



# RESCUER

NEWSLETTER # 4

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*RESCUER aims to design and develop a First-Responder-centered technology toolkit that will empower the next-generation of First Responders (FR) by enhancing their operational capacity and safety, specifically in adverse conditions, both environmental and infrastructure-wise. Having completed the second year of the project, the technical partners and the end users are working closely on testing the developed tools through different scenarios, improving their effectiveness, to ensure that RESCUER technologies will succeed in empowering the next generation Emergency Responders. In this context, a series of events and pilot meetings have taken place.*



## 2nd Pilot meeting in Navacerrada: January 2023

The 2<sup>nd</sup> event of the first round of RESCUER pilots took place in Navacerrada, from the 23rd to the 27th of January. Set in a mountain search and rescue, it took place in and around the Navacerrada fire station, in the Barranca valley in the Sierra de Guadarrama, Madrid, Spain.

Thirty five team members from 15 organisations of the RESCUER consortium joined the pilot. A total of 26 local first responders were present giving a unique opportunity to test RESCUER technologies with external rescue professionals. Among the local entities we were happy to count:

- the Spanish Red Cross
- TASSICA, a company dedicated to research and training in emergency and rescue operations
- UME, the Spanish Military Emergency Unit,
- ERICAM, a Madrid Community USAR team.

Also 4 relevant stakeholders from the government were present in the event. The first two days, the teams worked on the integration of the different tools and training the FRs. During the third and fourth

days, up to 26 FRs were able to test the different tools and modules, through different search scenarios to simulate adverse visibility and weather conditions, caves, open spaces... in the vicinity of the fire station.



Dear reader,

This is the fourth issue of the RESCUER project's newsletter.

We are pleased to welcome you and introduce you the RESCUER project.

Follow us for more news and updates about RESCUER

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## PréPILOT & General Assembly in Modane: March 2023



From 27th to 31st of March 2023, all the partners met in Modane for the PréPILOT and the General Assembly. The program included:

- Integration of technologies, days dedicated to technical partners to be able to assemble the different tools
- Intrinsic technology tests (weight, resistance, etc.)
- System tests (connecting tools together)
- Testing of systems in an environment deemed relevant (here tunnel)

Tool training (coordinated by ENSOSP) enabled more than 30 firefighters (from SDIS 73, 74 and 13) and other first responders to get to grips with the various tools through workshops.

The first feedback from firefighters shows that certain technologies could have an interesting use in the field, for example: using detectors to locate victims under the snow or in buildings through their mobile phones, detecting breathing behind a wall, loading a geolocation map when entering a building. But they know that these technologies are not yet marketable as they are and that their evolution will have to be monitored in the coming years.



Thanks to the particular geographical location of Modane, these tests could be carried out in different types of tunnels, but also on snowy mountain sites or clearing rescue.





## News & Updates

### RESCUER @ 3<sup>rd</sup> Ethical Legal VALKYRIES Workshop

On 3rd of March the 3rd Ethical Legal VALKYRIES Workshop with the title “Dealing with ethical legal issues in technology development: the current approaches adopted in ongoing projects”, took place at the Aula Magna of the Scuola Superiore Sant’Anna in Pisa. RESCUER had the pleasure to participate represented by Eirini Keremidou from ELIAMEP. During the workshop the participants had the opportunity to discuss about the ethical and legal issues occurred during the implementation of their projects. In the workshop there was also participation of 5GSOSIA & FACILITATE projects.



### RESCUER @ CERIS DRS event in Toulouse

CS GROUP communicated about the overall project objectives and the “HERO” concept. The project results of past pilots were also demonstrated, showcasing how novel immersive technologies can equip, enhance and facilitate the operational capacity of first responders. The HoloLens-based demonstration raised a lot of interest and multiple attendees were willing to test the HoloLens and experience the Augmented Reality interfaces currently being developed by CS within the RESCUER project.

The main demonstrated features covered were as follows:

- User localisation on the map.
- Environment annotation with geolocalised incidents or points of interest.
- Position tracking feature enabling the FR to go back to his/her initial position.
- The possibility to localise multiple First Responder on the map and to implement a bidirectional communication have also been demonstrated.





