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FIRE-IN

D4.6 Annual report on interaction with practitioners and existing networks and dissemination conference #4

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PU	Public	X
PP	Restricted to other programme participants (including the Commission)	
RE	Restricted to a group defined by the consortium (including the Commission)	
CO	Confidential, only for members of the consortium (including the Commission)	



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Abstract:

This document reports how FIRE-IN has engaged with practitioners during the last year and half of the project. Three major actions are described here: 1/ the FIRE-IN participation in online events with other networks in Europe; 2/ the Physical Interactive Dissemination 3/ our creation of national Hubs and Dossiers

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Dissemination, interaction, practitioners, associated experts, FIRE-IN, networks, Hubs, Dossiers, website, webinars.

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Executive Summary

The FIRE-IN project is an initiative funded by the European Commission and initiated on the 1st of May 2017. FIRE-IN has been designed to raise the security level of EU citizens by improving the national and European Fire & Rescue (F&R) capability development process. FIRE-IN addresses the concern that capability-driven research and innovation in this area needs much stronger guidance from practitioners and better exploitation of the technology potentially available for the discipline.

The purpose of this report is to inform how FIRE-IN has engaged with practitioners during the last year and half of the project. It also describes the interactions between FIRE-IN and other existing networks in civil protection.

FIRE-IN partners

Participant No.	Participant organisation name	Part. short name	Country
1	Pôle de compétitivité SAFE CLUSTER (ex Pôle Pégase)	SAFE	France
2	Ecole Nationale Supérieure des Officiers de Sapeurs-Pompiers – French National Fire Officers Academy	ENSOSP	France
3	Italian Ministry of Interior, Department of Fire Corps	CNVVF	Italy
4	Bundesanstalt Technisches Hilfswerk	THW	Germany
6	INERIS Development	INEDEV	France
7	Fraunhofer INT	FhG-INT	Germany
8	Fire Ecology and Management Foundation Pau Costa Alcubierre	PCF	Spain
9	Catalonia Fire Service Rescue Agency	CFS	Spain
10	Scientific and Research Centre for Fire Protection	CNBOP	Poland
11	The Main School of Fire Services	SGSP	Poland
12	Council of Baltic Sea States Secretariat	CBSS	Sweden
14	Center for Security Studies	KEMEA	Greece
15	Czech Association of Fire Officers	CAFO	Czech Republic
16	GAC Group (ex inno TSD)	inno	France



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1. Introduction

Interacting with practitioners and networks is one of the key pillars of FIRE-IN project.

To identify fire and rescue capability gaps (Work Package 1), on one hand, it is necessary to have all the European end-user's community involved in the process.

On the other hand, the project intends to disseminate research results and solutions identified in Work Package 2 to boost the access to the state of the art. The targeted audience has to be as wide as possible.

Therefore, Work Package 4 is supporting the key task of interacting and engaging with practitioners.

The deliverable 04.07, submitted 29th September 2017, described Initial Dissemination and Communication Strategy and Plan. It mentioned the general strategy planned to reach the fire and rescue community across Europe.

The project duration is five years and interactions with practitioners and existing networks are reported every year, but due to COVID situation, we were allowed to extend the project 6 months; due date is month 66. The present document reports what has been achieved during the last year and half of the project.

The workshops organised in FIRE-IN, the annual conference in Marseille during the French Firefighters Congress on September 2021, the world exhibition Interschutz 2022 in Hanover on June 2022, our National Hubs, with key opportunities for interactions as we met tens of practitioners, our Dossiers to facilitate the access to knowledge for end users. There were three cycles of workshops planned in the 5 years' project life time. The first one happened at the beginning of 2018, the second one at the beginning of 2019 and the third one, initially planned in 2020, was obviously widely perturbed by COVID situation and travel restrictions.

Then, we detail how we have kept in touch with the many projects and initiatives we are connected to, in addition to the efforts to communicate through our website and social media

2. Interacting with FIRE-IN practitioners

2.1. Online workshops

The COVID situation has led to restrictions to travel across Europe and to organise face-to-face events. In the second part of 2021 and the beginning of 2022, it was complicated to decide to held onsite events. The uncertainty about the duration of COVID restrictions finally forced us to go also for webinars. Therefore, we conducted again 2 online workshops in September 21 and January 22.





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2.1.1: Envisioning different firefighting futures, assessed alongside socio-technical evolutions, 15/09/2021.

The project was decomposed into three Cycle. In the 1st cycle, capability gaps and challenges from selected emergencies were identified, in the 2nd cycle capability gaps were adjusted within a Common Capability Challenges framework and linked to research innovations and in the 3rd cycle, the future challenges for coming years were addressed.

The Catalan Fire and Rescue Service, CFRS, who led the Work Package 1 (WP 1): Practitioners Identification of capability challenges as regards innovation and also responsible for the TWG A (Search and rescue), has organized this online workshop.

Objective and aim of the workshop:

Advise EU on a strategic agenda to focus efforts on the main challenges in emergency management in front of novel emerging threats and an uncertain future. Up to the 2040s the frequency, size and potential damage of emergencies will keep on changing, gradually or abruptly, posing new emerging threats to future societies. What are the main challenges and capabilities in which to invest to develop an agile resiliency?

list of challenges

- Resiliency of society and emergency systems should be an integral part of any policies (economic, social ecology, technology...). Policies boosting society as a part of the solution.
- Prepare for the short window of opportunity to build robustness.
- Shift from reactive to proactive strategic decision-making (DM) in the emergency system; focusing on reducing uncertainty at a prize.
- Resilient command structures: adapted to complexity, focused on strategic centralized guidance, boosting tactical autonomy, knowledge- based.
- Empower emergency experts that capitalize knowledge in making decision and spreading successful innovations.
- Promote adaptative management by fostering 'emergency labs' (first responders, science society)
- Focus on maintaining and rising trust and credibility in uncertain collapse scenarios

Scenarios

(A) Scenario similar to the actual context with a gradual change towards a worsening service. Unreal expectation of safety in front of complex, infrequent emergencies, where responders are liable. Decision-making in emergencies is slowly shifting, but new innovations are slower than the pace of emergencies. Different stressors (demography, climate change, new technologies...) increase the vulnerability in front of emergencies. In the end, in your area or region the accumulated number of people affected by Emergencies, increases 50% gradually up to 2040 mortality, affected people, infrastructure damage, economic loss, disempowerment... What are the drivers and resistors to prepare emergency management systems and society for these scenarios, how do you restore normality?

(B) A sudden collapse due to major emergencies. In your area or region, a major disaster





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collapse your emergency system, with high impact in deaths, infrastructure damage, secondary emergencies, socio-economic structure, ... You don't know which type of emergency nor where and when... How do challenges, drivers and resisters change? The scenarios and challenges for this workshop were based on 3rd cycle webinars and WP1 deliverables.

2.1.2: Common workshop MEDEA-FIRE-IN, 18/01/2022.



**JOINT EVENT
INVITATION**

We are pleased to invite you to the **MEDEA** and **FIRE-IN** projects' **Joint Event** that will take place virtually on the **18th of January, 2022**.

Join an event that will bring together security practitioners and solution providers in the field of managing natural hazards and technological incidents.

The two consortia will present the capability gaps and challenges identified by **MEDEA** and **FIRE-IN** experts.

Afterwards, technology providers will be invited to present **solutions** and **ideas** aspiring to address and resolve the defined challenges.

The event will conclude with a **workshop** where solution providers and end users will exchange insights on the solutions and the challenges presented.

To learn more about the **MEDEA** and the **FIRE-IN** projects please visit our websites.

18 JANUARY 2022

**09:00 - 16:00
CET**

**ONLINE
REGISTER**

MEDEA
Mediterranean & Black Sea Security Practitioners Network



 The MEDEA and FIRE-IN projects have both received funding from the European Commission's Horizon 2020 research and innovation programme under Grant Agreements n°787111 and n°740575.

Invitation common workshop MEDEA-FIRE-IN (figure 1)





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In the framework of synergies with similar projects, the FIRE-IN and MEDEA EU funded projects joined forces and organized an online event that took place on 18th of January 2022. The aim of this event was to bring together solution providers and practitioners in order to discuss identified gaps and challenges, innovative solutions and ideas related with the management of natural hazards and technological accidents. The main goal, besides the FIRE-IN and MEDEA objectives, was to enhance networking and cooperation between the technology suppliers and the practitioners, to present innovative technological solutions to practitioners and to discuss and analyze the current status of already available and future technologies and trends in relation to the current and future common capability challenges and gaps of the two projects.

In the Joint Event approximately 170 persons were invited, with 42% of them being practitioners and 58% technology providers. More than 160 participants (industry, researchers, practitioners) registered online at the event, while more than 100 were present at peak time.

During the morning session, thirteen (13) technology supplier had the opportunity to present their solutions and innovations, which can potentially address some of the gaps and the challenges of the MEDEA and FIRE-IN respectively.

During the second half of the event a workshop was held. The main purpose of the workshop, was the interaction with the solution providers and practitioners and to examine the level of coverage of the challenges and the gaps by existing technologies, standards and research.

2.1.3: Clustering event Firelogue - Fire-In – FIREURISK, 05-06/04/2022:

EU projects invited: DRYADS, FIRE-RES, SILVANUS, Firelogue, FirEUrisk, FIRE-IN, FireLinks, SAFERS

Purpose: discuss the key priorities for cooperation; ensure coherence and complementarity between the demonstration activities; harmonize communication activities between projects and outreach strategies towards the science-policy-practice communities. It should also increase multi-level coordination at Work Package level.

Output: Outputs of the workshops will inform the initial draft plan for cooperation of the WRFM cluster, including identification of:

- High-level synergies and overlaps
- Insights and legacy up-take of generated project results by the “new” projects;
- Collaboration topics
- Concrete activities and content-related overlaps
- Next steps in collaboration.”

2.2 Marseille Annual Dissemination Conference

On October 14, 2021, FIRE-IN partners organized the first hybrid (physical/digital) meeting since the beginning of COVID-19 pandemic. On the other hand, it should be noted that some of our partners were unable to travel to Marseille, due to certain health restrictions.

The Annual Dissemination Event with 60 participants, approximately half of which were present at the event in person, was held during the 127th French Fire Association Conference in Marseille, France.

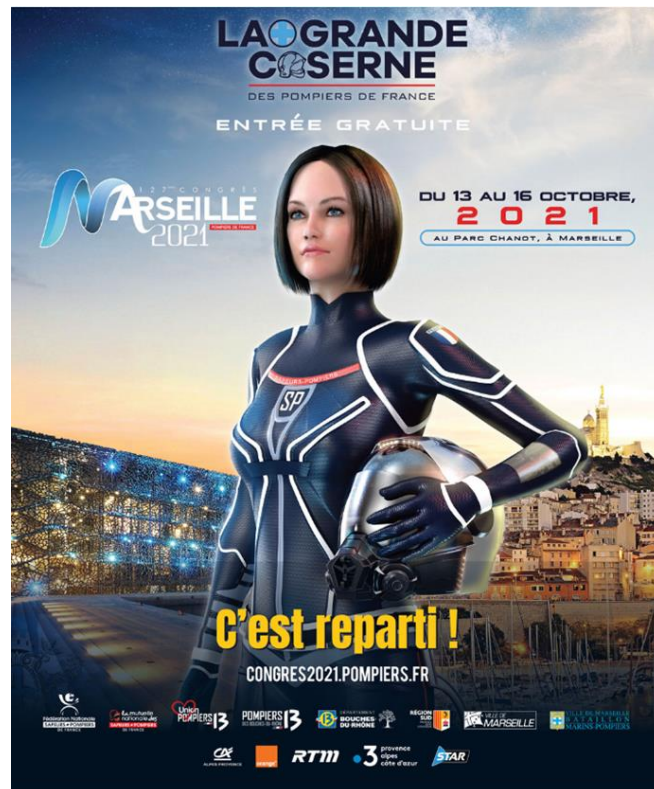




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The poster for the French Firefighters' Congress 2021 (figure 2)

The agenda of the event reflected the main focus areas of the project: network building, engaging with other relevant networks and organizations, showcasing promising technologies and innovative Fire & Rescue solutions and stimulating knowledge exchange on the latest issues in the international community of Fire & Rescue.



A view of the conference room for the FIRE-IN annual conference October 2021 (figure 3)



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After a brief overview of the project's progress, the participants had a chance to familiarize themselves with the activities of the International Association of Fire and Rescue Services (CTIF), presented by its former president, Tore Erikson, learned about the benefits of joining the Crisis Management Innovation Network Europe (CMINE) – an online hub for crisis management professionals - from John Hall (Download PPT) and explored possibilities of standardization support for FIRE-IN together with Patricia Compard, chair of CEN/TC 391, Societal and Citizen Security.

Four technology providers presented their Fire & Rescue related innovations, ranging from drones to mobile applications.

And finally, the lessons learned from the latest disasters in Europe were presented to the participants: the Gjerdum landslide in Norway – by Ole Anders Hoilmvaag from the Norwegian Directorate for Civil Protection (DSB) and the catastrophic forest fire season in the Eastern Mediterranean by Dr. Gavriil Xanthopoulos from the Institute of Mediterranean Forest Ecosystems, Greece.

Lessons learned from latest European disasters

GJERDRUM LANDSLIDE PRESENTATION

- Gjerdum landslide in Norway – by Ole Anders Hoilmvaag from the Norwegian Directorate for Civil Protection (DSB) (Presentation [PDF](#))

FOREST FIRES IN EASTERN MEDITERRANEAN

- Eastern Mediterranean catastrophic forest fire season – by Dr. Gavriil Xanthopoulos from the Institute of Mediterranean Forest Ecosystems, Greece (Presentation [PDF](#))

Innovative Solutions from Technology Providers

Below are several solutions, presented by the providers at the Annual Dissemination event in Marseille.

DRONE GEOFENCING

The company is a publisher of professional drone activities management software which facilitates all regulatory administrative procedures inherent in the use of a fleet of aircraft: activity management, flight log, incident log, CERFA, maintenance log, special activity manual, etc.

[Drone Geofencing](#) (Presentation [PDF](#))

CNIM Air Space

Design, manufacturing and operations of surveillance and communication systems based on tethered, aerostats or drone airships

[CNIM Air Space](#) (Presentation [PDF](#))

MIDGARD

Decision making tool for civil security actors. The company's mission is to extract business information from aerial imagery in any situation.

[Midgard](#) (Presentation [PDF](#))

GEMSOTEC





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INA, intervention app. Interface of INA has been optimized specifically for the needs of the fire service.

[Gemsotec](#) (Presentation [PDF](#))

2.3 Interschutz 2022:

INTERSCHUTZ is the world's leading trade fair for the fire and rescue services, civil protection, safety and security. It is a magnet for companies from all around the world seeking to develop new markets for their solutions. INTERSCHUTZ covers the full range of products and services for the fire and rescue services, civil protection, safety and security industries.

There were more than 1300 Exhibitors of 50 Nations, 85000 Visitors of 61 countries, more than 2600 Products + Solutions.



The poster for the exhibition INTERSCHUTZ 2022 (figure 4)

- Why we decided to be there?

With Interschutz we participated at the world's leading trade fair for firefighting, rescue, civil protection and safety and we were there to make European FIRE-IN aware to as many people as possible, to boost dissemination of the outcomes of the project and to gain feedback and discuss the Strategic Research and Standardisation Agenda with as many experts as possible

- Why it was important for Fire-In to be present in Interschutz?





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We could present the FIRE-IN concept, mechanisms and the most significant outcomes to a large number of companies presenting their solutions, as well as firefighters' associations and first responders' organizations.

We were there with our experts to have a direct personal exchange with end-users, practitioners and manufacturers at the same moment to discuss the challenges and the solutions of the project, to consolidate outcomes to a European and International level.

- Why have we collaborated with Firelogue on our booth/stand?

In the Fire-In project we have 5 Thematic working Groups and they are:

- Search and Rescue (SAR) and emergency Medical Response
- Structures fires
- Landscape fires
- Natural hazards
- CBRNE

FIRELOGUE is another European Project that brings together expertise from all around Europe when it comes to Wildfire Risk Management and we want to show that European projects work together and exchange their knowledge, and here it is the best moment.



Fire-In Booth in HALL 27 + G18 (figure 5)

Fire-In was present for the entire duration of this event, namely a week, and the best solution was to reserve a stand that we have personalized Fire-In. We have invited the EU project FIRELOGUE to be present with us.

