

## Technology for heroes (Second generation locator for urban search and rescue operations – SGL for USaR Project)

*The devotion and bravery shown by rescue service personnel in finding and extracting people following massive destruction and large scale structural collapses in urban locations is inspiring. These heroes need to be equipped with the technology and procedures that match their courage and determination. The primary motivation of the EU-funded project ‘Second generation locator for urban search and rescue operations’ (SGL for USaR) is to provide technological support to ensure the most effective use is made of the time available to rescue teams.*



### Background

Time is the critical parameter for the rescue of victims buried under collapsed buildings. There is normally a 24-hour window when people who are injured and trapped can be saved, followed by a three-day period when trapped but uninjured victims can be successfully rescued. But after three days the chances of survival diminish rapidly unless the trapped person has access to drinking water.

### Objectives

The SGL for USaR project has marshaled a pan-European interdisciplinary project team to produce a consortium of 21 partners including rescue teams, researchers and SMEs.

The prime objective of the project is to deliver a prototype portable “FIRSTt” responder device that integrates sensors, images, sound and chemical analysis for the early location of entrapped people and dead bodies.

The device will be able to monitor the conditions of the voids in collapsed buildings. Entrapped people and events such as fires and gas leaks in the voids have characteristic visual, audible and chemical profiles that can be detected using such a combination of techniques.

“SGL for USaR” is not only about the development of a better early location device. It has the vision of a systemic change in USaR operations in collapsed buildings by providing integration of early location methods, attended and unattended monitoring in the ruins, detection of human signatures or hazardous conditions and support of field coordination based on data collected from the inside of collapsed buildings.



## Results

Project deliverables include a network of sensors equipped with wireless communications, an advanced environmental simulator for training and testing search devices, a prototype mobile operational command and control platform for the management of information. Privacy and bioethical issues are also considered.

From the scientific point of view, the project tries to solve problems at the interface of field chemical detection and video and acoustic monitoring. From the technological point of view, "SGL for USaR" is drawing, in a new way, the connecting line between field monitoring and ICT technologies.

**For more information, please visit the website: <http://www.sgl-eu.org/>**

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### **SGL for USAR — Second generation locator for urban search and rescue operations**

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