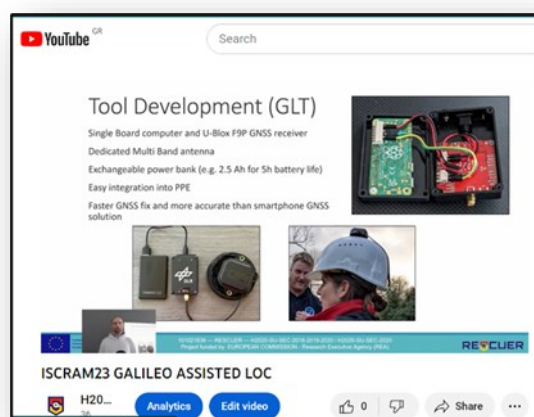
## RESCUER @ 7th SEMERGEN Catalonia Congress



RESCUER has been presented at the VII SEMERGEN congress in Barcelona, Spain, by SERMAS, where the development of the project and its main pillars and development of the tools have been explained.

## RESCUER @ ISCRAM 2023

Two presentations related to the RESCUER tools were made during ISCRAM 2023 conference, on 30th of May in Omaha. The first from CERTH's team, entitled "Object detection and augmented reality annotations for increased situational awareness in light smoke conditions" by Ioanna Gkika, Dimitrios Pattas, Konstantinos Konstantoudakis and Dimitrios Zarpalas, and the second by the teams of DLR & ISAR Germany, entitled "Self-Localization: A proposal to equip first responders with a robust and accurate GNSS device" by Dennis Dahlke, Susanna Kaiser and Steven Bayer.



[Video of the DLR & ISAR presentation](#)

## RESCUER @ XXXIII Congreso Nacional SEMES 2023



Two posters and an oral presentation entitled "RESCUER project: importance of new technologies to improve the work and response of first responders in hostile environments." by SERMAS, were included at the SEMES 2023 congress in Madrid, Spain. SERMAS had the opportunity to present the development of the project and its main pillars and explain the development of the tools.





### RESCUER @ EMEA congress

SERMAS members were invited to the EMEA (Emergency Care Innovation Summit Amsterdam) congress as experts in emergencies and belonging to the RESCUER project, where they exposed us to the new technologies that are being developed for emergency workers. They have presented us with the ideas of the new prototypes for emergencies, the new telemedicine that is proposed and the use of artificial intelligence. They asked us how we would like our work to be in 5-10 years and, given several proposals that they showed us, which ones we would choose as experts for our work. We also had the opportunity to explain our project and how we develop the new RESCUER tools.



### RESCUER @5th VALKYRIES Plenary meeting



On 22nd of May, the 5th Plenary meeting of VALKYRIES project took place in Milan. RESCUER had the pleasure to be represented by Dimitrios Iliadis from HRT. During the meeting, the presentation entitled “RESCUER’s lessons learned from the pilots” offered feedback from the experience gained through the implemented pilots of RESCUER and gave to opportunity for constructive discussion.

### RESCUER @ PSCE conference

Pitching the concept of the RESCUER project, enabling insights into Radar Sensing (UNIWA), computer vision for image denoising and object detection (CERTH), as well as the integration of augmented reality onto a fully protective helmet appropriate for operational use – all of this has been part of Public Safety Communications Europe (PSCE) conference as well as CERIS event at the Lavrion Technological and Cultural Park (Greece) on the 10th and 11th of May 2023. The very diverse audience, with backgrounds in research, industry and First Responder organizations from all across Europe as well as representatives





from the United States of America and the Philippines, showed high interest in the presented tools as well as in the demonstration and RESCUER project itself. Konstantinos Konstantoudakis from CERTH together with Iosif Vourvachis, Meni Kourkouta, Alexandros Giordanis and Youla Karavidopoulou from the Hellenic Rescue Team (HRT) and Sandra Nestlinger from the Austrian Red Cross (ARC) were pleased to answer questions and discuss potential collaborations for the future during a demo of real-time object detection in augmented reality.

## RESCUER Comic Volume 2 & 3 Released

UniWA is constantly working on the release of a comic series named “The Adventures of RESCUER” in

which our ambassadors Bellatrix and The-seus get involved in various emergency situations but are fortunate to be able to use the RESCUER tools. [Volume 2 Radar Sense](#) & [Volume 3 Signs of Life](#) were published and the teams are working for the next.



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