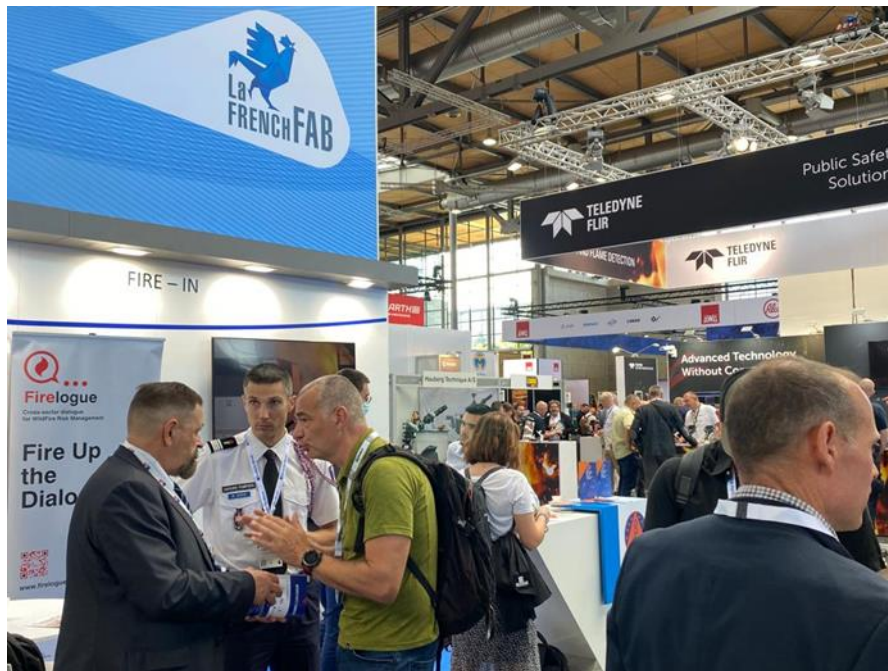




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The FIRE-IN stand at INTERSCHUTZ 2022 (figure 6)

To be on INTERSCHUTZ 2022 fair, was undoubtedly one of the key events in the FIRE-IN project. It was a great opportunity to promote the project and disseminate its results as well as to learn about the latest trends and products in the area of rescue and fire protection. The fair was not only an excellent space for establishing industry contacts, exchanging information and meetings, but also giving you the opportunity to watch various demonstrations, shows and the struggles of Firefighters during the Firefit European Championships.



Technical rescue tools demonstration; Firefit European Championships (figure 7)

During the event, 8 invited experts and the partners of the project presented to other participants of the exhibition, the assumptions and results of the Fire In project. Visitors to the FIRE-IN stand were invited to complete a questionnaire, which referred on several aspects of rescue services activities - from the scope of risk prevention, through the development of new technologies, and ending with rescue activities.

The questionnaire was based on the CCC and FCCC matrix.



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- For Fire Fighters: Are these Challenges relevant for your work? How does your organization meet the challenge?

In the discussions with firefighters, they said that our CCC and FCCC in the matrix are relevant. These are daily challenges that they have to deal with operationally, making them a real challenge to training firefighters. It is essential to guarantee the safety of operations and to anticipate, but with the evolution of technology it is now possible to predict with some safety margin the development of the operations.

For Technology Providers: Do you provide solutions for these challenges? Are you developing solutions for these challenges?

The companies were aware of the challenges, they enhance on standardization and interoperability, the experts had positives discussions. Among other things, the experts were able to talk about the development of new products to train firefighters with the use of simulation, which is becoming more and more important with scenarios that must be as close as possible to the reality of firefighter interventions, innovative training solutions through a game concept (escape room type) where their firefighting skills must allow them to win in the game

- Thoughts on the discussion:
What was your impression of the discussion?
Was your conversation partner aware of the challenges?
Do they have access to solutions?
How would you describe their capability management?

Positives discussions, end-users and technology providers were interested by our matrix and technologies are available which can bring solutions to our CCC and FCCC. For technology providers, it is important to ensure a uniform strategy with all stakeholders, the solution in Europe may involve the homogeneity of the protocols.

Often the mutual aid between European countries and the lack of capacities, when a major incident involving more than one country occurs, were discussed. The coordination between 2 or more countries must be managed and it must be possible to standardize procedures, have a common operational language that is known to all and interoperability trainings between agencies from different countries must also be planned and structured.

Overall Interschutz was a great place to meet both firefighters and technology providers but still we feel that the insurance policy provided by the emergency services isn't well developed or understood. Many technology providers have some fantastic products but they price them at private sector prices. The public sector is not cash rich and the private companies need to understand this. The other concern is that the public sector is by nature conservative when it comes to financial risk and will often stick with what he knows rather than trying something new. This is highlighted by the incumbents having large stands dwarfing many of the smaller start-ups or new products just not being able to compete. Big well-known companies had huge stands and when looking around at the smaller stalls there were some great quality products available.

In turn, the representatives of the manufacturers presented equipment which, for example in the case of the Rosenbauer brand, was the most technologically advanced prototype equipment.





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One of the most interesting proposals was a fire-fighting vehicle intended for airport fire brigades - Panther 22 Electric. The vehicle is equipped with electric motors ensuring a short acceleration of 0-80 km / h for such a large curb weight (according to the manufacturer's assurances).



Panther 22 Electric (figure 8)

For comparison, an example of a car addressed to airport fire brigades, permanently offered by the Panther 6x6 company, is presented below. Engine power 750 HP, firefighting capacity



Panther 6x6 (figure 9)

Another interesting item in the exhibition of the above-mentioned company was the SD-32 (L32A-XS) ladder on an electric chassis. The analyzes carried out by the team of designers show that the ladder moves along a distance of approx. 5 km in an urban agglomeration, is made once and performs literally several cycles of changing its operating range. A car equipped with an electric battery provides the possibility of making several such combat missions without the need to recharge the battery.

In our opinion, there is still a risk of battery exhaustion due to extremely low temperatures and interruptions in vehicle operation. This prototype will be further developed.





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**L32A-XS Rosenbauer (figure 10)**

Here a look at the GCBA RT from the "R" brand, this time in a hybrid version. The vehicle is driven by two electric motors with a battery system ensuring zero emission movement in built-up areas. In the event that the battery charge drops below the nominal level, the 3-liter diesel engine located at the rear of the car is started. The driver is not burdened with the operation of this system, everything is done automatically. In accordance with the standard in force in our country regarding the requirements for cars used in the fire brigade, the presented prototype would not be approved for use due to the failure to maintain the angles of departure and approach of the vehicle. However, the driver has the option to raise the pneumatic chassis by approx. 10 cm. The total height of the vehicle does not exceed 3 meters. The cabin can accommodate 7 crew members, including the driver.

**GCBA RT (Revolutionary Technology) Rosenbauer (figure 11)**

An interesting solution that the company would like to implement in the near future is a system for detecting forest fires using its own system of several satellites, constantly monitoring forest complexes around the globe. Satellites equipped with high-resolution cameras are able to detect a fire with a size of 10mx10m. In order to confirm whether there really was a forest fire, a rescue unit with a drone would be sent near the notification.





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Such an approach will help to make the necessary diagnosis in a short time in order to minimize the effects of the rapid spread of forest fires.

CNBOP-PIB and SGSP representatives visited, among others, the fire brigade booth of Dortmund, where they had an interview with PhD Sylwia Pratzler-Wanczura, a representative of the Scientific and Research Institute of the Fire Service. The conversation concerned the approach of the fire department in Dortmund to the implementation of research projects for the needs of fire departments, as well as the employment of new people in the fire department, in the light of the challenges that arose as a result of socio-economic changes.



Photo: CNBOP-PIB, SGSP and representative Fire service Dortmund (figure 12)

Summary and conclusion from Interschutz 2022

1. The project entitled. "FIRE IN" through the created platform and clusters allows the exchange of industry knowledge and experience in a wide spectrum of not only rescue operations, but also fire protection.

The International Interschutz Fair was an excellent opportunity to review the latest trends and technical solutions that take place in the field of broadly understood rescue and fire protection. The presented photos and examples of the collection are only a small part of the exhibition that took place.

3. It is justified to further develop cooperation through, for example, the implementation of soft projects, which result in increasing the skills of the so-called "Soft" in the environment of representatives of emergency services at the international level.

4. Grouping topics and knowledge in the so-called security clusters allow for the free flow of knowledge in the field of interest to us.

Participation of Fire-In in the pitch session on Tuesday, June 21, in the Forum located in Hall 26, Stand C22.



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The FIRE-IN pitch presentation by Olivier Salvi (INEDEV) (figure 13)

We had the opportunity to present, in the form of a pitch, Fire-In to the visitors of the exhibition. All communication around this pitch was done by the organizer as well as a live broadcast on the exhibition platform.



European Project Fire-In



 <ul style="list-style-type: none"> SAFE CLUSTER European Project Fire-In E-mail: michel.bour@safecoluster.com Mobile: + 33609350355 Website: www.fire-in.eu 	<p>European Project Fire-In, Fire & Rescue Innovation Network</p> <p>The main objective is to improve the national and European Fire & Rescue capability development process. The project provides an EU-wide collaborative platform for first responders, researchers, and industries to access state-of-the-art solutions answering the needs of practitioners.</p> <p>The solutions are technologies, standards, guides... available on the market (with at least TRL 9). The dossier describes a selection of solutions already available and introduce on-going research projects working on new solutions.</p>

1

The slide presented and detailed during the pitch session (figure 14)



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2.4 National Hubs:

FIRE-IN introduces the National Hubs Concept.

The National Hubs Concept is a proposition of FIRE-IN consortium in order to overcome the limitations of COVID-19 meetings and travelling. Instead of organizing or participating to large European or International events, a series of smaller more local (national) events will be organized by the partners of FIRE-IN.

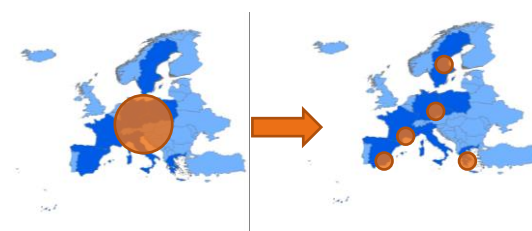
Consolidation of the outcomes at national level with dossiers on solutions & technologies accessible on the platform eFIRE-IN but also promotion of expressed needs for new solutions and for new standards (capability challenges).

1.1.1. First part

Dissemination part to present the outcomes of FIRE-IN, the network and the mechanisms to reinforce interactions between technology suppliers and practitioners

1.1.2. Second part

Presentation of innovative solutions and technologies developed in the country organizing the event



2.4.1 National Hub Poland, 13/04/2022:

International conference "Innovation and new technologies in rescue and fire protection", organized by CNBOP and SGSP as part of the "National Hub"



Snapshot of the poster for the Polish National hub (figure 15)





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Following the exchange of experiences at the national level, CNBOP and SGSP organized a conference in Poland under the title "Innovation and new technologies in rescue and fire protection". The event took place on April 13, 2022 and was held online.

The event was attended by over 100 participants from 9 different countries: officers, practitioners, scientists, constructors and producers of modern solutions in the field of safety and rescue. Topics covered include the strengths and weaknesses of technologies used during international missions, a high-pressure fog extinguishing and cutting system and mobile land robots for firefighting interventions.

12 speakers, representing both private companies and state institutions, gave their presentations. After the end, each of the speakers received a certificate of participation.

The conference proceeded according to the adopted program. The conference was opened by the Maj. PhD Eng. Piotr Tofiło (SGSP), who, after welcoming the participants, presented the previous achievements and results obtained in the Fire-In project.

Then, Eng. Joanna Sadowska (CNBOP) presenting the topic of "Standardization - real needs". Another presentation entitled "Certification Program for Renewable Energy Sources - challenges of standardization of innovative technologies in the aspects of fire safety, fire intervention and loss reduction" was presented by Szymon Kokot. Maj. Rafał Sołowin gave a lecture entitled "Strengths and weaknesses of technologies used in international missions".

As part of the lecture "Firefighting activities from the practitioners' point of view", Zena Chahine - the first woman in the fire brigade in Lebanon - shared her experience in rescue operations.

Then Tomasz Węsierski talked about the mobile turbine rescue and firefighting system.

Magdalena Gikiewicz discussed the course and results of the EU-SENSE project - "European Sensor System for CBRN Applications". Paweł Matczak presented the topic "AirDron - air condition monitoring". Wojciech Górecki gave a presentation entitled ""Command Suitcase" the solution created as a result of a real need ". "Mobile robots for firefighting interventions" - was a presentation given by Artur Soszyński.

The topic "Fire risk analysis in buildings using Monte Carlo simulations" was presented by Adam Krasuski. Wojciech Węgrzyński made a presentation on "Firefighter Intervention in tall timber buildings - a critical element of structural fire safety". Rafał Jakubczyk presented the presentation "The use of simulation techniques in the teaching process for crisis management".

The last speech was presented by Dariusz Stachlewski "Extinguishing and cutting high pressure fog system with additional fittings". The participants actively participated in the discussion panel and expressed their interest in the presented issues.

The conference was to promote the project as well as exchange knowledge and experience in the fire-fighting environment. These assumptions were fully met.





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Snapshot of a presentation made by Joanna Sadowska (CNBOP) (figure 16)

2.4.2 National Hub Germany: 19/07/2022

Hub and Workshop Germany: INTERFORST exhibition Munich – “Future challenges of forest fires in Germany” (as side event)



Snapshot of the poster for the German National hub (figure 17)

Summary

The [Pau Costa Foundation](#), coordinator of the FIRE-IN Thematic Working Group “Landscape Fire Crisis Mitigation” in cooperation with the European Forest Institute, coordinator of the [Waldbrand Klima Resilienz](#) (WKR) project with the [Forstliche Versuchs- und Forschungsanstalt Baden-Württemberg](#), and the [Ostbayerische Technische Hochschule Regensburg](#) (OTH Regensburg) developed a workshop to estimate the likely major challenges for landscape fire management in Germany in the next 10-15 years which took place on July 17, 2022. The aim of the workshop was to on the one hand establish what solutions-providers deem as relevant in the coming years and on the other hand cross-reference these estimations with those of thematic experts working on wildfire management in the German context. The workshop was part of a series of Fire-IN National Hub events which place in different countries in 2022. The [FIRE-IN project](#) (2017-2022) builds on a significant and heterogeneous pan-European network of practitioners for identifying and harmonizing operational capability gaps in a central process to create a more demand-driven approach for future R&D and standardization programs supported by the European Commission. In addition, FIRE-IN aims to share the knowledge on best practices and already available solutions in the field of Fire & Rescue.





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The workshop was designed by the teams from the PCF, EFI and the OTH Regensburg to encompass three parts; in the first part – the input phase – three speakers gave short presentations on current challenges in wildfire management. Following this initial warm-up, the participants were asked on part two to complete a SWOT-analysis on fire management from their respective organization's point of view. Finally, the results of the previous analysis were discussed and developed into specific requirements and needs for the future.

The following organizations participated:

- Pau Costa Foundation (PCF)
- Ostbayerische Technische Hochschule Regensburg (OTH Regensburg)
- Technisches Hilfswerk (THW)
- Fraunhofer-Institut für Naturwissenschaftlich-Technische Trendanalyse INT
- European Forest Institute (EFI)
- Forstliche Versuchs- und Forschungsanstalt Baden-Württemberg
- Prepared International
- Feuerwehr Erlangen & Forst
- Staatliche Feuerweherschule Regensburg
- Draeger
- OroraTech - Luft- und Raumfahrtunternehmen
- Bosch
- Versicherungskammer Bayern
- Ministerium für Ernährung, Ländlichen Raum und Verbraucherschutz Baden-Württemberg
- Kuratorium für Waldarbeit und Forsttechnik
- Skyseed
- Wahlers Forsttechnik

Presentations

The initial presentations served two main goals: first, to place the workshop in the context of the FIRE-IN project and second, to stimulate the participants for increased cooperation and more active work phases planned in the context of Germany's wildfire challenges. The following topics were presented:

1. "FIRE-IN Future Fire Response Challenges in Europe": Lindon Pronto (PCF/EFI)

This presentation placed the workshop within the FIRE-IN project (2017-2022). It builds on a significant and heterogeneous pan-European network of practitioners for identifying and harmonizing operational capability gaps in a central process to create a more demand-driven approach for future R&D and standardization programs. In addition, FIRE-IN aims to share the knowledge on best practices and already available solutions in the field of Fire & Rescue.

2. "Waldbrand Klima Resilienz": Alexander Held (European Forest Institute)

This presentation introduced the Forest Fire Climate Resilience (WKR) project (2020-2023). It aims to enhance wildfire management capacity in Germany by adapting internationally available best practices to the German context. WKR promotes awareness of integrated fire management and the need for effective cross-sector and cross-disciplinary cooperation to achieve safe communities and resilient landscapes.

3. "Schnappschüsse aus einer bundesweiten Waldbrandbefragung: Umgang der Forstwirtschaft mit Waldbrand": Dr. Christoph Hartebrodt (Baden-Württemberg Forest Research Institute)



This project has received funding from the European Union's Horizon 2020 Coordination and Support Action programme under grant agreement No 740575.



