Target activities** | | • Phase A: Fire spread model evaluation for prevention<br>• Phase B: Technology validation<br>• Phase C: Forest restoration activities | | | |
| **Main topics covered** | | • Biodiversity models<br>• Impact assessment toolkit evaluation | | | |
| **Technologies used** | | • IoT gateways<br>• CCTV footage analysis | | | |

*Table 30: SILVANUS case study – SL-04: Portuguese test site.*

| CODE | SL-04 | CASE STUDY | Portuguese test site | PROJECT | SILVANUS |
|------|-------|------------|----------------------|---------|----------|
| | | DATE | TBD | | |
| **Target activities** | | • Phase C: Forest monitoring for vegetation growth near electricity grid (critical infrastructure) | | | |
| **Main topics covered** | | • Preventive landscape management | | | |
| **Technologies used** | | • Use of drones for aerial surveillance | | | |

*Table 31: SILVANUS case study – SL-05: Croatian test site.*

| CODE | SL-05 | CASE STUDY | Croatian test site | PROJECT | SILVANUS |
|------|-------|------------|--------------------|---------|----------|
| | | DATE | TBD | | |
| **Target activities** | | • Phase B: Technology validation | | | |
| **Main topics covered** | | • Impact assessment toolkit evaluation | | | |
| **Technologies used** | | • IoT gateways<br>• CCTV footage analysis<br>• Use of drones and aerial surveillance | | | |

Table 32: SILVANUS case study – SL-06: Greek test site.

| CODE | SL-06 | CASE STUDY | Greek test site | PROJECT | SILVANUS |
|------|-------|------------|-----------------|---------|----------|
| | | DATE | TBD | | |
| Target activities | | • Phase A: Public awareness campaign, citizen engagement, modelling fire danger index<br>• Phase B: Technology validation<br>• Phase C: Forest restoration services, soil rehabilitation strategy for post-fire biodiversity growth | | | |
| Main topics covered | | • Preventive landscape management<br>• Post-disaster recovery strategy<br>• Evacuation strategies | | | |
| Technologies used | | • IoT gateways<br>• Forward command centre<br>• Cloud command centre deployment | | | |

Table 33: SILVANUS case study – SL-07: Romanian test site.

| CODE | SL-07 | CASE STUDY | Romanian test site | PROJECT | SILVANUS |
|------|-------|------------|--------------------|---------|----------|
| | | DATE | TBD | | |
| Target activities | | • Phase B: Technology validation | | | |
| Main topics covered | | • Impact assessment toolkit evaluation | | | |
| Technologies used | | • IoT gateways<br>• Forward command centre<br>• Cloud command centre | | | |

Table 34: SILVANUS case study – SL-08: Czech test site.

| CODE | SL-08 | CASE STUDY | Czech test site | PROJECT | SILVANUS |
|------|-------|------------|-----------------|---------|----------|
| | | DATE | TBD | | |
| Target activities | | • Phase A: fire fighter training activity<br>• Phase B: technology validation | | | |
| Main topics covered | | • Training of fire fighters using AR/VR technologies<br>• Impact assessment toolkit evaluation | | | |

| Technologies used | • AR/VR technologies of fire mitigation<br>• IoT gateways<br>• Forward command centre<br>• Cloud command centre |
|---|---|

*Table 35: SILVANUS case study – SL-09: Brazilian test site.*

| CODE | SL-09 | CASE STUDY | Brazilian test site | PROJECT | SILVANUS |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Phase A: Forest monitoring and awareness campaign | | | |
| Main topics covered | | • Biodiversity modelling and forest restoration services | | | |
| Technologies used | | • Soil rehabilitation strategy<br>• Weather and climate data services | | | |

*Table 36: SILVANUS case study – SL-09: Australian test site.*

| CODE | SL-10 | CASE STUDY | Australian test site | PROJECT | SILVANUS |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Phase B: Technology testing for fire detection using UGVs | | | |
| Main topics covered | | • Preventive landscape management | | | |
| Technologies used | | • IoT gateways<br>• UGV actuators | | | |

