

Theme 10: Security
Call FP7-SEC-2007-1

**“Second Generation Locator for Urban
Search and Rescue Operations”**

Proposal acronym: “SGL for USaR”

(Proposal Number FP7-217967)

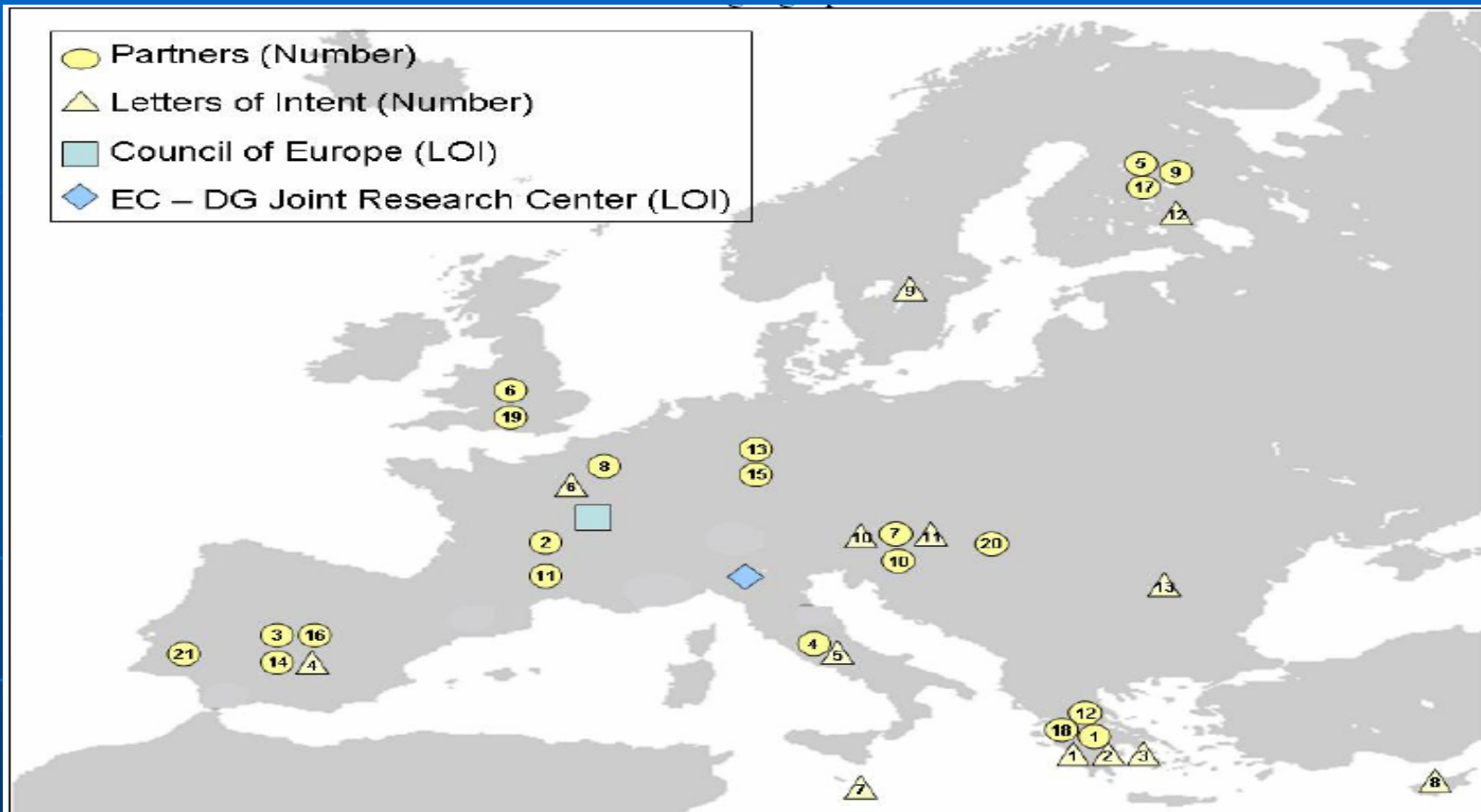
Type of funding scheme: Collaborative Project

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Work programme topics addressed:

4. Restoring security and safety in case of crisis / 4.2 Integration projects
SEC-2007-4.2-02: “Integrated specialist search and rescue system”

Partners and LOIs (Letters of Intent) Geographical Distribution



- A **pan-European interdisciplinary**, mission oriented integrated project
- A **well-balanced consortium of 21 partners** including rescue teams, researchers and SMEs
- Support of **15 LOIs** (10 EU member states, JRC, Council of Europe)

a. List of participants

Participant no.	Participant name	Participant short name	Country
1 (Coordinator)	National Technical University of Athens	FIACTU/NTUA	Greece
2	Service Départemental d'Incendie et de Secours du Vaucluse	SDIS 84/ FR Rescue Team	France
3	Direccio General De Prevencio I Extincio D'incendis I Salvaments	DGPEIS/ ES Rescue Team	Spain
4	FAENZI s.r.l.	FAENZI	Italy
5	Valtion Teknillinen Tutkimuskeskus	VTT	Finland
6	The University of Manchester	UNIMAN	UK
7	Gesellschaft zur Förderung der Analytischen Wissenschaften e.V.	ISAS	Germany
8	ECOMED bvba	ECOMED	Belgium
9	Environics Oy	ENVIRONICS	Finland
10	Austrian Academy of Sciences	AAS	Austria
11	Entente Interdépartementale en vue de la Protection de l'Environnement et de la Foret contre l'Incendie	CEREN	France
12	ANCO S.A. Agencies, Commerce & Industry	ANCO	Greece
13	University of Dortmund	UNIDO	Germany
14	TEMAI Ingenieros S.L.	TEMAI	Spain
15	G.A.S. Gesellschaft für analytische Sensorsysteme mbH	GAS	Germany
16	Universidad Politecnica de Madrid	UPM	Spain
17	Savox Communications Ltd	SAVOX	Finland
18	University of Athens	UoA	Greece
19	Markes International ltd	MARKES	UK
20	Bay Zoltan Foundation for Applied Research	BZF	Hungary
21	Critical Links SA	CRITICAL	Portugal

b. List of Letters of Intent (LOIs)