In the presentation, the results of a nationwide forest fire survey of the forestry sector's handling of forest fire are presented. These show that district managers and private forest owners from all federal states deal with the topic of forest fire and take measures for prevention and preparation. However, activities vary within each state. Measures implemented for forest fire prevention mainly include infrastructure, silviculture, communication and forest fire monitoring. Silvicultural measures are often not primarily motivated by the goal of forest fire prevention, such as enriching deadwood or increasing the proportion of deciduous trees. Approaches based on fire load reduction are less common so far. Preparatory measures are taken less often overall than prevention measures.

Following the three presentations, Prof. Dr. Markus Bresinsky (OTH Regensburg) briefed the participants on the agenda for the remaining two phases of the workshop. He also gave a short introduction to his laboratory as well as the links to EFI and the FIRE-IN project. The OTH Regensburg team with the help of various experts on forestry, fire behavior, and many other related fields had previously developed three scenarios on how the wildfires would impact Bavaria over the next three to five years. The summaries of these scenarios were briefly outlined to the audience, as one of these three scenarios would be the basis of each of the three groups the participants were asked to join.



A view of the workshop room (figure 18)

2.4.3: National Hub – Greece 30/09/2022

Workshop: “Civil Protection and Challenges – FIRE-IN national Hub – Greece – The Greek Agenda”

Introduction

This document describes the organization and the results of the FIRE-IN National Hub – Greece, a workshop on civil protection gaps and challenges in Greece. The Hub was organized and moderated by the Centre for Security Studies - KEMEA (WP3 leader) on the 30th of September 2022 09:00-11:00 during the conference SafeThessaloniki 2022, 9th International Conference on Civil Protection & New Technologies.





The aim of the organization of the National Hubs is to overcome:

- A) the obstacles and limitations raised by the COVID-19 pandemic and
- B) the language barrier often appearing in situations of networking with people from many countries and different cultures.
- C) To provide recommendations for the future standardization and research agenda for Greece.

SafeThessaloniki 2022 belongs to the series of SafeGreece conferences which are organized yearly in Greece since 2014. SafeGreece conferences provide the chance for ad hoc meetings, scientific discussions on all types of disasters and interaction among Hellenic stakeholders (civil protection, scientists/researchers and practitioners) covering, at the same time, similar to FIRE-IN topics, purposes and needs. Moreover, the language barrier is eliminated, as oral discussions were held in Greek while presentations were delivered in English.

The workshop was addressed to practitioners, local and regional authorities, civil protection agencies, research and academic organizations, industry and standardization bodies. It was organized and moderated by the Centre for Security Studies, partner of the FIRE-IN project and WP3 leader.

The agenda of the workshop included a brief presentation of the project results, presentation of recent natural disasters events and a discussion on current and future capabilities on incident command organization, community involvement and risk reduction. These capabilities were discussed from the point of view of:

- Disaster management challenges in Greece
- Solutions related to these challenges
- Priorities recognized.

The overall goal of the workshop was to create a “Hellenic Agenda” with the needs and opportunities of the disaster management community and to deliver it to the European Commission for future research programming, harmonized with the needs of other EU countries.

The invitation to the workshop and a brief description of it are available on the [workshop agenda](#) (fig 19) and also on a dedicated blog for FIRE-IN in the [conference website](#).





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Workshop
09:00- 11:00
Hall A
30.09
"Civil Protection and Challenges – FIRE-IN national Hub – Greece – The Greek Agenda"

The workshop is addressed to practitioners, local and regional authorities, civil protection agencies, research and academic organizations, industry and standardization bodies. The workshop is moderated by the Center for Security Studies, partner of the FIRE-IN project. The agenda of the workshop consists of a brief presentation of the project results, presentation of recent natural disasters events and a discussion on current and future capabilities on incident command organization, community involvement and risk reduction. These capabilities will be discussed from the point of view of:

- Disaster management challenges in Greece
- Solutions related to these challenges
- Priorities recognized.

The overall goal of the workshop is to create and deliver a "Hellenic Agenda" to the European Commission for future research programming, harmonized with the needs of other EU countries.

Workshop agenda:
09:00 – 09:15: Greetings
09:15 – 10:00:
- Opening presentation: FIRE-IN National Hub – Greece – The Hellenic Agenda (Vagia Pelekanou and Georgios Sakkas, KEMEA)
- Recent experience from Greece: Lessons learned from the megafire of Northern Evia in the summer 2021 (George Efthychiadis, Setways ltd)
- Recent experience from Cyprus: Arakapas Wildfire Incident – Lesson to be Learned (Nikolaos Kamakiotis, Associated FIRE-IN expert)

10:00-11:00: Open discussion
The workshop is moderated by the Center for Security Studies (KEMEA) Research associates: Georgios Sakkas, Vassiliki Varela and Vagia Pelekanou.

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(Figure 19): Snapshot of the SafeThessaloniki 2022 agenda depicting the FIRE-IN National Hub workshop.

During the open discussion, various topics related to the previously mentioned capabilities and challenges were raised regarding all types of natural hazards and CBRN-E working groups, despite the fact that the presentations focused on the working group of landscape fires.

In order to facilitate the discussion and collect inputs that could be further analysed to address the main topics of interest for the Hellenic Agenda, a brief questionnaire, in Greek, consisting of eleven questions, was distributed to the participants both in paper version and in Slido tool.

In total, 27 persons participated in the workshop from all over Greece, representing various types of organizations / stakeholders. The questions translated in English are provided in the following chapters along with the results gathered.

Event description

Following the agenda, the moderators presented the FIRE-IN project, current status, results and outcomes. The focus was given on the results of the third cycle, on specific results per TWG and on overall topics that are presented and raised in deliverable D3.4 – Results of the Request for Ideas: mapping RTOs and industry potential, response and trends related to FIRE-IN CCC/FCCCs #3.





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The FIRE-IN presentation was built in a way to raise specific topics related to recent Natural Hazards events in Greece in order to pinpoint issues of high interest, to demonstrate a connection between all the various risks and to start triggering the interest of the participants for the second part of the workshop, live interaction, and discussions with the participating stakeholders.

It was specifically pointed out that the scope of the workshop was not to focus only on wildfires but to discuss any issue related to the crisis and disaster management that stakeholders in Greece face or may face in the future. The topics that were mentioned, specifically as trigger elements for discussion, focused on the following civil protection challenges in Greece:

- the case of earthquakes in Greece as a “good example” and best practice and how this can be used as the basis for other natural hazards,
- recent extreme weather events,
- the use of new technologies,
- places for shelters and evacuation routes and guidance,
- the use of 112 and further improvements,
- the use of social media and the training of citizens, culture and education on risk,
- risk awareness and communication issues and,
- related policies.



Civil protection challenges in Greece. Indicative photo collage of the respective presentation. (figure 20)

The presentations that followed, focused on recent wildfire of Evia island 2021 in Greece and the Arakapas wildfire in Cyprus in 2021. Several aspects on disaster management have been discussed as well as lessons learned from these important wildfire events. The two presentations provided valuable input for the evolution of the wildfires, raised issues on the prevention actions and the role of forest services and local communities, the preparedness and response efficiency of the fire service, the awareness and training of citizens and the evacuation and incident command organization.

In addition, as stated previously, a questionnaire written in Greek, was shared with the participants using the online Slido tool and in a printed format as well. The participants were invited to fill in the questionnaire at their own pace during the discussion session. The questionnaire was used as a means to collect information related to participant’s expertise, their opinion on new technologies and issues

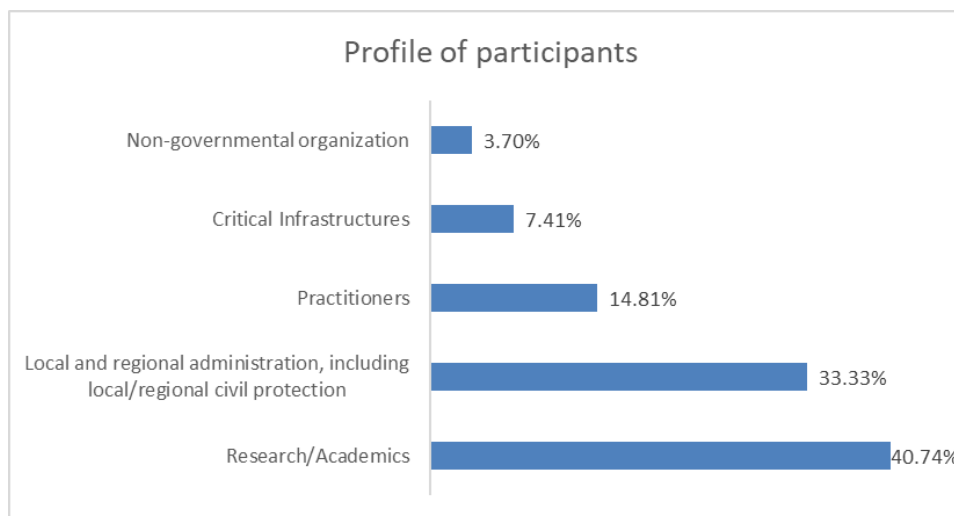




related to preparedness, response and in some extent to the restoration phase (e.g. engagement of citizens, command and control, risk perception and reduction).

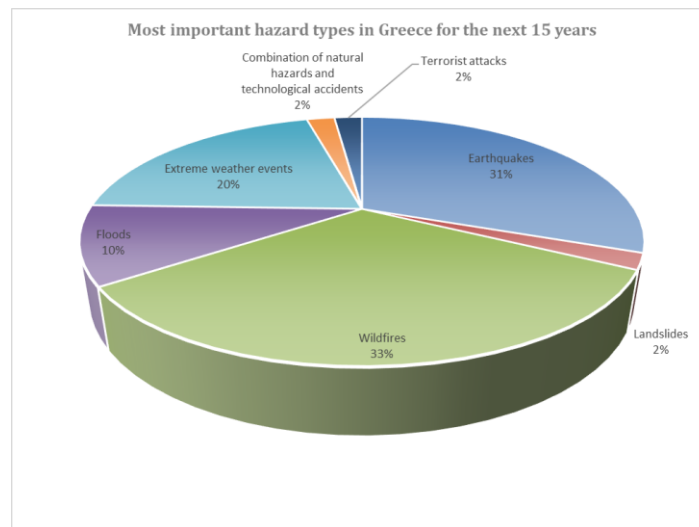
Results and analysis:

According to the results of the first question, (figure 21) the majority of the participants are first responders and researchers. More specifically, researchers represent 41% of the sample of participants, while practitioners and civil protection sum up to 48%. Also, critical infrastructures and other organizations represent the rest 10% of the sample. Industrial representatives are covered to an extent from critical infrastructures, in terms of needs but not in terms of solutions.



Profile of the participants in the Hellenic National Hub (figure 21)

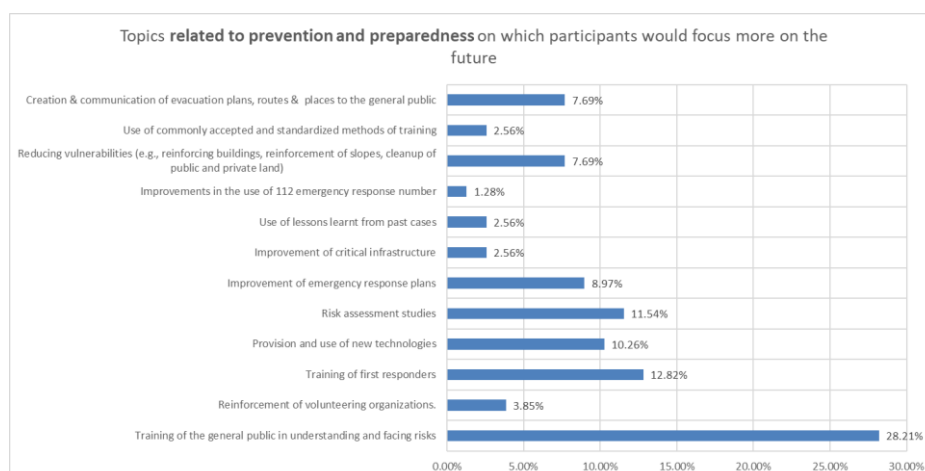
Regarding future risks in Greece (figure 22), wildfires is the most voted risk with 33%, closely followed by earthquakes with 31%. This is an expected outcome, at least for the case of Greece, as the three most usual risks are earthquakes, wildfires and floods. Earthquakes can occur any time of the year while wildfires have a seasonal character. It is quite interesting though, that extreme weather events scored third among the various risks. This could be explained to a large extent due to recent weather phenomena in winter, such as snowstorms even in the capital of the country, and extreme heat events during summer. Floods are not considered of high risk mainly because they are concentrated in smaller areas, despite the fact that climate change plays a key role in such kind of phenomena. For the other types of risks, the percentage is again very low (2%) which is more or less expected.



Hazard type (natural or man-made) considered as most important in Greece, for the next 15 years (figure 22)

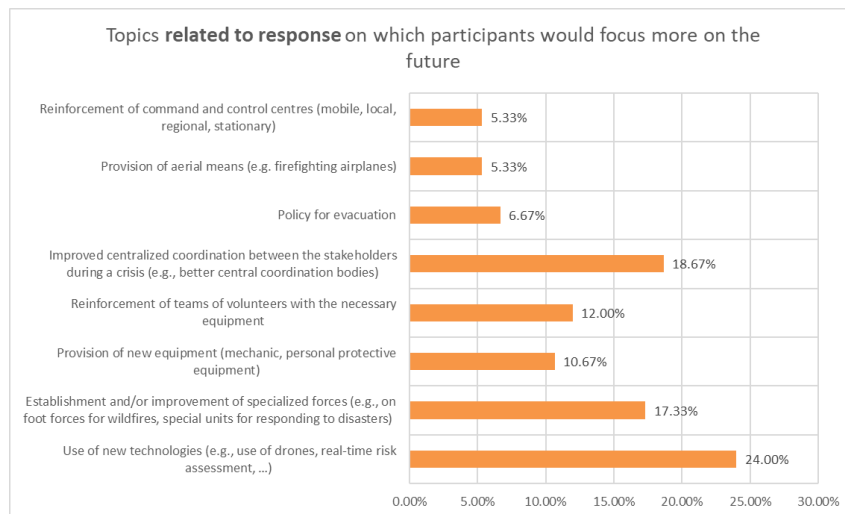
According to participants' opinion (figure 23) training of the public for understanding and facing risks is by far the most important topic related to preparedness, to focus on in the future. Training of first responders is important as well as risk assessment studies and the provision of new technologies.

For issues related to response (figure 24), the use of new technologies in the response phase has the highest score (24%), followed by the need for improved coordination between the various stakeholders during a crisis or disaster event (19%). Moreover, the establishment of specialized forces is crucial for the future response (17%). Other topics, such as the reinforcement of volunteers are also in the agenda related to the future response. It is also important to note that the reinforcement of command-and-control centers and provision of aerial means are not high in the agenda.



Topics related to prevention and preparedness focus more on the future (figure 23)





Topics related to response and preparedness focus more on the future (figure 24)

Responses to the form of free text on the biggest challenge in organizing procedures for managing crises and disasters in Greece, the coordination among the involved stakeholders, regardless of the level of administration and type of the organization is most probably the most difficult issue that has to be achieved in Greece during the next years (figure 25). This is a logical aftermath, since efficient coordination and interoperability between different organizations and countries is already highlighted by FIRE-IN.

Regarding the engagement of citizens and volunteers (figure 26) it is considered more crucial for the prevention and preparedness phases (approximately 48%) and less during the response phase. It is also important to note, that the participants highlighted the role of the citizens during the restoration phase as well.

In order to engage citizens (figure 27), the following means have been proposed to make them more active:

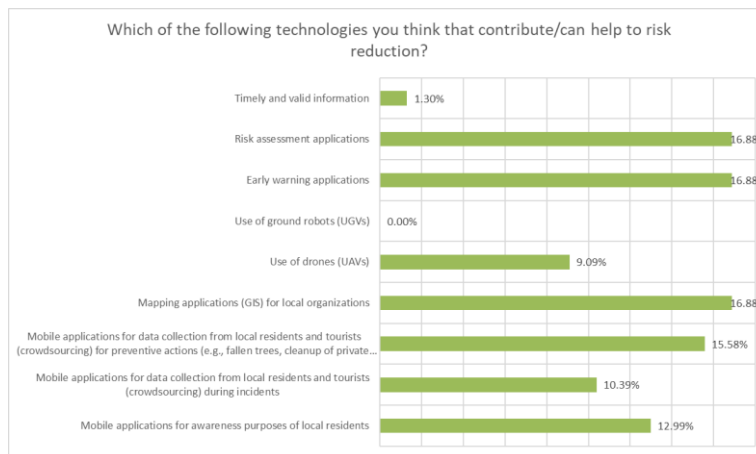
- (a) communication of risk and awareness,
- (b) special training to respond to incidents and
- (c) training programs at schools.