*Table 37: SILVANUS case study – SL-09: Indonesian test site.*

| CODE | SL-11 | CASE STUDY | Indonesian test site | PROJECT | SILVANUS |
|---|---|---|---|---|---|
| | | DATE | TBD | | |
| Target activities | | • Phase C: forest restoration services | | | |

| | |
|---|---|
| **Main topics covered** | • Landscape management |
| **Technologies used** | • IoT gateways<br>• Cloud command centre |

## 5.5 Map of case studies

The map in Figure 22 shows the distribution of the test sites for the deployment of the case studies from the IAs and FirEUrisk. The case study codes illustrated on the map serve to refer the portraits in sections 0, 5.2, 5.3, and 5.4.
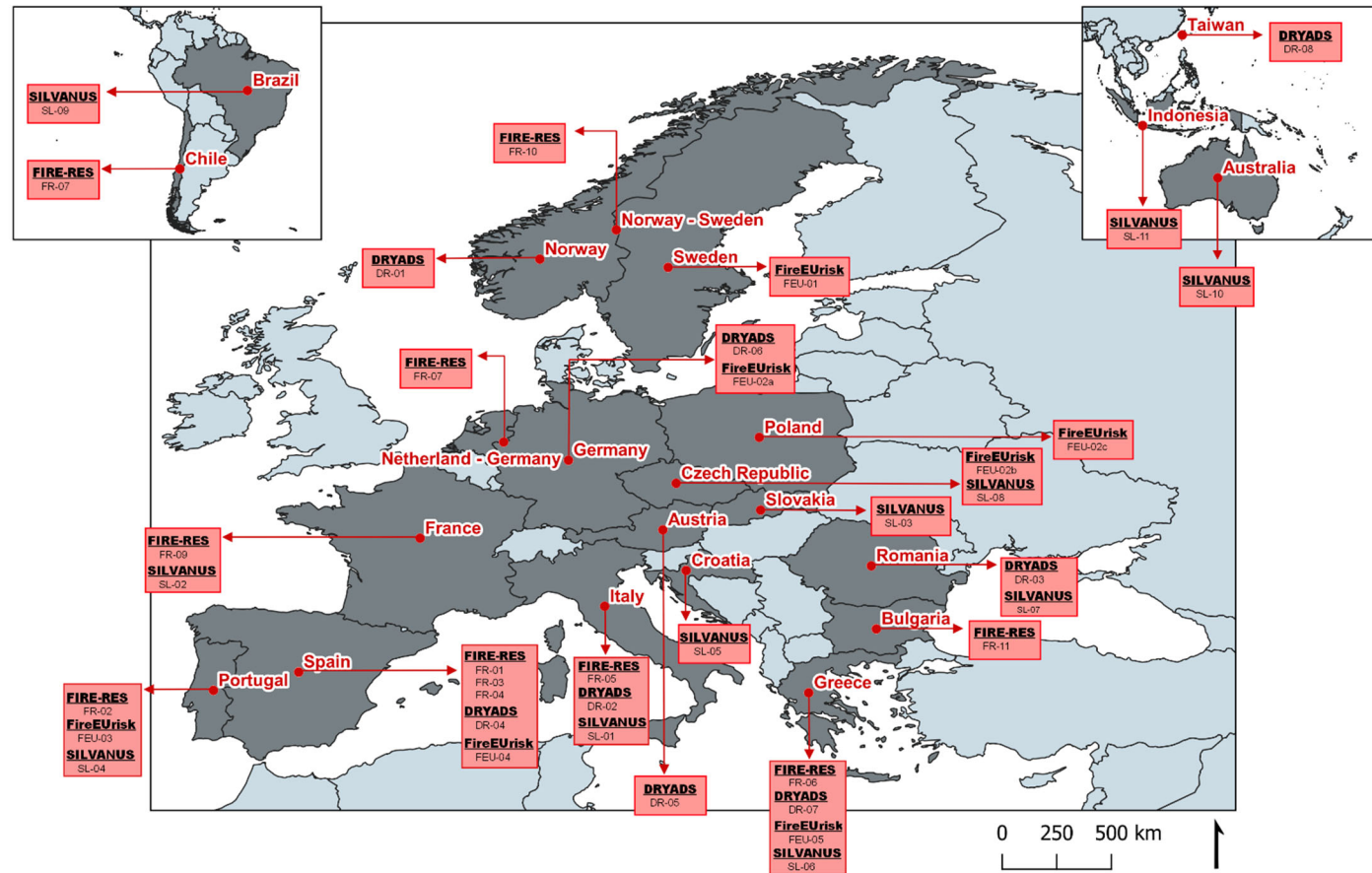


