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Emerging technologies for the Early location of Entrapped victims under Collapsed Structures & Advanced Wearables for risk assessment and First Responders Safety in SAR operations

D8.3 S&R Use Case 2: Plane crash, mountain rescue, non-urban (Greece) - Pilot plan

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Search and Rescue Project Profile

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1 Plan Form for D8.3 – Use Case 2

Title of UC 2:

Plane crash in a mountainous region around Thessaloniki

1. Introduction

The incident begins with a forced landing of a passenger propeller aircraft due to mechanical problems upon approaching the airport of Thessaloniki. Despite the efforts of the pilot, the aircraft crashes in a remote location of the mountainous area around the city, 30 minutes hiking distant from the nearest dirt road. A number of HRT first responders will be involved in the incident. Depending on their availability, public civil protection, the army, the fire department, and the police will participate at the pilot. An invitation will be sent to include civil protection organizations, individual climbers, mountaineer associations, and established mountain shelters.

According to the scenario, the weather condition is assumed to be extremely windy, a common phenomenon at that period of the year (October-November). No terrorist intention is assumed to be involved in the incident.

The pilot will test the capabilities of the S&R platform on risk assessment, crisis management and rescue/volunteer mobilization. More specifically, at the training phase, the first responders will be able to use the **e-learning based platform** to prepare and train appropriately for possible similar episodes. Upon receiving the signal for the incident, the first responders activate their **Smart watches**. Along with **Emergency Response Health Condition Monitoring Device, the Situation Awareness** tools will collect and analyses data at the Command Center to enhance safety and security, environmental monitoring, and mass notification.

The PSAP will communicate with all the actors involved through the **Emergency Communication App** and the **Volunteer application**. All data from the technologies used in the field (Smartwatch, Smart glasses, Monitoring Device etc.) will be collected in the Emergency Communication App and they will be displayed through **3D Mixed Reality Command Center**. The images and information collected by rescuers and drones will be analyzed by the **Artificial intelligence**.

2. Responsible End – User Organization

Hellenic Rescue Team

3. Time and place

The estimated time for the implementation of UC2 is sometime in October-November 2022.

The place of the pilot will be the mountainous area near Thessaloniki: Mt Chortiatis,

Since the pilot implementation is a dynamic process, depending on the technology requirements

4. Components / technologies that will be tested

The list of the technologies for the UC2 is as follows:

1. Smartwatch (**KT**)
2. Emergency Communication App (**KT**)
3. Situational Awareness (**UBITECH**)
4. 3D Mixed Reality Command Centre (depending on the required hardware) (**CERTH**)
5. Volunteer application (**CERTH**)
6. Emergency Response Health Condition Monitoring Device (Test the device on the simulated victims) (**CERTH**)
7. e-learning based platform (to be used for training) (**CERTH**) (UC2 is foreseen to take place in Oct-Nov 2022, so I believe that we will be OK, timewise)
8. Smart Glasses (to be used for training and if possible, to display information through AR on the field) (**SIMAVI**)* CERTH will provide 2 Smart Glasses and SIMAVI will provide technical assistance
9. Artificial intelligence (We understand that this is a technology for image/video analysis. If so, we would like to test it with images from the drones) (**AIDEAS**)

5. First version of KPIs

1. Support the exchange of information between first responders on the field and the Command-and-Control Centre
2. How quick is the information flow?
3. How many users can have access to the same information and the same time
4. Show only relative information to the end user
5. Classification of information
6. How a DSS can support media coverage
7. How a DSS can support handling the relatives of the victims
8. Offline access
9. Local network to support dissemination of information among first responders on the field

6. Participating technical support partners (internal) and other members of consortium S&R as Players, Observers and Evaluators etc

The participating technical partners who will support the pilot are:

- KT
- NTUA
- CERTH
- SIMAVI
- AIDEAS
- UBITECH

7. External Participants as players, evaluators, actors-guests in UC

We will invite the local Fire department and civil protection authorities to attend the pilot as

observers. However, the level of their involvement is dependent on their availability at the time of the pilot and their willingness to participate; both of which are too early to verify.

8. Ethics Approval

HRT will obtain the respective approval from the S&R board at a time near the execution of the scenario

9. Gaps/ Problems that should be closed and context in which they appear

No gaps or problems or deviations are identified compared with the initial plan

10. Certificates of Participation

This is based upon consortium decision.

11. Planning Team of UC

The planning team will be consisted of:

- HRT members
- Representatives from participating technical partners