It is very interesting that special training to respond to incidents scored almost equal to risk communication and awareness issues.

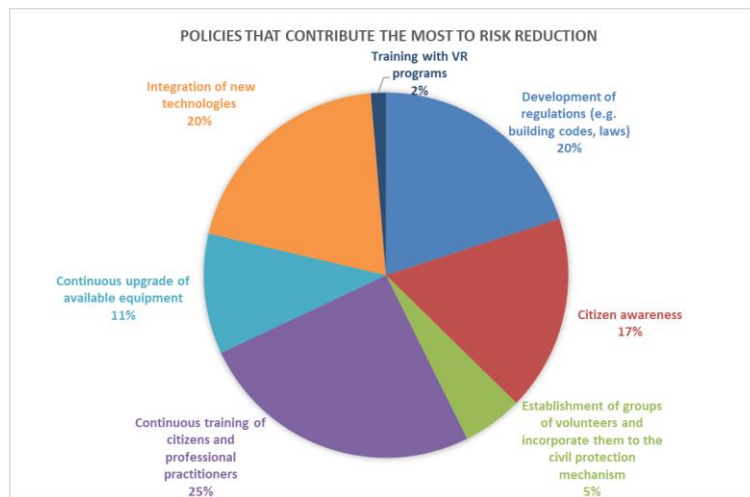
Regarding technologies that could help risk reduction, it is quite interesting that risk assessment applications, early warning applications, GIS applications and data collection for prevention through mobile applications have similar scores. (figure 28)

Regarding policies that contribute to risk reduction, it is clear that continuous training, development of regulations, standards, use and integration of new technologies to current procedures and citizen awareness are the key factors to new strategies and policies. (figure 29)





Technologies that can contribute to reduce risk (figure 28)



Policies that can contribute more to the risk reduction (figure 29)

Finally, from the answers to questions regarding which topics should be given priority and/or more funding in the short and long term, respectively, the answer is straightforward and without any doubt. Training of citizens and first responders, and prevention are the two main topics that dominate these two questions. This is very well depicted in a cloud of words. (figures 30 & 31)



Disaster management short term focus according to the participants opinion (figure 30)





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Nevertheless, although tsunami is a type of risk triggered by offshore earthquakes, onshore or offshore volcanoes, onshore or submarine landslides, its management at prevention (with building laws), preparedness or response phases should differ, also due to its dynamic character.

In addition, the Hellenic National Tsunami Warning Center is a unit under the supervision of the Institute of Geodynamics of the National Observatory of Athens and is based on Standard Operating Procedures published by UNESCO. Its operation is identical to other national and regional centers, which its validity. This highlights the fact that standardization is crucial for alerts and is an example that could be used to other risks as well.

In general, it was pointed out from the participants that each risk is unique, a risk assessment culture must be developed and each risk has to be studied both independently and in the context of multi-hazard approach.

A significant issue raised by the participants is the fact that the lesson of geology in secondary education does not exist since the late 1990s.

Another interesting topic raised is the issue of communication of the magnitude or size of wildfires in objective/standardized terms. For example, earthquakes are reported with commonly accepted measures and even for a non-earthquake expert, it is easy to get an understanding of the size of the earthquake as a hazard (e.g. small, moderate or large). For wildfires or other hazards, there are no specific criteria for the characterization of a fire, that can be widely recognized and used.

It is interesting that currently Greece among the European countries holds the first position of deaths, due to lightning. Nevertheless, self-protection measures are not widely known among the general public.

The issue of risk communication to citizens has been thoroughly discussed. Regarding wildfires, despite the fact that from time-to-time campaigns through media are organized, especially during summertime, these are not consistent and systematic. The use of social media may be beneficial for the exchange of direct information among citizens but miscommunication or even panic can easily spread if proper caution are not taken. In this respect also self-protection measures for wildfires, floods, tsunamis, landslides, volcanoes and CBRNE events, although existing are not well communicated. One very good example of this situation is the case of the 2020 Samos earthquake. The offshore earthquake produced at least two tsunami waves. Residents of Samos Island, instead of moving inland and towards higher ground, stayed at the coastline filming the sea invading the island. Only, when they realized that the water invaded inland more than usually, did they start moving to higher ground. This is the typical example of the Sumatra 2004 earthquake and tsunami, when the shoreline receded, tourists went to the submerged areas instead of moving to higher grounds. This is a clear lack of knowledge and risk awareness. On the contrary, self-protection measures for earthquakes are more well known by the Greek people.

Training of citizens, risk communication and the role of the educational system towards this direction has been highlighted. An example, pointed out during the workshop, is the case of road safety. Unfortunately, Greece had a negative high in deaths and accidents on the roads. Since the late 1990s when more than 2,000 persons died in road accidents, through a program for informing people on road safety and the improved infrastructure, the number of deaths has decreased to approximately 600 in 2021.





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The General Secretariat for Civil Protection has published guidelines for different risks in eight languages. Unfortunately, the majority of the population is unaware of these guidelines and neither are tourists.

Another topic discussed was the use of the 112 service, particularly its frequent use for evacuation in the case of wildfires. Strong objections were raised, particularly in the case of the Euboea 2021 fire and how authorities used "evacuation" as a means to protect the public. Despite the fact that there were no casualties during the Euboea 2021 wildfire, the forests of North Euboea are almost completely destroyed thus affecting not only the environment but also the local economy. Many residents that refused to evacuate and decided to organize unofficial volunteer response teams, managed to save their properties and villages. On the other hand, the villages that were evacuated by all residents after receiving the 112 messages were completely burned.. Although the relevant legal framework of evacuation in Greece describes an organized structure and way of transferring people away from unsafe areas. 112 messages were sent to the citizens for immediate evacuation with light information on which area they should move and sometimes through specific roads but without prior knowledge and guidance on evacuations. Thus, raising also, a matter on how well prepared these evacuations were. Another important issue was that even though evacuation is not mandatory by the law, the people who decided to stay and protect their properties were forced to move away.

In some cases, evacuation routes and shelters location are well communicated. For example, according to the information provided by the workshop participants, in Chania, Crete, Greece, local authorities have made public the locations of earthquake shelters in bus stops. Also, in Thessaloniki, Greece, local authorities distributed maps with the respective shelters. However, for the majority of municipalities places for shelters have been planned but these are not well communicated.

Another example that needs to be mentioned is the fact that despite Greece is a country with 15,000 km of coastline, evacuation signs in case of tsunami simply do not exist.

Volunteers is another issue for Greece. Volunteers may be divided into two classes, those who are registered to a volunteer organization and those who are spontaneous. The latter case is more frequent in Greece, especially for emergency cases, such as wildfires. Currently, for a volunteer organization to be recognized by the General Secretariat for Civil Protection, it is mandatory to be registered to the national "Civil Protection Volunteering Register" (Law 4662/2020). Issues regarding the operation of this registry have been mentioned. In addition, the training of the volunteers is a challenge as well, despite the fact that this is regulated by the respective law (Law 4662/2020). Overall, the use and management of volunteers before to and during a forest fire/wildfire does not seem to be working properly.

In the event of fire, preventive measures for human settlements are not practically followed. Safety zones around settlements have not been established and in many cases, settlements invade the forests creating the so-called Wildland Urban Interface (WUI) areas or mixed zones of settlements and forests without any preventive measures. Safe zones are not necessarily bare zones but can be green areas composed of vegetation that is difficult to burn. Additional measures may be applied such as safe zones with water supply.

Planning, especially for the case of wildfires, must be made in collaboration with local organizations and residents as they are the ones that know the area better than anyone else. This is valid for all hazard types but for wildfires and extreme weather is more crucial.





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The “daily fire risk” map of the General Secretariat for Civil Protection is a useful tool, but it is not enough to deal with violent, extreme and scale-dependent phenomena. The “daily fire risk” map is being used as a national basis for alert and standby, however improvements are required.

Jurisdiction and incident command organization is inefficient during large scale and difficult incidents. These events require deep tactical and operational knowledge by the first responders, a common operational picture for the involved stakeholders and common procedures for all the relevant authorities. At this point, and especially for the coordination part a gap exists, something that has been noted by many participants. Connection and coordination between the central administration and local/regional one must be improved.

Moreover, lack of collaboration between public organizations in the prevention and preparedness phase strongly exists. Data may exist, but these data may be “closed” under one organization without the willingness of being shared with others. In addition, sometimes, specific fees for data and information sharing even between public organizations may exist, making the process even more difficult resulting in disasters. This is the case, especially for land use management and ownership management by the various involved stakeholders.

Collaboration of first responders with scientists for prevention/preparedness, response and restoration is crucial to minimize the impacts of different hazards. Nevertheless, this is not the case and this collaboration must be enhanced. Some of the risks that Greece faces require more in-depth knowledge on the part of the personnel who manage these events.

Fire bans is an issue that was mentioned extensively by the workshop participants. The question raised is the following: “Are fire bans a proper measure to protect our forests in cases of high winds and high temperatures?”. In Greece, bans and restrictions of people in forested areas applies when the conditions are favouring for a forest fire. However, arsonists still find ways to enter forests and light up fires. Participants asserted that these bans are used from stakeholders as a way of exoneration and shifting responsibility. Instead, it is proposed that these bans should be avoided since residents that simply make a walk in the nearby forest act as a patrol unit that discourages arsonists.

Jurisdiction and responsibilities are a hot topic in case of wildfires in Greece. In general, the change of jurisdiction of firefighting in forests is not working in favour of the forests. Fires in forests must be confronted during the first minutes in order to maintain control of the fire.

A common opinion between the participants is that aerial firefighting means such as airplanes and helicopters are not a panacea for combating and suppressing wildfires. Aerial means should exist in collaboration with other tools, such as citizen engagement, risk awareness and the existence of specialized teams.

Safety and security are a way of thinking and a cultural issue. The culture of safety must be embedded in the citizens’ perspective. “Expect the unexpected” phrase must be cultivated to the citizens.

Finally, harmonization and standardization are also a key issue. Again, earthquakes are a good example as standardization exists for many years. For example, the various soil types used for seismic studies are based either on the European standard of Eurocode or the American (USA) classification. Data regarding the vegetation of an area are not common among forest offices in Greece. Standard classification could be used by all forestry’s, not only in Greece but across Europe. For example, CORINE classification could be a starting point for common land use management. Other classifications used by foresters could be used but the goal is all to use the same.





Overall conclusions and recommendations

Based on the discussion during the workshop and the responses to the questionnaire it became clear that challenges, current and future, related to civil protection issues in Greece are similar to those identified through the FIRE-IN project, thus having a European perspective. Climate change has clearly shown that some of the incidents that we may face may appear more frequently and violently than usual. Nevertheless, each country faces its own problems that are based on the structure and system of the country.

The following recommendations are provided as an outcome of the FIRE-IN National Hub – Greece and priorities for the future (short and long term):

- **Enhance citizens awareness, risk communication and citizens training:**
The understanding of risk, of natural phenomena and other incidents must be inserted in the national educational system from pupils up to the higher education levels.
Classes and lessons for Geology and Natural Environment and similar ones must be included in the educational program in schools. The recent international experience from COVID-19 is a risk that we must learn to face for the future.
Training for response in case of emergency must be organized at schools. For example, earthquake exercises are being conducted in schools. Such programs must be extended to more schools and more hazards.
Gamification tools and methods can be designed and used for training and risk perception improvement.
Awareness campaigns through media must be enhanced and become more systematic.
Actions, such as “researcher’s night” should be reinforced or even “researcher’s days” should be created. Schools must be urged to follow such events.
The International Day for Disaster Risk Reduction must be a day of relevant activities at schools.
- **Enhancement of volunteers and improved organizational structure of volunteer organizations:**
Volunteers must be well equipped and trained.
Other measures must be applied such as motives to become a volunteer and safer working environment for volunteers.
- **Risk assessment:** hazard identification, all-hazards and multi-hazard approach must be embedded. “Expect the unexpected” not only for the citizens but for all levels of administration and first responders
- **Improved coordination:** clear roles, changes in the structure and establishment of standard operating procedures common for all involved stakeholders with a cross-organization and cross-level approach. In addition, the cross-border aspect has to be considered before establishing new procedures.
- **Establishment of specialized forces:** specialized forces capable of operating under difficult circumstances must exist. Existing forces must be enhanced, new forces must be created. For example, in firefighting, aerial means are not the sole solution. Aerial means are just one piece of the puzzle and not the whole. Forces that are capable of going deep into the forests must be created. A first step has been made with the announcement of creation of such teams for firefighting.





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- **Use of new technologies:** new technologies gradually enter the civil protection system but the rate of adopting new technologies must be increased. Also, the proper use of these technologies must be planned, through proper and recurrent training and understanding of the problem, which may be different each time. For example, new technologies may be used to improve coordination, to obtain a common operational picture and to warn and alert people and responders. Proper use is critical.
- **Upgrade of equipment:** existing equipment must be well maintained and new equipment must be used to increase efficiency. But only focusing on aerial means is not the solution.
- **Continuous training of first responders.** Training should be based on traditional but also on innovative tools. All types of exercises can be an efficient tool for improvement.
- **Earthquake management must be used as a guide for other hazards as well.** The establishment of an organization similar to the Earthquake Planning and Protection Organization is important for the other hazards well, starting with forest fire hazard.



Photo Collage from the National Hub – Greece (figure 32)





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2.4.4 National Hub Italy: 03-07/ 10/2022; SFO 2022

The CNVVF, partner of the FIRE-IN project, as part of the activities as a national HUB carried out in the week from 3 to 7 October, in the experimental Training centre of Montelibretti (Rome), an event of demonstrations of innovative solutions in five operational areas of first responders, also emerged during the three FIRE-IN cycles.

Demonstrations and tests have interested the following types of systems, technologies and equipment:

1. Innovative radio telecommunications technologies
2. Improved vision in the opaque and night environment
3. Individual safety of the firefighter operator
4. Recovery interventions of persons who have fallen into small wells
5. Augmented and virtual reality

Companies were also invited through the FIRE-IN website. Among the participation proposals received, 24 companies were selected who presented 48 products, tested in 9 operational scenarios by 25 first responders divided into 4 teams.

Took part in the activities as guest representatives of Val d'Aosta Fire Brigade, Bolzano Fire Brigade, Trento Fire Brigade, Italian Army, Italian Civil Protection Department and Vatican State Fire Brigade.

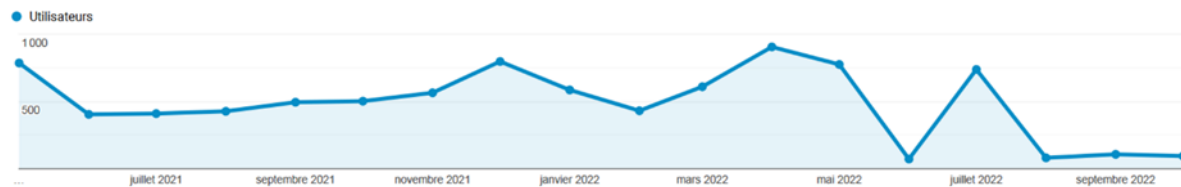


Pictures from the Italian National hub (figure 33)



2.5 The eFIRE-IN platform

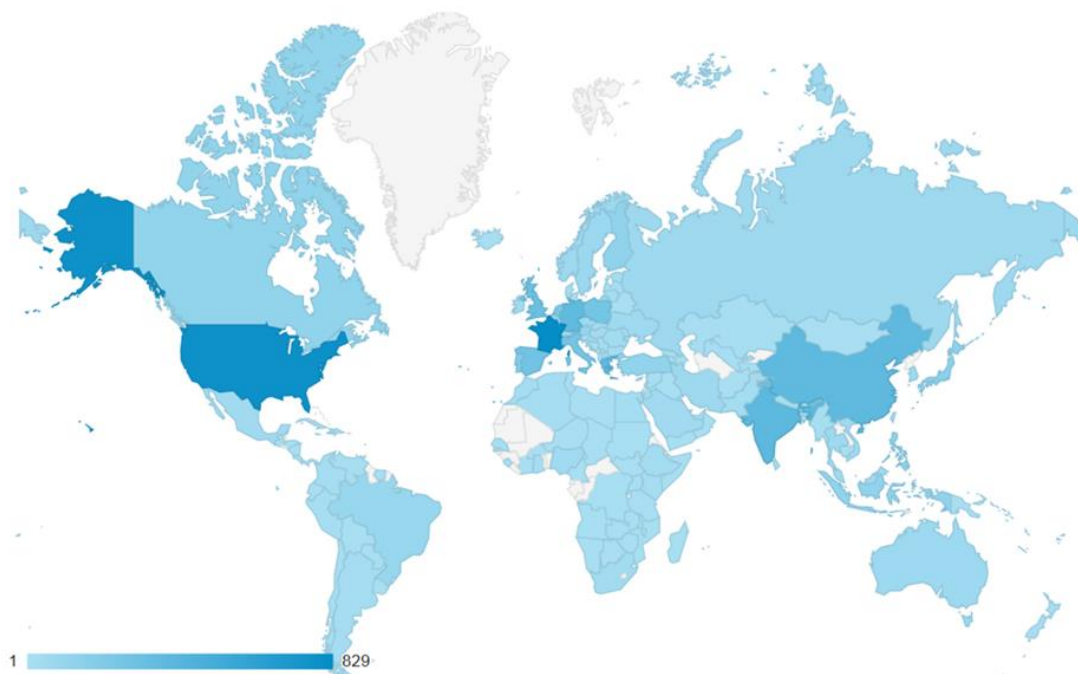
The Fire-In platform is functional since march 2020 offering a showcase for the project. Nevertheless, ENSOSP and his partners decided to better enhanced the website and launch in February 2022 a new designing work. Thus, during February-May period, we registered a small increase of the activity on the website as show the figure below extracted from Google Analytics.