*Figure 22: Distribution map of the IAs and FirEUrisk case studies across Europe and beyond.*

# 6 Conclusions

Because the Firelogue project has as a core objective the creation of a network for the discussion on WFRM topics, the information collected through the survey has provided essential insights into the objectives and challenges of some of the benchmark projects working on integrated WFRM in Europe: the three IAs funded under the Green Deal call (LC-GD-1-1), DRYADS, FIRE-RES and SILVANUS, and the RIA FirEUrisk (LC-CLA-15-2020). Nonetheless, Firelogue will extend this support to other projects from the WFRM domain, such as SAFERS, Firelinks, Fire-In, NEMAUSUS, Pyrolife or AFAN. The result from this survey were presented during the clustering event that took place on the 5th and 6th April 2022 — promoted by Firelogue with the support of European Commission— that will take on an annual basis. This was an excellent occasion to pave the path for the exchange and collaboration between the projects.

Survey results demonstrate that respondents acknowledge the crucial role of Firelogue to become a network facilitator among the WFRM projects and catalyser during the joint activities leading to maximise the cooperation of the projects and the impact of their outcomes. Thus, the results reveal a high interest in sharing different types of information, methodological approaches, and projects outcomes by means of a variety of interactive formats that facilitate synergies among them. To achieve this end, they intend to engage a variety of stakeholders with different background and expertise whose contribution is recognised to be required for dealing holistically with challenges of high complex wildfire future risk scenarios. This interaction should occur with a broader community of stakeholders that goes beyond the project Consortiums.

Moreover, the results reveal their ambitions in terms of the specific project areas that they are meant to cover throughout their lifecycle:

(1) The development of impact assessment methodologies to assess the expected impacts by 2030 (0 fatalities, 50% reduction in accidental fire ignitions…). Despite each project plans to develop its own impact assessment methodology, they are willing to share, compare, and jointly define measures and indicators.

(2) Communication and dissemination activities. Most of joint proposed activities were well considered by the projects with an emphasis on awareness campaigns through social media or other channels, joint newsletters, as well as unite efforts to ensure communication partnership with organisations and networks.

(3) Thematic Working Groups. Survey results identify relevant topics they can contribute within the scope of the five thematic WGs that Firelogue has pre-defined for the discussion of diverse WFRM-related technical aspects.

(4) The implementation of case studies. All projects take a holistic approach for their case studies, meaning that throughout their deployment (i.e., pilots or living labs) they aim to cover all the emergency phases of the WFRM cycle (prevention&preparedness, detection&response, restoration&adaptation) as well as the management dimensions (ecology, sociocultural aspects to financing and civil protection). However, not all the emergency phases and management dimensions are covered in every single pilot, but specific pilots target specific emergency and managerial aspects. Technologies are a very relevant element —sometimes the core element—, of the case studies since

project pilots are usually the scenario to test and validate the developed technological tools. Transfers of lessons learned, and scalability of solutions are also considered, and they are expected to happen within the same regions or countries and at international level (e.g., between European countries and beyond). Case study portraits containing relevant information about their targeted topics, activities, and technologies were created in this deliverable as a manner to help projects to be aware about other project plans in order to promote synergies.

Finally, The Firelogue web-based platform seems to a be an appropriate tool to facilitate the projects' desires in terms of knowledge exchange and information sharing. This is essential for them to be aware of each other's objectives and plans, identify common interests and eventually establish contact for collaboration in the frame of the activity formats mentioned above.

# 7   References

[1]  IX       International       Conference       on       Forest       Fire       Research: https://www.adai.pt/newevent/event/home/index.php?target=home&defLang=2&event=4.

[2]  AFAN project website: https://fireanalysisnetwork.eu/.

[3]  DRYADS project website: https://dryads-project.eu/.

[4]  Fire-In project website: https://fire-in.eu/.

[5]  Firelinks website: https://firelinks.eu/.

[6]  FIRE-RES project website: https://fire-res.eu/about-fire-res/.

[7]  Fire Across Boundaries Conference website: http://fireacrossboundaries.org/.