Total users' activity per month on the Fire-In website, Google Analytics. (figure 34)

This increase can be explained by the activities conducted by the Fire-IN project and a better visualization of the content of the project in the website before dropping during the summer period and the end of the project.

On average during the period may 2021 to October 2022, there were 487 users per month on the Fire-In platform. Most of them comes from France (10,68% of the total users), follow the United-States (10,10%), then India (5,01%) and Greece (4,87%). The following figure represent the geographical distribution of the users in the world.



(figure 35)



Pays	Acquisition			Comportement		
	Utilisateurs ↓	Nouveaux utilisateurs	Sessions	Taux de rebond	Pages/session	Durée moyenne des sessions
	7 686 % du total: 100,00 % (7 686)	7 848 % du total: 100,03 % (7 846)	10 932 % du total: 100,00 % (10 932)	55,68 % Valeur moy. pour la vue: 55,68 % (0,00 %)	2,54 Valeur moy. pour la vue: 2,54 (0,00 %)	00:01:54 Valeur moy. pour la vue: 00:01:54 (0,00 %)
1. France	829 (10,68 %)	823 (10,49 %)	1 408 (12,88 %)	52,91 %	3,65	00:03:41
2. United States	784 (10,10 %)	794 (10,12 %)	910 (8,32 %)	72,31 %	1,48	00:00:28
3. India	389 (5,01 %)	389 (4,96 %)	453 (4,14 %)	67,77 %	1,43	00:00:21
4. Greece	378 (4,87 %)	375 (4,78 %)	830 (7,59 %)	48,19 %	4,73	00:05:18
5. China	374 (4,82 %)	378 (4,82 %)	412 (3,77 %)	77,91 %	1,28	00:00:14
6. Germany	369 (4,75 %)	365 (4,65 %)	584 (5,34 %)	51,71 %	3,32	00:02:43
7. United Kingdom	304 (3,92 %)	306 (3,90 %)	378 (3,46 %)	64,81 %	2,51	00:01:52
8. Spain	283 (3,64 %)	286 (3,64 %)	447 (4,09 %)	43,18 %	3,18	00:02:47
9. Poland	266 (3,43 %)	267 (3,40 %)	537 (4,91 %)	47,49 %	3,74	00:03:28
10. Italy	262 (3,37 %)	263 (3,35 %)	329 (3,01 %)	57,75 %	2,53	00:01:18

Geographical distribution of the Fire-In website users, Google Analytics. (figure 36)

The data tell us also that 67,25% of the users look the website on their desktop, 31,42% on their phone, and 1,33% by tablet and time connection mean is about 2 min

3 DOSSIERS: a value-adding tool for interaction with practitioners

Why the realization of these “Dossiers”?

The world of firefighting and other rescue organizations has professional staffs but also part time firefighters, and/or volunteers who very often when on duty at the fire station or on call must prioritize operational commitment. These Dossiers must allow the staffs of these organizations not to be obliged to browse our entire website when they are looking for answers to their operational problems or to research technologies, but to prepare for them a summary targeted on an action that will provide all information and thus allow him to contact the industrial supplier(s) of the technical solution sought or to discover a reference guide.





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What are the characteristics of a **Dossier**:

**A selected Topic and then,
Description of the challenge**

Description of the challenge as from WP1 and TWG report

Use of the text available on the website and in the deliverable; simplification the text to make it easy to understand.

Technological solutions

Description of the technological solutions identified in WP2 during the screening

Focus on the technologies uploaded to the platform. Presentation of available technologies identified for challenges (with TRL 9 at least), presenting technologies available on e-FIRE-IN platform, and projects, and standards and guidelines relevant for the selected challenges.

Standards and guidelines

Description of the standards and guidelines identified in WP2 during the screening

Look at D2.4 where the solutions have been evaluated.

Only information directly available to be download

Inform about on-going work in CEN TC or ISO TC, where inputs might be needed from.

Research projects

Description of the research projects identified in WP2 during the screening

Feedback and comments on the dossiers

Use of an online survey using <https://ec.europa.eu/eusurvey/home/welcome>

For the PDF version, adding of a QR code pointing to the online survey

We have realized at this time 3 Dossiers, they are presented on our FIRE-IN site in a newsletter with photos and attractive content, and on social media, they are:

First FIRE-IN Dossier: **Quick situation assessment. Technologies, guidelines, projects**

<https://us17.campaign-archive.com/?u=698e3013897fa6f3e4eab794a&id=b5ca4dd95f>

Second FIRE-IN Dossier: **Develop public self-protection and awareness.**

<https://us17.campaign-archive.com/?u=698e3013897fa6f3e4eab794a&id=1a085a3dce>

For this 2nd dossier, we have also added a translation tool to our website www.fire-in.eu for the reader.

Third FIRE-IN Dossier: **Develop public self-protection and awareness.**

<https://us17.campaign-archive.com/?u=698e3013897fa6f3e4eab794a&id=14cbe6bd8f>

Fourth FIRE-IN Dossier: **Focus on governance and integral risk management:**

https://www.fire-in.eu/fire-in_dossier/

4 Interaction with existing networks and conferences

4.2 Conferences online:

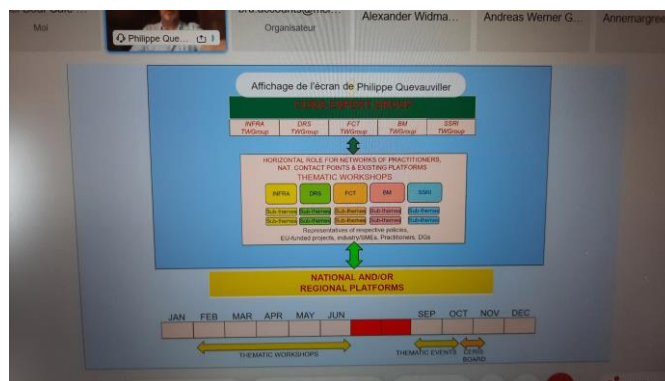




Community of European Research and Innovation for Security (CERIS)

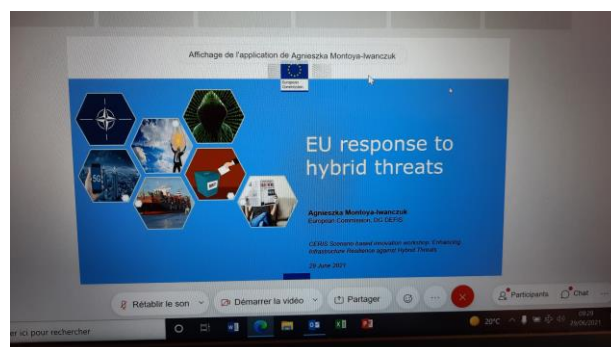
FIRE-IN has remained deeply involved in The Community of Users, transformed in Community of European Research and Innovation for Security (CERIS) in 2021 and 2022. Several partners have attended the meetings online on:

- CERIS Disaster Risk Societies – “State-of-Play and Way Forward 14 May 2021 CBRNE”
- CERIS round table discussion 16 June 2021
- CERIS – SSRI - National / Regional Community Building – Experiences and Perspectives, 28 June 2021



Snapshot from the webinar (figure 37)

- CERIS Scenario-based innovation workshop on Enhancing Infrastructure Resilience against Hybrid Threats 29 June 2021



Snapshot from the webinar (figure 38)



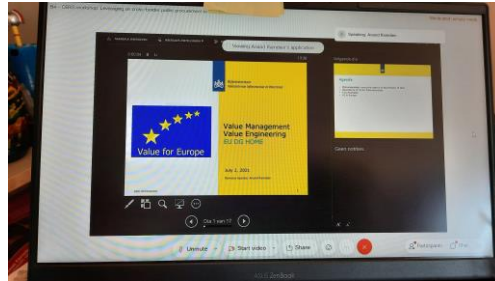


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- CERIS – SSRI Webinar Public Procurement as a catalyst of innovation for security 02 July 2021

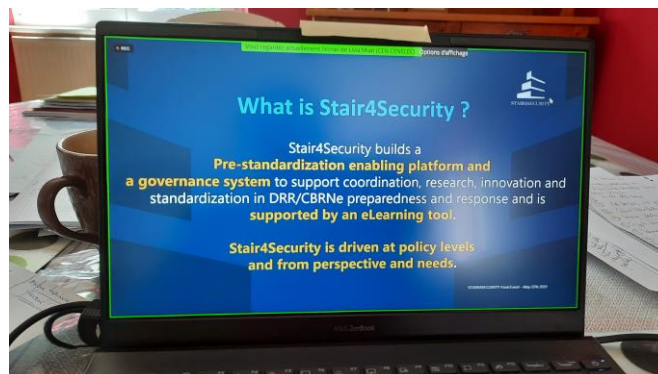


Snapshot from the webinar (figure 39)

- EU Security Market 5 July 21
- CERIS workshop on Disaster Risk Reduction and Space-based Applications, 15 September 2021
- CERIS 18 October 2021 SSRI —Evaluation of innovative security technologies: Building credibility as a step towards uptake
- CERIS - INFRA projects: What's next? – 29 November 2021

Other conferences

- STAIR4SECURITY Final event 27 & 28 May 2021



Snapshot from the webinar (figure 40)

- TIEMS: NATO and EU facing Disasters, 9 June 21
- NO FEAR: PRE-HOSPITAL CARE, Transport and evacuation 16-18 June 21
- I R S, Leibniz Institute for Research on Society and Space; Emerging from Emergencies. Exploring CRISIS as a Dynamic Opportunity Structure, 30 June-2 July 21

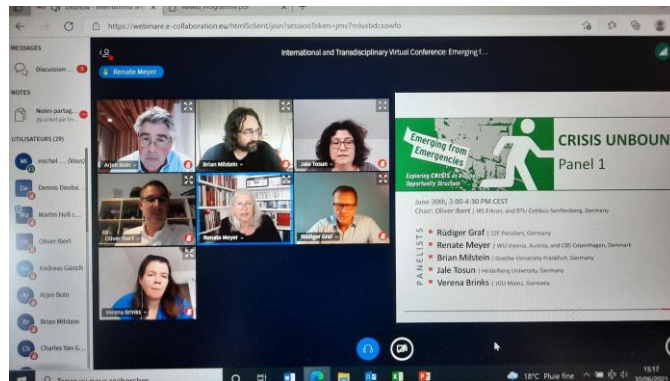




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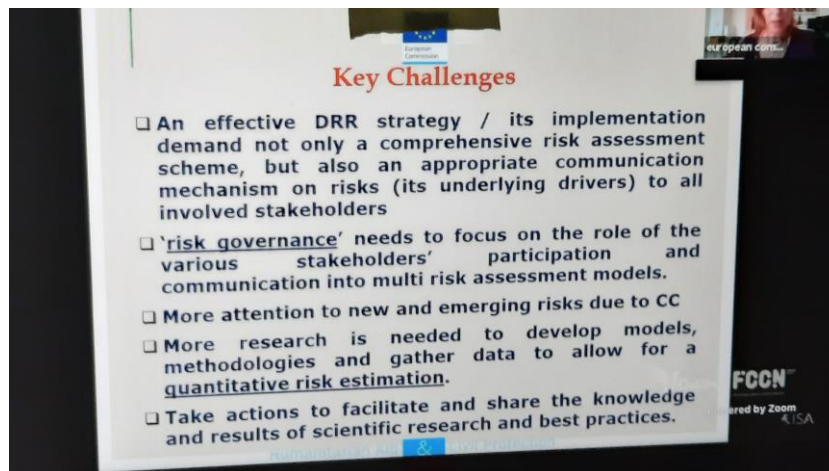
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Snapshot from the webinar (figure 41)

- No Fear: Are we better prepared for the next Security Critical Incident? - Implementation of lessons identified after major MCI's, September 2021
- TIEMS: "Managing Meaningful Recovery from COVID" 23rd September 2021
- Final workshop of the RECIPE project, School of Agriculture, University of Lisbon, 20th and 21st October 2021



Snapshot from the webinar (figure 42)

- TIEMS: Medical Intelligence in Emergency Management 4th November 2021
- CLOSING SEMINAR OF THE COOPEREM CROSS-BORDER PROJECT France -Spain, 1 December 2021
- Project Criz'Innov, webinar 9th December 2021
- TIEMS: Webinar, on Coalition for Disaster Resilient Infrastructure (CDRI), 16th December 21





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- Satellite technologies and solutions for Civil Protection. 07 April 2022, Centre of Valabre
This meeting, was organized in partnership with the Entente Valabre (training and research centre for Civil Security professions in the field of natural risks) and ATRAKSIS (association dedicated to innovation in the field of rescue), and with the participation of the Booster Space4Earth of the Safe Cluster, aims to be both factual and forward-looking. In addition to general information on existing and future space solutions, concrete examples and feedback on the use of satellite solutions to manage disasters and other emergencies will be highlighted.
- The digital twin ATRAKSIS, 31 May 22
For several years, Orange has been investing in digital transformation for the benefit of the fire-rescue ecosystem. Orange wants to co-innovate with firefighters and co-construct the tools and uses of tomorrow (5G, digital twins, etc.). This will help fire and rescue services to be more effective in the field.

Snapshot from the webinar (figure 43)



FIRE-IN's Participation in Conferences

- **On 25 May 2021, FIRE-IN partners (FhG, SAFE, CFS) have organized a side event in the frame of the International Association of Wildfire (IAWF) conference**

The session title is: **"Envisioning different firefighting futures"**

The session description is:

"In our interactive workshop we will discuss and explore a participatory approach to challenges and potential futures of firefighting organizations. The idea is to introduce a method following a structured explorative approach to assess the status quo of Firefighting and First Responder Organizations as socio-technical systems.

Different aspects of these systems are subject to change including for example incident scenarios but also socio-economic, demographic and technological developments will determine future capability needs and related organizational development options.

- **SAFE and PCF have submitted a proposal for a side event in the European Forum for Disaster Risk Reduction (UNDR Sendai framework initiative) in Portugal 24-26 November 2021.**

[European Forum for Disaster Risk Reduction \(EFDRR\) 2021 - Home | EFDRR \(undrr.org\)](#)

Here is the description of the proposed session:





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In the frame of the FIRE-IN project, initiative funded by the European Commission, designed to raise the security level of EU citizens by improving the national and European Fire & Rescue capability development process, SAFE coordinator of this project proposes in the respect of the criteria, presentations on:

“Boosting citizens’ awareness with the support of Fire & Rescue practitioner.

Due to a large number of proposals received which exceed the number of available slots, the EFDRR Secretariat and their Working Group advised to connect partners working on similar topics to jointly organize a side event, have been asked us to agree to join efforts to organize a session with the Global Fire Monitoring Center (GFMC) who submitted the proposal: **Strengthening Governance in Landscape Fire Management: Challenges, Achievements and Prospects.**

After contact with GFMC the new title of the common presentation is:

Strengthening Governance in Landscape Fire and Boosting Citizen’s Awareness

The new agenda was for the 26 November 2021.

Introduction: **Introduction of Side Event theme and Participants (Moderator: Council of Europe, European and Mediterranean Major Hazards Agreement – EUR-OPA)**

Presentation 1: **Agency for Integrated Wildfire Management (AGIF), Portugal**

Presentation 2: **Pau Costa Foundation (Spain): Firewise transfer in Europe for forest fire awareness raising**

Presentation 3: **SAFE Cluster (France): Enhancing Citizen’s Awareness**

Presentation 4: **Global Fire Monitoring Center (GFMC) – Advances in Governance in Landscape Fire Management in Europe and Central Asia**

Wrap up: Organization for Security and Co-operation in Europe (OSCE). Questions from the audience / discussion:

Pau Costa Foundation (Spain) about Firewise transfer in Europe for forest fire awareness raising.

The involvement of citizens in wildfire risk reduction and fire prevention is becoming more important in areas with a high wildfire risk. There are several actions that citizens living in wildfire-prone communities can take to make those communities more risk-aware and less vulnerable. For more than 20 years, the NFPA has implemented the FIREWISE program on more than 20,000 communities in the US. This program provides the tools and support to communities to take action in their home, garden and WUI to be better prepared for wildfires. The FIREWISE program landed in Europe a few years ago with a lot of potential to make a difference in a continent that is densely populated and most of its population lives in WUIs (Wildland Urban interface). We will present some experiences on how FIREWISE is being adapted to the European context and complemented with some educational and risk awareness initiatives that contribute to the engagement of citizens in risk reduction.

SAFE about results of the different FIRE-IN working groups of practitioners during the last 3 years.





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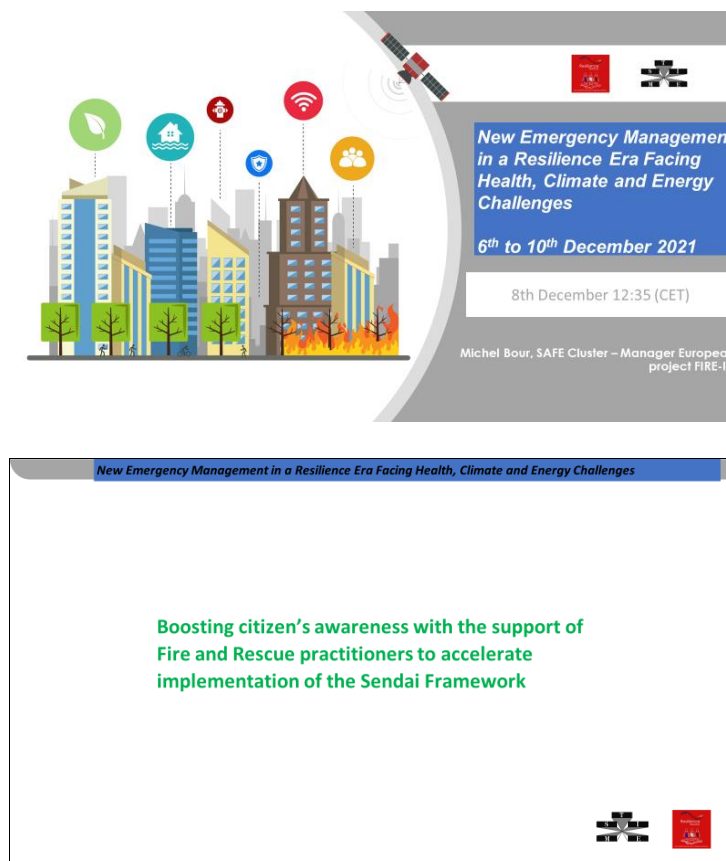
The main needs identified are recurrent.

- Improving awareness, preparation and training of the population, based on the observation that in the event of a major crisis, the civil protection response is hampered if the population is not prepared.
- Common procedures, interoperable tools for sharing information, and common inter-service/inter-border training.
- Tools and procedures for information and data sharing with the population and field workers in real time during the crisis.

FIRE-IN addresses the concern that capability-driven research and innovation in this area need much stronger guidance from practitioners and better exploitation of the technology potentially available for the discipline.

- **SAFE has submitted a proposal for submission to TIEMS AC2021 (TIEMS 2021 Annual Conference): New Emergency Management in a Resilience Era Facing Health, Climate and Energy Challenges from 6th to 10th December 2021**

Our presentation with the title: **Boosting citizens' awareness with the support of Fire and Rescue practitioners to accelerate implementation of the Sendai Framework** was accepted.



Snapshots from the webinar (figure 44)





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In the frame of the FIRE-IN project, initiative funded by the European Commission, designed to raise the security level of EU citizens by improving the national and European Fire & Rescue capability development process, SAFE coordinator of this project proposes a presentation on: "Boosting citizens' awareness with the support of Fire & Rescue practitioners to accelerate implementation of the Sendai Framework".

The main objective of FIRE-IN is to improve the national and European Fire & Rescue capability development process by fostering innovation in this domain and promoting innovative solutions to recognized needs. This may significantly reduce residual risks and raise the security level of EU citizens. FIRE-IN addresses the concern that capability-driven research and innovation in this area need much stronger guidance from practitioners and better exploitation of the technology potentially available for the discipline.

In the present proposal, we could present three main identified needs:

1. Improving awareness, preparation and training of the population, based on the observation that in the event of a major crisis, the civil protection response is hampered if the population is not prepared. We can illustrate this need through the feedback from Australia and the "firewise" and "fire smart" programs that have been developed in the US. Indeed, After Black Saturday in Australia (179 deaths) there was a paradigm change for fire services from responding to fires with ever more resources to engaging the population and placing more responsibility in their hands (preparedness & during crisis).

2. Common procedures, interoperable tools for sharing information, and common inter-service/interborder training.

Crises of a cross-border nature make it difficult to identify the current event. Yet authorities need to enable effective collective action in the face of transboundary problems that no Member states can address on their own. We would present feedback on the health crises induced by the Covid-19 pandemic, on the need to have common testing strategies, common methodology for counting people contaminated, etc. In order to create a common operational image, act optimally and give meaning to the management of the crisis with the population.

3. Tools and procedures for information and data sharing with the population and field workers in real time during the crisis.

We will base our remarks on feedback from the flash floods in the French Alps in October 2020, in order to present existing technologies identified, making it possible to bring knowledge to the citizen before the meteorological event occurs as well as during the event (e.g. PREDICT, specialized in predictive technologies).

4.2: Onsite conferences:

- **EU project "TRANSTUN" Final Conference, September 29-30 2021, Brussels**

It was joint symposium with eNotice, PROACTIVE and MELODY projects towards a common network of CBRNe stakeholders. During the technical workshops, the outcomes of the Fire-In thematic working group CBRNe allowed us to highlight our project.





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Snapshot from the conference invitation (figure 45)

DroneTech World Meeting 2021, 28-29 October 2021, Toruń

The 6th edition of DroneTech World Meeting was held in Toruń. Drone tech is a cyclical event involving meetings of innovators, representatives of many industries, supporters and users of new technologies in the spirit of dialogue between science and business. DroneTech is an event covering the zones: conference, expo, cooperation exchange, networking sessions.

By participating in the International Scientific and Technical Conference DroneTech World Meeting 2021, the CNBOP team carried out the project assumptions consisting in disseminating the results, interacting with practitioners. During the conference part of the event, a presentation about the FIRE-IN project implementation was delivered.

Additional, at the CNBOP-PIB stand, promotional material was distributed and information on the activities of the consortium was provided, encouraging involvement in the Fire-In network.





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Pictures from the Drone Tech World meeting (figure 46)

Public Safety Communication Europe (PSCE) conference 30 November-1st December 2021, Brussels.

Three topical issues were addressed during the conference: (i) Artificial Intelligence (AI): how to enhance First Responders' Situational Awareness, (ii) Climate Change Emergency: how to improve preparedness, (iii) Mission Critical Applications using broadband communication: current and future solutions.

ENSOSP represented Fire-In

Snapshot of ENSOSP's participation in the conference (figure 47)





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CERIS DRS week 23-25 March 2022, Brussels



Picture from a panel discussion (figure 48)

The Fire-In project was present at the CERIS DRS Event 23-25 March in Brussels. The event was held in the form of a hybrid event that covered all DRS areas.



CERIS_Draft_Agenda.pdf

On the morning of March 24, we participated in the CBRNe thematic presentation with 5 other European projects, Fire-In presented its “CBRNe Thematic Policy Brief for the European Commission”, Martin Nekula (CAFO)



Snapshot of Martin Nekula's presentation (figure 49)

On March 25th afternoon from 2:00 p.m. to 3:30 p.m. we could present our "Fire & Rescue Innovation Network for practitioners"



This project has received funding from the European Union's Horizon 2020 Coordination and Support Action programme under grant agreement No 740575.



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For our contribution to the program, we provided a general introduction to the FIRE-IN project as a whole.

In the presentation we presented the cycles organized by FIRE-IN to express the needs of "practitioners", identify solutions in terms of available technologies, research projects and standards and guides. Then we shared the experience of the hybrid events (combining face-to-face and video) organized in Marseille last October, and recently with the MEDEA project to promote innovative technological solutions that meet the needs expressed. Companies presented their solutions face-to-face and/or online, and it was broadcast by Webex or TEAMS to a large European audience. The explanations how and why the activity was organized in the form of national HUBs due to the pandemic, and to have worked very effectively in mobilizing local, national "practitioners" who do not generally participate in European events. This is a concept that we have applied in the last year of the project. The presentation of the CTIF, International Association of Fire and Rescue Services, concluded our presentation.

So, here the agenda:

14:00 FIRE-IN: Fire & Rescue Innovation Network for practitioners – Chair: (Michel Bour, SAFE, France)

14:10 Process to facilitate technology uptake by Fire & Rescue practitioners, (Olivier Salvi, INERIS Development, France)



Olivier Salvi making his presentation (figure 50)

14:30 FIRE-IN National Hubs in practice, (George Sakkas, KEMEA, Greece)



Snapshot of George Sakkas' presentation (figure 51)



This project has received funding from the European Union's Horizon 2020 Coordination and Support Action programme under grant agreement No 740575.

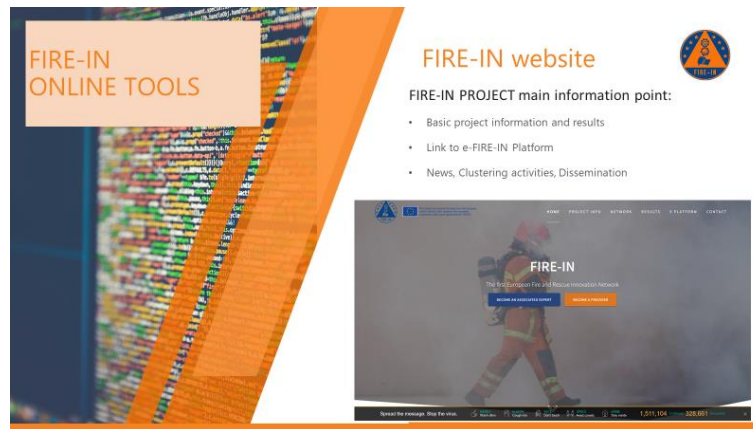


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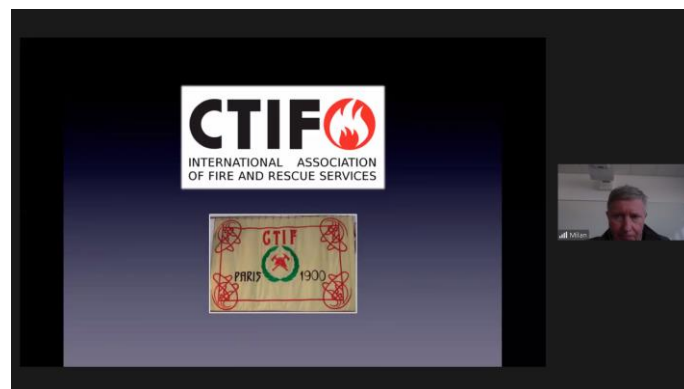
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14:50 e-FIRE-IN platform and network, (Remi Gelmini, ENSOSP, France)



Snapshot of Remi Gelmini's presentation (figure 52)

15:10 CTIF Association of Fire & Rescue Services (Milan Dubravac, President CTIF, Slovenia)



Snapshot of Milan Dubravac's presentation (figure 53)

COVID-19 – What have we learned? Lessons observed in NO-FEAR Project Madrid, 28-29 March 2022

The NO FEAR project has invited Fire-In to the workshop Lessons learned around Covid-19 hosted by SAMUR Protection Civil Madrid.

NO FEAR project aims at bringing together practitioners in the field of acute medical care, researchers, industry and policymakers. Since early March 2020 (the beginning of the COVID 19 outbreak in Europe), NO FEAR has been focusing on real-time experience sharing to learn and improve the response to a





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fast-evolving situation. The project conducted over 50 online sessions, where many lessons observed were shared and collected.

NO FEAR project considered that it was time to look back at their acquired knowledge and consolidate them, which are the most critical lessons observed and what recommendations to the policymakers to be better prepared for the next event (in this pandemic or another emergency).

Fire-In could make a presentation of the outcomes of the project.



Presentation of the Fire-In project (figure 54)

- **Symposium on applied science for firefighters May 3 & 4, 2022, Paris**



Presentation of SAFE-Fire-In (figure 55)

“Structuring innovation markets for civil security in France and Europe”

Presentation made by SAFE-Fire-In

Climate change increases the risks that weigh on our societies, forcing actors in the management of civil security risks to adapt and innovate.

At the same time, the public authorities competent in the field have difficulty in exploiting the technologies potentially available and the Research and Development processes of the industrialists could take greater account of the needs of the operational relief workers. Similarly, it





should be noted that, for their part, risk practitioners do not know how to speak with the same voice to ask the world of research and industry to find solutions to their needs to deal with risks. Also, we support the need to develop a common research culture which must be achieved through better cooperation between operational and research organizations and industry.

In this sense, we propose to come and present for about 60 minutes:

The results of the European project "Fire and Rescue Innovation Network" (FIRE-IN), which was designed to raise the level of safety of EU citizens, by improving the process of developing national and European fire and by responding to the concern that research and innovation in the field of civil security require much more solid advice from fire and rescue operators and better use of technologies potentially available.

Therefore, we have presented:

_ The process developed, of organizing European research focused on the R&D capacities of industrialists, on a vast European network of fire and rescue operations and on research and innovation organizations. (SAFE Cluster and ENSOSP)

_ Testimonials from one or two innovative private companies in the field of civil security on their difficulties in accessing operational needs and civil security markets.

_ A point of view of the "civil security" purchasing strategy of the French Ministry of the Interior

_ The 2022 work program of Cluster 3 "Civil Security for Society" of the European Commission and more specifically the calls for projects following up the FIRE-IN project, in order to identify and discuss this subject with the various actors wishing to bring out synergies around one or more collaborative projects.

CERIS CBRNe session at CBRN-E conference in Lille, 4th May 2022:

Current participants

- Representatives of DG HOME, DG ECHO, DG INTPA, REA, JRC, FPI
Current CBRN projects: eNOTICE, INCLUDING, NO-FEAR, FIRE-IN, PROACTIVE, HoloZcan, MELODY, ECCOFEX, RESIST, VERTIGO, JA TERROR, Bullseye, EU-RADION, PANDEM-2

The Community for European Research and Innovation for Security (CERIS) organised a CBRN session on May 4, 2022 at the CBRNe Research & Innovation conference in Lille, France. The session opened with state-of-the-art presentations by representatives of DG HOME, DG ECHO and FPI, and continued with two panel discussions of thirteen current EU-funded CBRN projects - eNOTICE, INCLUDING, NO-FEAR, FIRE-IN, PROACTIVE, HoloZcan, ECCOFEX, RESIST, VERTIGO, JA TERROR, Bullseye, EU-RADION and PANDEM-2.

The range of questions addressed at the panel discussions:

- Stakeholders' engagement in CBRN preparedness (including general public)
- gaps in preparedness
- multidisciplinary, multi-agency and civil-military cooperation, joint CBRN exercises
- innovative CBRN technological solutions for CBRN agents detection, PPE, decontamination, testing and validation
- acceptable risk or zero risk - what is the goal of standardization?
- better use of European research outcomes,
- dissemination of results of EU projects.





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CERIS event at the 2022 CBRN-E Conference



On 4 May 2022, the CBRN-E Research and Innovation Conference (attended by 600 people) held in Lille hosted a CERIS side-event on Chemical, Biological, Radiological and Nuclear Hazards (CBRN) preparedness. The event gathered around 40 people representing policy-makers, scientists, practitioners and SME sectors and projects.

The CBRN-E R&I Conference happens every two years and gathers CBRN-E practitioners and organisations from Europe and beyond. This represents a great opportunity for the [Civil Security for Society programme](#) to disseminate information on EU-funded initiatives, with a number of attendees from CBRN-E-related projects funded by the Commission (mainly, [H2020](#) and [JSF](#)).

(figure 56)

Public Safety Communication Europe (PSCE) conference 11-12rst May 2022, Salzburg

Public Safety Communication Europe (...)
 1 156 abonnés
 5 mois · Modifié ·

Léa Taillandier and Raphaël Spn from the French National Fire Officers Academy (ENSOSP) talking about innovative networks and how these can improve [#Crossborder](#) [#cooperation](#) between [#civil](#) [#security](#) experts [FIRE-IN Project / H2020](#)

[#PSCEConference](#) [#PSCESalzburg](#) [#SAR](#)
[#cooperation](#) [#PublicSafety](#)

[Voir la traduction](#)



Fire-In presentation made by Raphaël Supplisson and Léa Taillandier (ENSOSP) (figure 57)

ENSOSP participated in the explanation of the FIRE-IN project, more than 80 people were reached by the information.