[8]  FirEUrisk project website: https://fireurisk.eu/.

[9]  ISCRAM 2022 Conference website: https://iscram2022.enit.fr/.

[10] Martín, D.; Vendrell, J.; Borràs, M.; Prat, N. (2022). Stakeholder clustering report. Deliverable D7.2 FIRELOGUE.

[11] Pyrolife project website: https://pyrolife.lessonsonfire.eu/.

[12] SAFERS project website: https://safers-project.eu/.

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## 8    Annexes

### 8.1    Annex I: Survey

# FIRELOGUE: Cross-sector dialogue for Wildfire Risk Management

## *KNOWLEDGE BASE SURVEY*

The overarching objective of FIRELOGUE is to create a network and a platform for the discussion on the future of European wildfire risk management (WFRM), engaging the entirety of the wildfire community. It thereby focuses on the support of the WFRM related Innovation Actions (IAs) funded under the Horizon 2020 Green Deal call while simultaneously coordinating the integration of stakeholders and findings into cross-sectoral WFRM recommendations as a roadmap for 2030 and beyond.

**This survey should build the basis for further collaboration. It is designed to better understand the scope of the IA projects and FirEUrisk (H2020 LC-CLA-15-2020), and to identify relevant areas for knowledge sharing and joint activities over the next 4-5 years. In addition, it aims to identify stakeholders and innovative aspects for thematic working groups on the following WFRM topics: ecology, citizen involvement, insurance, infrastructures, and civil protection.**

The survey consists of 32 questions distributed across 7 sections. It encompasses the following topics: *(1) General questions, (2) Knowledge sharing, (3) Stakeholder management, (4) Impact assessment, (5) Case studies, (6) Working groups, and (7) Communication and dissemination.* We would like to ask the respective IA coordinator to distribute the responsibilities for answering the different questions to the relevant consortium members.

I understand that a minimum of personal data (email address, date/time) are recorded by the host server at the premises of the Fraunhofer and protected by the General Data Protection Regulation (GDPR). They cannot be used for purposes other than the one for which they were gathered (to generate an organisation's profile and identify stakeholders' priorities in order to create an efficient communication within the project stakeholders). They are for the exclusive use of their recipient (Fraunhofer) and subject to confidentiality. They will be deleted within a maximum period of 5 years after the end of the project.

# GENERAL QUESTIONS

1. **Select which project you represent.** *(Single choice)*

> *Type here*

2. **Please state the main objective(s) and a brief (150 words or less) description of the project** *(Free text)***:**

> *Type here*

# KNOWLEDGE SHARING

FIRELOGUE is committed to promoting and developing knowledge exchange actions for the IAs and FirEUrisk, to facilitate their interaction among them, with other relevant EU and non-EU initiatives, and with the broader WFRM Community (safety practitioners, landscape managers, forest officers, researchers, etc.). This involves the creation of joint dissemination activities as well as exchange formats among the different stakeholder networks identified.

3. **Which type of knowledge would you like to see shared between the different projects?** *(Select all that apply)***:**

   ☐ Analysis of past wildfire events (e.g., cause, impacts, response and recovery approaches, lessons learned)

   ☐ Wildfire Risk Management policy recommendations

   ☐ Land management approaches

   ☐ End-user involvement strategies

   ☐ Citizen involvement strategies

   ☐ Standard Operation Procedures (SOPs)

   ☐ Firefighting training concepts

   ☐ Technological developments

   ☐ Others (please specify):

> *Type here*

4. **Does your project plan to make use of knowledge, data, and information provided by any of the following existing platforms?** *(Select all that apply)***:**

☐ Fire-In (https://fire-in.eu/)
☐ Fire Safe Europe (FSEU) (https://firesafeeurope.eu/)
☐ European Commission Disaster Risk Management Knowledge Centre (EC DRMKC) (https://drmkc.jrc.ec.europa.eu/)
☐ UCPM Knowledge Network platform (https://civil-protection-knowledge-network.europa.eu/)
☐ Lessons on Fire (https://lessonsonfire.eu/)
☐ European Forest Fire Information System (EFFIS) (https://effis.jrc.ec.europa.eu/)
☐ Copernicus Data Access Hubs (https://www.copernicus.eu/en/accessing-data-where-and-how/conventional-data-access-hubs
☐ Others (please specify):

> *Type here*

5. **Does your work plan contribute with knowledge, practices, and solutions into any of the previous platforms?** *(Select all that apply)***:**

☐ Yes, we plan to contribute to the following platforms:

*Type here*

☐ Yes, in addition to creating our own platform with the technological components of the project. Please, specify the existing platforms to which you plan to contribute:

*Type here*

☐ No

☐ No, but we plan to create our own platform with the technological components of the projects.