FIRE-IN and SMI2G 2022 brokerage event 16-17 May 2022, Brussels



Photos of the Fire-In's presentation (figure 58)

Structure of the session

- 1) CERIS representative what the EC's ambition is with installing the NoP projects
- 2) Every NoP project briefly present the state of play: type of NoP project, current status, main results (so far), next steps (either within the project or beyond the lifetime of the project). We have 5 projects (NOTIONES, FIRE-IN, CYCLOPES, MEDEA, DAREnet), so this is 20 minutes
- 3) During the panel discussion, the 5 representatives of the NoP projects participated to the panel, as well as the CERIS coordinator from DG HOME
- 4) The discussion was structured along the following questions:
 - a. How can we best involve practitioners in projects? What are practitioners, in our view, expecting from research organizations and companies when participating in





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research projects, and what can others expect from practitioners? What are the do's and don'ts?

b. How can the results and networks be sustained, and what is (or should be) the role of CERIS in this respect?

c. What would we recommend to the new Horizon Europe Knowledge Network projects that will start?

7th European Civil Protection Forum: Brussels 28-29 June 2022



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Photos from 7th European CP Forum (figure 59)

During the participation in the thinking labs and the workshops, we could use outcomes of the Fire-In project, like the investment of the citizens to be able to face future events, how to distribute the knowledge, the coordination in the case of multiagency/multi leadership environment, more resilient societies

- **ATRAKSIS “Tech & Rescue Day, June 30 2022, Paris**

After the launch of the Tech and Rescue dynamic in 2019 and the first call for Tech & Rescue projects in 2021 with the Ile-de-France Region and BPI France, initiatives in order to accelerate and support the development of innovative projects in within the emergency services, were multiplied. This exceptional event brought together key players (institutions, emergency services and start-ups) as part of an approach to accelerate innovation for the fire-rescue ecosystem.

Showcasing networks of security practitioners for Cluster 3, August 30 and 31, 2022, Brussels

The German Federal Ministry of Education and Research (BMBF) had host the 9th Symposium on European Civil Security Research. The symposium took place in Brussels at the Representation of the Free State of Bavaria to the European Union. On the second day of the conference (August 31), there was a program item entitled "Practitioners interested in security research: Hard to find but key partners - Showcasing networks of security practitioners for Cluster 3". After a short introduction of the networks in a structured setting, the participants of the event had the opportunity to exchange ideas with the representatives of the networks. Fire-In participated in this exchange and made a presentation of the outcomes of the project.





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Photo from the symposium (figure 60)

FFMI: Paris, 14 September 2022

Fédération Française des Métiers de l'Incendie (Fench Federation of Firefighting Professions)

In order to deepen the relationship and to make better known the outcomes of the Fire-In project and the opportunities opened to the companies of France, we meet the members of the FFMI in Courbevoie on Wednesday, September 14th

During this exchange, a presentation of Fire-In, and a discussion with fire safety companies interested in the subjects of R&D, innovation and development of innovative projects in the protection of buildings and equipment of firefighters were hold.



Photos from the meeting FFMI (figure 61)



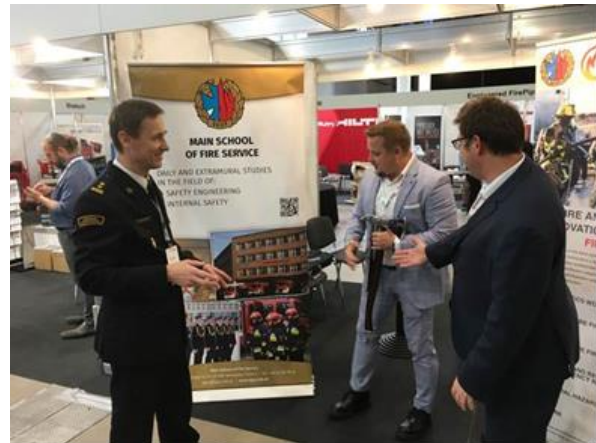
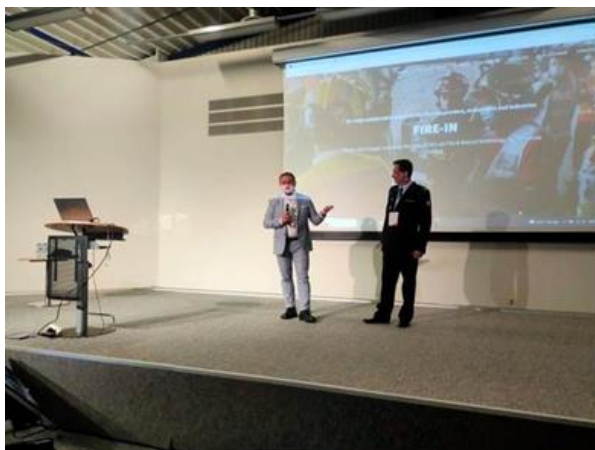


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Baltic Fire Safety Technology Forum 2022, 15 September 2022, Presentation of the results of the project.



Photos from Capt. Mateusz Banaś, Main School of Fire Service (SGSP) who presented the results of the FIRE-IN project. (figure 62)

The Baltic's leading and largest international exhibition for Safety & Fire Protection, #BalticFireForum had its edition in Vilnius, Lithuania on September 15, 2022. With over 300 visitors, 50 speakers from 17 countries, this is one of the kind, specialized fire event which includes educational seminars for fire engineering and fire-rescue topics. The event took place in the Lithuanian Exhibition and Congress Center "LITEXPO".

<http://balticfireforum.eu/#about>



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National French Firefighters' Congress in Nancy, 21-24 September 2022



The future succession for firefighters (figure 63)

In the conference “What forms of cooperation for a Europe that protects” on September the 23rd, we made a presentation of the Fire-In project, his CCC & FCCC matrix was explained and how to have a better interaction between end users and technology providers in Europe.

Closing Event Fire-In, 20 & 21 October, Nîmes



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This event was organized in Nîmes, on the Air Base from the French Civil Protection, on a hybrid format. (figure 64)

Concerning the program, we had invited other EU projects:

- NEMAUSUS, MEDEA, FIRELOGUE, PROACTIVE, eNotice, HoloZcan, and the International Association of Fire & Rescue Services (CTIF) and (FEU), Federation of European Fire Officers and gave the floor to:

We began the first day in the morning with a visit of the Nîmes Simulation Centre (Valabre Centre)



Nîmes Simulation Centre (figure 65)



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and demonstration of innovative technologies for Fire & Rescue (LIUM TECH, balloon and ANGATEC, robot)



(figure 66)

Then we had all these topics:

- What are the project results?
_ Fire-In, a 5 years journey: the presentation had introduced the partners as well as the 5 TWGs, then the process of the workshops was detailed.



Sébastien Lahaye, Fire-In coordinator (figure 67)



_ Project results and outcomes:



Olivier Salvi (INEDEV) (figure 68)

Main outcomes of FIRE-IN

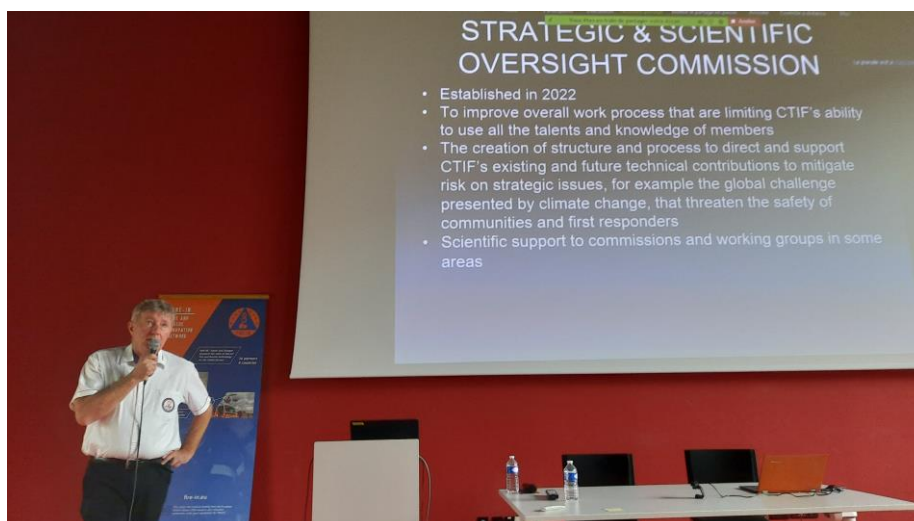
_ Dynamic Network of practitioners, representatives from almost all member states connected within their country, covering all domains of FIRE & RESCUE

_ Mechanism to advise research priorities (research programming), capacity to engage practitioners able to express needs, connection with the European Commission

_ Catalogue of solutions available technologies presented during workshops and videos, projects and technologies under development, guides, standards, articles, Dossiers sent by email

- **Talking about the project results, perspectives:**

_ CTIF perspective : Milan Dubravac, President (figure 69)



FEU perspective : Petr Ošlejšek V/ President (figure 70)



_ Standardisation perspective: Pertti Woitsch Consulting (figure 71)



- The standardisation needs of practitioners are most on common processes 41%, then data sharing 15%, common terminology 11%, community role 9%, training and education 7%, communication equipment 6% and other equipment 6%, best practice sharing 4%, legal & social issues at the end, 2%
- Standardisation needs vs disaster management: response 47%, preparedness 34%, mitigation 14%, recovery 5%.
- Constraints preventing the participation in standardisation:
 - Lack of resources
 - The current nature of the standardisation process
 - Lack of awareness and understanding of the benefits of standardisation



Platform for innovative technologies for Fire & Rescue:

_Jorge Gomes, **VOST Portugal, “VOLUNTÁRIOS DIGITAIS EM SITUAÇÕES DE EMERGÊNCIA”**

VOST Portugal is composed of a large group of people, geographically dispersed in mainland Portugal and in the Azores, from the most varied backgrounds, interests, skills and knowledge. In common they have the will to contribute to a more informed, better prepared and more resilient society. With a strong technological component, but with skills ranging from design to management and communication, from active civil protection agents to students, what unites us is a duty to practice an active citizenship, attentive, exempt, not uncritical but that contributes to solving problems.

_ Alessia Golfetti, **CWA related to social media communication of alert messages to the public.**

The screenshot shows a presentation slide with a dark blue background. On the left, there is a box with the text: "CEN Workshop Agreement on 'Guidelines for effective social media messages in crisis and disaster management'" and the names "Alessia Golfetti" and "Deep Blue". Below this box is the "deepblue" logo. On the right, the slide title "CWA scope and target" is followed by two bullet points: "Provide recommendations for the content, design and formulation of social media early warnings and notifications in crisis and disaster management towards the public." and "The CWA wants to improve the effectiveness of the style of the social media warning messages by providing guidelines on 'how' to craft clear, consistent, and specific alerting and notification warning messages using social media platforms." Below the bullet points is a "TARGET" box: "all actors, organisations and stakeholders in crisis and disaster management that seek to disseminate warnings, notifications or information to the public by the use of social media." In the top right corner of the slide, there is a "STRATEGY" logo.

Snapshot from Alessia's presentation (figure 72)

-Why have we developed this CWA?

There is a need to harmonise the way warning messages are presented to the public because different online media can present warnings in different ways.

Both the content as well as the style in which a warning message is delivered can affect the interpretation and the understanding of the message.

-What is the added value to crisis management?

provide a standard way to design social media messages for alerting citizens during emergencies in order to improve the effectiveness of the warning messages that can be easily understandable by the local population as well as vulnerable groups such as disabled, elderly people, or foreigners in order to minimise the number of casualties during an emergency.

Synergies for exploitation of the Fire-In results:

Presentation of these EU projects:





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EU project NEMAUSUS, Frédéric Harrault, French Directorate for Civil Protection (figure 73)



EU project eNotice, Gilles Dusserre (figure 74)



EU project PROACTIVE, Laura Petersen, UIC, Advisory Board Fire-In (figure 75)





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Claudia Berchtold, (Fraunhofer) EU project



EU project MEDEA

(figure 76)

Removing the barriers for the implementation of innovation in the field of F&R

_What are the main barriers to adopt innovative technologies in F&R

_How to overcome these barriers?



Panel discussion: Javier Larraneta, PESI, Advisory Board - Patricia Compard, (CEN)- Jean-Bertrand Heyral, FFMI

(figure 77)



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Some proposals gained in the panel discussion:

- _To adopt innovation, we need to engage people, users and not only end-users
- _Build a market with people talking about their business
- _Motivate the authorities to invest, the cost when you do not invest is higher at the end
- _Access all information available in the cloud, found who can cooperate
- _Open source for information about who is living in buildings, and which vulnerable people living there
- _Introduce "Intelligence "in fire protection systems
- _Civil Protection market too fragmented, we need a clear view of the market in each country,
- _Start-up are not interested to share their experience in standardization
- _We need a European CP market if we want to have lower costs



Photos from the conference, (figure 78)

5 Other dissemination tool:

Submission of a research paper related to FIRE-IN, on EU Open Research platform.

The FIRE-IN project: Tsunami-risk related practitioners' challenges and 3rd cycle overall results., George Sakkas, KEMEA

From: editorial@open-research-europe.ec.europa.eu <editorial@open-research-europe.ec.europa.eu>
Sent: Παρασκευή, 28 Οκτωβρίου 2022 2:16 μμ
To: Georgios Sakkas <g.sakkas@kemea-research.gr>
Subject: Article submission received

Dear Georgios

Thank you for submitting your manuscript:

The FIRE-IN project: Tsunami-risk related practitioners' challenges and 3rd cycle overall results
Sakkas G et al.

Funders: you have stated during the submission process that this work has been funded by:



This project has received funding from the European Union's Horizon 2020 Coordination and Support Action programme under grant agreement No 740575.



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Horizon 2020 Framework Program (740575)

We will carry out a number of editorial checks on your article, including: that the article fits with Open Research Europe’s scope; readability and manuscript format; adherence to ethical standards for the type of study; that the underlying data have been supplied (where appropriate); and that there is sufficient detail to enable others to replicate the study (if applicable).

We will be in touch as soon as possible with any issues that need addressing.

Please quote the article number 15249 in any correspondence.

Kind regards

Abstract

The paper summarizes the activities of the H2020 FIRE-IN project in the thematic working group of natural hazard mitigation with a focus on the results of the latest workshop of November 2020 for future threats and consequently for future challenges that practitioners face in their daily work. The scenario of a tsunami occurrence in the Mediterranean is discussed as the main scenario for the workshop. The current status of the tsunami hazard in Europe, national and international tsunami risk mitigation measures and procedures and operational experience from recent events are also discussed. The paper identifies the future capability challenges as these have been proposed in the relevant workshop with the participation of tsunami experts and practitioners and discusses results from the request for ideas and the interaction between practitioners, researchers and industry.

Keywords: FIRE-IN, tsunami, Mediterranean, Europe, future challenges, training, simulation, capacity building, resilient societies, practitioners.

6 Social Medias

FIREIN social media is also a channel to interact with practitioners and network. FIRE social media have been used to inform about the project’s activities and to create synergies with other project and initiatives. The social media indicators show that the followers have increased during the last year and half, especially in LinkedIn.

The actual impact produced by FIRE IN Dissemination and Communication Channels, and tools is detailed in the following table:

KPIs to measure the impact of FIRE-IN communication actions (figure 79)

Dissemination and Communication Channels and tools	Expected impact	Actual impact
Website	1000 unique visitors	Average 487 visitors/month
Twitter	249 followers	1214 followers
Facebook	160 followers	348 followers
LinkedIn	92 followers	470 followers
YouTube	20 videos	51 videos 1,931 views





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Flickr	100 pictures	198 pictures
Newsletter (Mailchimp)	7 newsletters	20 newsletters

Monthly publications in social media	2 publications average	2 publications average
Followers and attendees in the Dissemination Events	<ul style="list-style-type: none"> > 60% Practitioners > 15% RTOs > 5% Risks Owners > 15% Services to Industry > 5% Standardization Bodies > 3% Policy makers > 3% other projects 	<ul style="list-style-type: none"> > 40% Practitioners > 5% RTOs > 5% Risks Owners > 45% Services to Industry > 2% Standardization Bodies > 2% Policy makers > 1% other projects

Twitter:

The official FIRE-IN Twitter account is <https://twitter.com/FIREINProject>. It was created in September 2017, and in October had a total of **1214 followers**. PCF oversees the management of this account, but all partners contributed to generate impact by sharing relevant information for the network. The Twitter account has been very active throughout the project, and the number of followers and interest in FIRE-IN increased every month. In the following tables and graphics, the number of tweets, the tweets impressions and the new followers are analyzed.

. Twitter impact from May 2021 to October 2022 (figure 80)

FIRE- IN TWITTER	2022	2021	2020
Tweets	100	35	15
Tweet impressions	75,434	44,593	90,362
Profile visits	13,585	6027	5364
Mentions	160	18	25
New followers	215	217	147

Facebook:

The official FIRE-IN Facebook account is <https://www.facebook.com/fireinproject>. It was created in October 2017 and in October 2022 had a total of **348 followers**. Most of our Fire in Facebook target were men (84,5%) while just 15,5% were women. Of the 348 followers come mainly from Italy (70), Spain (49), and France (51). The rest are from Germany (27),





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Poland (27), Portugal (19), Greece (12), the United States (7), Sweden (7) and Denmark (6). It can be highlighted that from May 2022 to October 2022 Facebook gained 240 followers.

LinkedIn

From May 2021 to October 2022 LinkedIn collected **470 followers**; IT received 531 reactions, 21 comments and 46 reposts. Furthermore, it can be easily seen in LinkedIn which sort of profile follows Fire in in Linked In.

Business Development & Industry	46.3%
First Responders	26.9%
Academia	18,6%
Communication and Social Services	8,2%

Social Media Impact on the Fire-In Dossier

The FIRE-IN provides an EU-wide collaborative platform for first responders, researchers, and industries to access state-of-the-art solutions answering the needs of practitioners. In this aim, we decided to provide our community with thematic dossiers presenting the solutions including technologies, standards, and guides available on the market. The dossiers describe a selection of solutions already available and introduce on-going research projects working on new solutions. More information here: https://www.fire-in.eu/fire-in_dossier/

Fire – in Dossiers	Twitter	Facebook	LinkedIn	Links
Dossier 1	8 shares, 13 likes, 872 impressions, 2 new followers and 6 link clicks https://twitter.com/FIREINProject/status/1572911823548043264	None	4 shares, 26 likes, 592 impressions and 22 clicks https://www.linkedin.com/feed/update/urn:li:activity:6978678725613658112/	https://www.fire-in.eu/fire-in-dossier-1/
Dossier 2	12 likes, 2 shares, 1023 impressions and 53 link clicks https://twitter.com/FIREINProject/status/1580831440685916161?s=20&t=59cuZG6UeAvBpwAWm9JfIQ	6 likes, 210 impressions and 3 clicks https://www.facebook.com/photo?fbid=531430375458889&set=a.48968338630025	8 likes, 694 impressions and 1 click. https://www.linkedin.com/feed/update/urn:li:activity:6986597657242705920	https://www.fire-in.eu/fire-in-dossier-2/
Dossier 3	8 likes, 1 share, 2 link clicks and 870 impressions https://twitter.com/FIREINProject/status/1582307864835919872?s=20&t=QHDQraeYRKiuyXEPwZb-Cg	3 likes and 80 impressions. https://www.facebook.com/photo?fbid=534433875158539&set=a.489683386300255	6 reactions, 4 clicks and 544 impressions. https://www.linkedin.com/feed/update/urn:li:activity:6988075509670633472	

Impact of the “Dossiers” (figure 81)

Videos:

Precisely, 51 videos were posted on YouTube with over 2,593 views.





7 Exploitation of FIRE-IN assets and sustainability

This chapter has been added to answers the remarks and comments mentioned in the review report dated 11/01/2023, and in the letter indicating:

Explore further options and define in greater detail a plan of action to ensure sustainability of the FIRE-IN network in deliverable D4.6.

It includes a recap of the main outcomes and key exploitable results, the description of FIRE-IN assets and an action plan for the sustainability of the network.

7.2 Outcomes and key exploitable results

As indicated in the D4.11, the main tangible outcomes of the project are:

- A dynamic network of practitioners in Fire & Rescue including national hubs, supported by the e-FIRE-IN platform, a website, newsletters, community, and social media management tools (Twitter, LinkedIn, YouTube, Facebook...)
- A mechanism to advise research and standardization priorities promoted via the Strategic Research, Standardization, and Innovation Agenda (reports) and Policy Briefs
- A catalogue of solutions available on the e-FIRE-IN platform and dossiers sent as newsletter.

The Table 2 presents a summary of the Key Exploitable Results of the project, with the identification of the exploiters and the description of the exploitation mode, and impact.

Table 2: Summary of Key Exploitable Results

Key Exploitable Results	Addressees for the exploitation	Potential exploitation mode and impact
A dynamic network of practitioners in Fire & Rescue	Researchers, industry, stakeholders involved in research and innovation in the DRS sector, for dissemination of EU project results towards practitioners	<p>The channels of communication between the research community and the practitioner associations like CTIF and FEU have been established and strengthen during FIRE-IN. The involvement of practitioners for capability gap analysis or to evaluate the EU project results will be implemented by the research organizations that have been partners in FIRE-IN.</p> <p>CERIS with the support of CMINE will be the vehicle to continue to involve the network of practitioners in fire & rescue in the research and innovation activities at EU level. In addition, a new project answering the call <i>HORIZON-CL3-2022-SSRI-01-02 Knowledge Networks for security Research & Innovation</i> has been prepared by several partners from FIRE-IN and other partners involved in projects like DRIVER+, ResiSTAND, MEDEA, FIRELOGUE etc. to continue exploiting the network to reinforce knowledge sharing in DRS and increase the market uptake of innovative technologies.</p>





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Key Exploitable Results	Addressees for the exploitation	Potential exploitation mode and impact
<p>A mechanism to advise research and standardization priorities</p>	<p>Researchers, industry, stakeholders involved in research and innovation in security, mainly the DRS sector</p>	<p>RTOs, industry, technology development centres are interested to implement mechanisms that reinforce the efficiency of the research and standardization programming.</p> <p>From the consortium, organizations like KEMEA and FHG INT have a direct interest in this result and their experience gained during the FIRE-IN project can be used in future European Coordination and Support Actions addressing research programming. They will be able to use the FIRE-IN approach again, for example in the call mentioned above. In addition, the experience of the capability driven research programming has been documented in the project deliverables and other organizations (RTOs) are able to exploit the FIRE-IN approach and mechanism to produce SRSA (strategic research and standardization agenda) and corresponding Policy Briefs.</p> <p>The addressees of the capability driven SRSA are the European Commission research programmers from the various directorates interested by DRS (DG ECHO, DG HOME, DG INTPA, DG JRC), but also research programmers from the Member States. At the end of the project, it has become obvious that the distribution and promotion of the SRSA to the Member States will have an important impact to support the convergence of the research investment in the DRS sector, and therefore move faster to produce the expected technologies and solutions.</p> <p>The European standardization body, CEN-CENELEC has also been committed to support the activity of FIRE-IN during the last 2 years, and the chairperson of the CEN TC 391 Societal and Citizen Security, Ms Patricia Compard, has help the consortium to reveal the expectations for standardization. The SRSA will also be exploited in future projects and initiatives for standardization.</p>
<p>A catalogue (database) of solutions</p>	<p>Researchers, industry, stakeholders involved in research and innovation in security, mainly the DRS sector</p>	<p>The database of the solutions collected during the project is in the e-FIRE-IN platform. The information on the technologies and other type of solutions (methods, guidelines and standards, projects under development) are becoming quickly obsolete as innovation is going quick.</p> <p>On the other hand, the information collected is very valuable for the practitioners who find in the database the answers to the gaps they had identified. But the information in the database of European project is not easily accessible. Therefore, the consortium has decided to develop FIRE-IN Dossiers to disseminate the information on the solutions directly in the mailbox of the interested practitioners, in a format that can also be easily forwarded to other colleagues. Thus, the information on the solutions has been disseminated via the FIRE-IN Dossier, 4 times during the last 6 months of the project.</p>





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Key Exploitable Results	Addressees for the exploitation	Potential exploitation mode and impact
FIRE-IN Dossiers	Researchers, industry, stakeholders involved in research and innovation in the DRS sector, for dissemination of EU project results. CMINE representing the community involved in DRS research and innovation	CMINE operator, Jon Hall from RAN, has agreed to enable the exploitation of the future FIRE-IN dossiers that will be prepared in relation with EU funded projects and national projects. A business case will be further refined so that the costs of the preparation of the dossiers are covered by the payment of a fee by the technology providers or the projects presented in the dossiers. A realistic and attainable improvement of the impact is to obtain the dissemination of the future Dossiers also by CTIF and FEU.
Interactions between practitioners and technology developers	Researchers, industry, stakeholders involved in research and innovation in security, mainly the DRS sector	The interactions between practitioners and technology developers during the FIRE-IN events have been very profitable both for the practitioners and for the technology developers. The practitioners have found useful to learn about innovative technologies and their features. During the workshops they have challenged the technology developers and many time provided ideas for improvement. The technology developers were grateful to have the opportunity to present their products in front of a large diversity of European practitioners, with different doctrine and usages of the technologies. This capacity that FIRE-IN had to bring together the practitioners and the technology developers can be further repeated in future projects. It can also be organized by a network like CMINE or in the future project answering the call <i>HORIZON-CL3-2022-SSRI-01-02 Knowledge Networks for security Research & Innovation (CSA)</i> and addressing the improvement of the market uptake for innovative technologies in the DRS Sector.

7.3 FIRE-IN assets

7.3.1 The FIRE-IN network

The FIRE-IN network exists and will remain active through the partners who were in the consortium, above all the individual persons more than their institutions, and their connections among practitioners, researchers, industry, policy makers and other stakeholders.

The partners involved in FIRE-IN and active in new projects and initiatives are now the vehicles to continue engage the network and perpetuate activities that have been initiated in FIRE-IN.

They are the core of the FIRE-IN network and the main actors for the exploitation of the results, and the sustainability of the network.

During the last 2 years of the project, the interactions with CTIF and FEU have increased with the systematic participation of these organizations in the FIRE-IN events. It means that the FIRE-IN





network, focused on research and technology developments has a potential to reach and engage even more practitioners not yet involved in RTD activities and connected with the EU CERIS community.

7.3.2 The social medias audience

Years after years, the impact of the social media has increased as shown in chapter 6 as the audience and the number of followers has constantly increased.

All social medias accounts have been operated by different partners:

- ENSOSP: Website and e-FIRE-IN platform,
- PCF: Twitter, Facebook, LinkedIn, YouTube, Flickr,
- CBSS: Newsletter (Mailchimp),

To maintain the audience and keep the network alive, it is necessary to assign the operation of the social media to committed partners willing to further operate the accounts on new projects or on their own costs.

7.3.3 The brand “FIRE-IN” and the visual identity

The title of the project has become a brand. FIRE-IN logo and visual identity is known among the practitioners and has value to disseminate scientific and technical information. It is intended to continue using the brand and the social media channels to communicate with the fire and rescue community.

7.4 Vision and action plan

7.4.1 Joint vision built in a new project (CSA)

The exploitation of the FIRE-IN results, further using the assets developed by FIRE-IN, has been envisaged in the answer to the call HORIZON-CL3-2022-SSRI-01-02 Knowledge Networks for security Research & Innovation, for DRS.

The proposed project is entitled *DIREKTION: Disaster Resilience Knowledge Network promoting innovation, technology uptake and multi-stakeholder cooperation*.

This project has been built upon the commitment of CTIF and FEU who expressed their willingness to further work with FIRE-IN to perpetuate the activities initiated during the project:

- promotion and dissemination of information on innovative technology
- capability-driven research programming
- support to the participation practitioners in the standardization activities

This proposal is seen as one of the main vehicles for the exploitation of the FIRE-IN legacy.





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DIREKTION VISION

By 2030, thanks to the DIREKTION network, fire & rescue practitioners continuously interact with academics, research organizations, industry, and policymakers to develop innovative and affordable solutions to support their operations. These solutions tailored to the operational context result from an early identification of the practitioner needs and co-development with industry and research organizations. In close relation with the Community for European Research and Innovation for Security (CERIS), the network also enables the exchanges of knowledge, dissemination of good practices and promotion of technology made in Europe and supports the penetration of innovative solutions into a European defragmented security market.

DIREKTION MISSION

The DIREKTION network is the Disaster Resilience Knowledge Network promoting innovation, technology uptake and multi-stakeholder cooperation, fostering the dialogue and common understanding amongst disciplines and stakeholders. It provides the necessary organization, procedures and mechanisms to enable effective interactions and knowledge exchanges between stakeholders in the Disaster Resilience Community, taking into account recommendations and objectives from relevant studies and policy papers, such as the EU Security Market Study, the Horizon Europe Strategic Plan, the EU Security Union Strategy, the Roadmap on critical technologies for security and defence, the Sendai Framework of Disaster Risk Reduction, the Action Plan on Synergies between Civil, Defence and Space Industries, or the Action Plan to enhance preparedness against CBRN risks. In particular, the DIREKTION network brings closer practitioners from CTIF (International Association of Fire & Rescue Services) and FEU (European Fire Officer Associations) with the cross-sectoral European research community and industry to develop innovative and affordable fire & rescue solutions made in Europe.

If the proposal is accepted for funding, many of the actions described in the next paragraph will be implemented through the DIREKTION project.





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7.4.2 Action plan

Key Exploitable Results	Exploitation	Actions	Timeframe
A dynamic network of practitioners in Fire & Rescue	Researchers, industry, stakeholders involved in research and innovation in the DRS sector, for dissemination of EU project results towards practitioners	Formalize a MOU between FIRE-IN coordinator and CTIF and FEU to implement a joint programme of activities in line with the vision above	By April 2023
		Secure the operation of social media accounts to continue disseminate information relevant of FIRE-IN network and stakeholder	By June 2023
A mechanism to advise research and standardization priorities	Researchers, industry, stakeholders involved in research and innovation in security, mainly the DRS sector	Promote the recommendations from FIRE-IN prepared after the last review meeting to several newsletters such as DRMKC, UCPKN, CTIF, FEU, CMINE etc.	By February 2023
		Participation of FIRE-IN leaders in scientific and technological workshops with contribution to research programming (Workshops organized by other on-going projects)	STRATEGY 1st Interoperability Event, 15-16 February 2023 in Rom iProcureNet 2023 Advanced Security Procurement Conference, 16-17 March 2023 in Bratislava
		Share the policy briefs prepared at the end of the project on FIRE-IN Website and towards the national research agencies from the countries of the consortium member	By March 2023
		Participation of consortium members in the CERIS SSRI event: Innovation Uptake of EU-funded Security Research outcomes, organised by DG HOME (EC) on 01/12/2022 in Brussels.	Done, participation of Fraunhofer and INEDEV
		Participation of consortium members in CERIS SSRI workshop on the topic "Capability-driven approaches across security sectors", on 02/03/2023 in Brussels	By March 2023





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Key Exploitable Results	Exploitation	Actions	Timeframe
A catalogue (database) of solutions	Researchers, industry, stakeholders involved in research and innovation in security, mainly the DRS sector	Transfer the current content of eFIRE-IN platform to a new project capable to operate it	By November 2023
FIRE-IN Dossiers	Researchers, industry, stakeholders involved in research and innovation in the DRS sector, for dissemination of EU project results CMINE representing the community involved in DRS research and innovation	Dossier #4 published in November 2022, after the end of the project	Done
		Dossier #5 and further Dossiers (1 per trimester)	By March 2023
		FIRELOGUE consortium uses FIRE-IN Dossier to disseminate information about wildfires.	By July 2023
		Sign a MOU with CMINE to formalize the agreement to have the old and news Dossiers accessible on CMINE Website	By March 2023
Interactions between practitioners and technology developers	Researchers, industry, stakeholders involved in research and innovation in security, mainly the DRS sector	In	
		Organization of on-line workshops to promote innovative technology for fire & rescue community, in relation with new projects where the consortium partner are involved in.	2 per years
		Onsite workshops with promotion of innovative technologies, with the support of sponsors to be identified	1 per year in connection with other project events or CERIS

The consortium partners are committed to implement this plan of actions and to report to the European Commission about the impact and the sustainability of FIRE-IN legacy, in connection with the stakeholders and partnership developed by the project during its funding by the EC.

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8 Conclusion

Upcoming events where Fire-In will be present:

_ **CERIS DRS week, Session on November 10th**: Technologies for first and second responders. Specifically, during the workshop on “Technologies for first and second responders” that will take place on **November 10th** with “Collecting needs, identify added value and ensure uptake of technologies”

_ **6th DRMKC Annual Seminar**, 22-23 November in Paris.

The FIRE-IN project has developed processes (mechanisms and procedures) with a wide network of practitioners, technology providers, standards bodies and other stakeholders that enable:

- The exchange of information, knowledge and resources
- Interactions to facilitate technology adoption with greater investment in research focused on capability gaps.

The COVID situation and travel restrictions have affected FIRE-IN for the end of 2021 and January 2022. From March 2022, we could appreciate to have on site events and we could participate in many events and disseminate project results

All partners were eager to succeed in this dissemination action, which consisted in promoting the work and the results obtained in this project.

Sustainability of the network will be ensured thanks to the partnership and synergies with established organizations such as CTIF and FEU, strengthening security research and innovation.