6. **FIRELOGUE will develop a web-based platform to support the exchange of information among the WFRM community. What are the key sections that you would expect from that platform?** *(Select all that apply)***:**

☐ Library: repository of digital files (papers, articles, videos…)
☐ Directory of users with a matching tool
☐ Dictionary/glossary: collaborative collection of fire terms
☐ Forums
☐ Agenda with the main wildfire-related events
☐ Job portal to post/search job opportunities
☐ Solutions map: compilation of projects and activities relevant to WFRM visualised on a map
☐ Others (please specify):

> *Type here*

7. **What type of joint participation activities and knowledge exchange actions come to your mind?** *(Select all that apply)*:

   ☐ Field experiments/pilot site demonstrations organised as part of the IAs and FirEUrisk projects
   ☐ Cross-border and regional exercises (e.g., DG ECHO MODEX Full-Scale Exercises)
   ☐ Activities under the DG ECHO Network Partnership
   ☐ International networking events (e.g., conferences, congresses...)
   ☐ Annual fire season review meetings (best practices on fire operations and land management)
   ☐ Thematic Working Group meetings
   ☐ Webinars
   ☐ Hackathons
   ☐ Others (please specify):

   *Type here*

8. **Plans for joint participation in upcoming conferences (e.g., ISCRAM, Fire Across Boundaries, International Conference on Forest Fire Research) have been agreed on by project teams. Please propose some relevant topics for discussion in the frame of these events.**

   *Type here*

## STAKEHOLDER MANAGEMENT

FIRELOGUE will act as "Network Facilitator" for the International WFRM Community networks supporting the IAs and FirEUrisk, as well as managing and connecting the identified WFRM stakeholders. Along these lines, stakeholder management will be a central part of FIRELOGUE , supporting the IAs and FirEUrisk as a whole but also its different stakeholder groups, and their integration across sectors and risk management phases, and fostering exchange with the broader WFRM community.

9. **Do you have a partner in the Consortium holding the role of stakeholder manager, end-user coordinator or similar? If yes, please provide her/his contact details (name, email, organisation, and role in the project)** *(Free text)*

   *Type here*

10. **What are the target stakeholders that you will get involved in the different project activities (e.g., case study deployment, workshops, co-development dissemination…)?** *(Select all that apply)*:

    ☐ Safety practitioners - Commanders/Decision-makers
    ☐ Safety practitioners - In-field first responders
    ☐ Forest Officials
    ☐ Land owners/managers

☐ Representatives from volunteer associations
☐ Representatives from local and regional administrations
☐ Researchers
☐ Policy Makers
☐ Representatives from the BFSI (Banking, Financial Services and Insurance) Industry
☐ Fire prevention and firefighting equipment suppliers
☐ Representatives from environmental organisations
☐ Representatives of the media
☐ Representatives from community residents
☐ Others (please specify):

> *Type here*

11. **In the previous questions we have presented a clustering of stakeholder groups. If you have already clustered your partners/stakeholders, which groups did you identify?** *(Free text)*

> *Type here*

## IMPACT ASSESSMENT

FIRELOGUE aims to facilitate the impact assessment of WFRM measures and projects towards the impact expected by the call, integrating them into cross-sectoral strategies relevant for the EU level. To do so, FIRELOGUE will set the grounds for a harmonised methodology assessing the cumulative impact of the IAs and FirEUrisk.

12. **Please provide the contact details (name, email, organisation, and role in the project) of the main person/s responsible for impact assessment activities in your project.** *(Free text)*

> *Type here*

13. **Have you already set a plan/methodology to measure the achievement of the EXPECTED IMPACTS by 2030, set by the work programme with respect to 2019 (0 fatalities, 50% reduction in accidental fire ignitions…)?** *(Free text)*

> *Type here*

14. **At which stage of the project will you perform this Impact Assessment methodology (e.g., at end of the project, annually, on each case study…), how will the baseline data be defined and in which scale (e.g., household, municipality, regional, national, European…)?** *(Free text)*

> *Type here*

**15. What are main challenges you expect in assessing the impact of WFRM innovations?** *(Free text)*

> *Type here*

# CASE STUDIES

FIRELOGUE aims to consolidate the novel WFRM measures and solutions from the case studies deployed by the IAs and FirEUrisk and enrich this knowledge through additional background research. This involves synthesizing knowledge in the existing and new literature concerning past wildfire events (and hazard parameters), WFRM actors, measures, technologies, and SOPs.

**16. Please provide the contact details (name, email, organisation, and role in the project) of the main person/s responsible for the case study implementation in your project.** *(Free text)*

> *Type here*

**17. Please list the case studies planned for the project, providing the information indicated in the table below.** *(Free text)*

| Fire event (historical/fictional) and location and Geographical scope (e.g., household, municipality, regional, national, European…) | Target activities (e.g., technology testing and validation, risk awareness campaigns, prescribed burning, forest monitoring…) | Main topics covered (e.g., biodiversity, social perceptions, preventive landscape management, pre- and post-disaster financing, evacuations, international cooperation…) | Technologies used |
|---|---|---|---|
| Type here | Type here | Type here | Type here |
| Type here | Type here | Type here | Type here |
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**18. What is the format adopted for the deployment of case studies?** *(Select all that apply)***:**

☐ Demonstration pilots
☐ Workshops
☐ Living Labs
☐ Drills
☐ Others (please specify):

> *Type here*

**19. Are equity and fairness considerations already included in wildfire risk management practices in the case studies? If yes, how do these considerations translate in practice? If not, is the topic relevant for the stakeholders involved?** *(Free text)*

> *Type here*

**20. What are the main conflicts (if any) concerning wildfire risk management potentially arising between different types of stakeholders and their interests in the case studies?** *(Select all that apply)***:**

☐ Land ownership
☐ Devaluation of forest resources
☐ Policy/legal barriers
☐ Conservation vs productive management strategies
☐ Burning restrictions
☐ Lack of community preparedness/ proactive attitudes
☐ Land use changes
☐ Others (please specify):

> *Type here*

**21. Please outline briefly how the project plans to implement the case studies during its lifetime? (E.g., Year 1: identification of challenges/shortcomings; Year 2: Scenario set-up & technology mapping; Year 3: Data collection camping; Year 4: Final tests):** *(Free text)*

> *Type here*

## WORKING GROUPS

FIRELOGUE establishes five sectorial Working Groups (WGs) on (1) ecology/environment, (2) societal aspects, (3) infrastructures, (4) insurance and (5) civil protection aspects. WG members will be formed from the IAs, FirEUrisk, FIRELOGUE as well as other invited experts, and their mission will be to foster transdisciplinary dialogues in order to review and analyse existing WFRM approaches, and innovations suggested by the IAs and other activities in the broader WFRM community. For further information please refer to the Concept Note on FIRELOGUE Working Groups & Thematic Strands.

**22. Please suggest one or more members of your Consortium to each WG indicating their name, email, organisation, and role in the project.** *(Free text)*

**Ecology / Environment:**

*Type here*

**Societal aspects:**

*Type here*

**Infrastructures:**

*Type here*

**Insurance:**

*Type here*

**Civil Protection:**

*Type here*

**23. Please name in the table below the main topics/questions related to the WGs and describe briefly the main intended contribution by your project.** *(Free text)*

| WORKING GROUP | Relevant topics | Project main contribution |
|---|---|---|
| **Ecology / Environment** | *Type here* <br> *e.g., ecosystem services provision, climate action policies…* | *Type here* |
| **Societal aspects** | *Type here* <br> *e.g., risk preparedness campaign, citizens' engagement in decision making…* | *Type here* |
| **Infrastructures** | *Type here* <br> *e.g., measures for the protection of infrastructure assets, development of wildfire management policies…* | *Type here* |
| **Insurance** | *Type here* <br> *e.g., financial compensation* | *Type here* |

| | | |
|---|---|---|
| | mechanisms, novel insurance instruments… | |
| **Civil Protection** | *Type here*<br>*e.g., new approaches to assess wildfire danger and risk, new and existing SOPs…* | *Type here* |

**24. What stakeholder groups (from inside your Consortium or external) do you think should ideally join these Working Groups?** *(Put an X mark on the blank boxes where appropriate)*

| PARTICIPANT | WORKING GROUPS | | | | |
|---|---|---|---|---|---|
| | Ecology / Environment | Societal aspects | Infrastructures | Insurance | Civil Protection |
| **Security practitioners - Commanders/Decision-makers** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Security practitioners - In-field first responders** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Forest Officials** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Land/property owners/managers** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Representatives from volunteer associations** | ☐ | ☒ | ☐ | ☐ | ☒ |
| **Local administrations** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Researchers** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Policy Makers** | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | |
|---|---|---|---|---|---|
| **Representatives from the BFSI Industry** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Fire prevention and firefighting equipment suppliers** | ☐ | ☐ | ☐ | ☒ | ☐ |
| **Representatives from environmental organisations** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Representatives of the media** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Representatives from community residents** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Others (please specify):** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Others (please specify):** | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Others (please specify):** | ☐ | ☐ | ☐ | ☐ | ☐ |

## COMMUNICATION AND DISSEMINATION

Given that each one of the IAs and FirEUrisk have their own specific objectives and will entail the involvement of different communities, it is imperative that appropriate methodologies are developed to ensure optimal attraction with the various stakeholders and efficient communication of project outcomes to them. FIRELOGUE envisages common communication activities and cooperation with IAs and FirEUrisk to be implemented. For instance, social media cross-postings, news feed from IAs to FIRELOGUE platform, common campaigns, shared presentations etc.

**25. Please provide the contact details (name, email, organisation, and role in the project) of the main person/s responsible for the communication and dissemination in your project.** *(Free text)*

> *Type here*

**26. What are the services/tools/other components that your project website will provide?** *(Select all that apply)*

☐ Networking (access to chat rooms or platforms)
☐ Marketplace
☐ Match-making tool
☐ Others (please specify):

> *Type here*

**27. When do you expect them to be developed?** *(Free text)*

> *Type here*

**28. FIRELOGUE plans to develop a Helpdesk tool for any WFRM related questions that serves as an entry point for external stakeholders. What specific functions would you expect from this Helpdesk?** *(Free text)*

> *Type here*

**29. How do you plan to communicate and disseminate the results of your projects?** *(Select all that apply)*

☐ Publication of papers in journals
☐ Attendance to international conferences
☐ Attendance to scientific workshops
☐ Publication in blogposts (e.g., HEPEX)
☐ Posts in social media
☐ Press releases, Media
☐ National range campaigns
☐ Brochures and other promotional material
☐ Others (please specify):

> *Type here*

**30. FIRELOGUE aims to support the communication and dissemination of the IAs and FirEUrisk projects results. How do you envisage this support to boost you with this?** *(Select all that apply)*

☐ Organisation of workshops and webinars
☐ Social recognition: media impacts
☐ Publications on the FIRELOGUE website/platform
☐ Stakeholder engagement activities

☐ Others (please specify):

> *Type here*

**31. We are planning to create communication material for FIRELOGUE (e.g., animation videos, dedicated social media campaigns, etc). Do you have any proposals for common communication activities?** *(Select all that apply)*

☐ Preparation of key messages for the society for the fire campaign
☐ Videos
☐ Joint articles
☐ Joint visuals
☐ Joint website
☐ Infographics
☐ Joint webinars
☐ Organisation of a common IA/CSA day
☐ Joint media campaigns
☐ Joint newsletters (e.g., once per year)
☐ Benchmarking of social media activity (i.e., advice on how to enhance social media visibility)
☐ Others (please specify):

> *Type here*

**32. FIRELOGUE will create Common Communication Booster services. What kind of functionalities would you like this booster to include?** *(Select all that apply)*

☐ Showcase of relevant technical solutions (Technology Marketplace)
☐ A catalogue with experts for WFRM topics
☐ A ticketing service regarding WFRM related questions
☐ Frequently Asked Questions (FAQs) section on WFRM
☐ Pool of most popular topics, keywords, or hashtags
☐ Others (please specify):

> *Type here*

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