	Organization Name	Country
1	Hellenic Fire Brigade	Greece
2	National Centre for Emergency Care	
3	Hellenic Rescue Team (NGO)	
4	Bomberos Sin Fronteras (NGO)	Spain
5	Civil Protection	Italy
6	Civil Protection	Luxemburg
7	Civil Protection	Malta
8	Civil Protection	Cyprus
9	Goteborg Fire and Rescue Service	Sweden
10	Professional Fire Department of Innsbruck	Austria
11	Vorarlberg Union of Fire Departments	
12	Rescue Service Unit	Finland
13	General Inspectorate for Emergency Situations	Romania
14	“Open Partial Agreement on Major Hazards” of the Council of Europe	Main Office in Strasbourg, France
15	EC-DG Joint Research Center	Ispra, Italy

Concept of the project

1. **Natural disasters** can cause:

- ✓ **massive destruction**
- ✓ **high mortality**
- ✓ **many casualties especially in urban areas**

2. Search and rescue operations pose **significant, interdisciplinary challenges**

Urban Search and Rescue Technology Needs: Ten Highest Priority	
1	Improved real-time data access
2	The ability to “see” through walls, smoke, debris and obstacles
3	The ability to communicate through/around obstacles
4	Lighter, more efficient power sources
5	Improved monitoring systems, real-time, portable, multi-function devices that expand on existing detection capabilities
6	Improved Personal Protective Equipment (PPE)
7	Multifunctional equipment
8	Improved breaching, shoring, and debris removal
9	Reliable non-human, non-canine search and rescue capabilities
10	Standardized equipment

3. **Integration of early location and monitoring methods, with communication and information technology** is the most appropriate approach to meet the requirements of USaR operations

Voids Chemical Environment Simulator

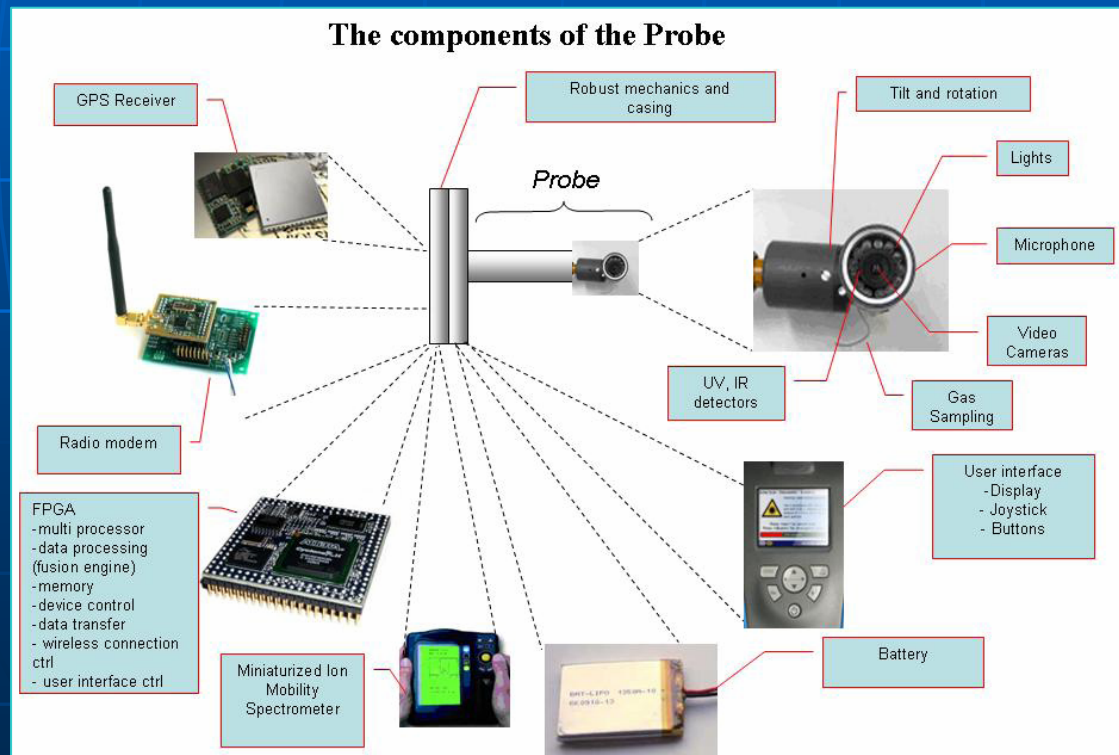
Objectives:

- **Design and development of two novel physical devices that provide total simulation in order to reduce the need of field tests and overall time taken to run complex experiments in extreme conditions**
- ✓ Delivery of a prototype simulator for chemical environment simulation
- ✓ Provision of a prototype environmental chamber for selective sample analysis

First Responder Devices

Objectives:

- Set-up and configure chemical methods for selective location of entrapped alive people and buried bodies
- Develop a First Responder standalone prototype Device for early location and monitoring



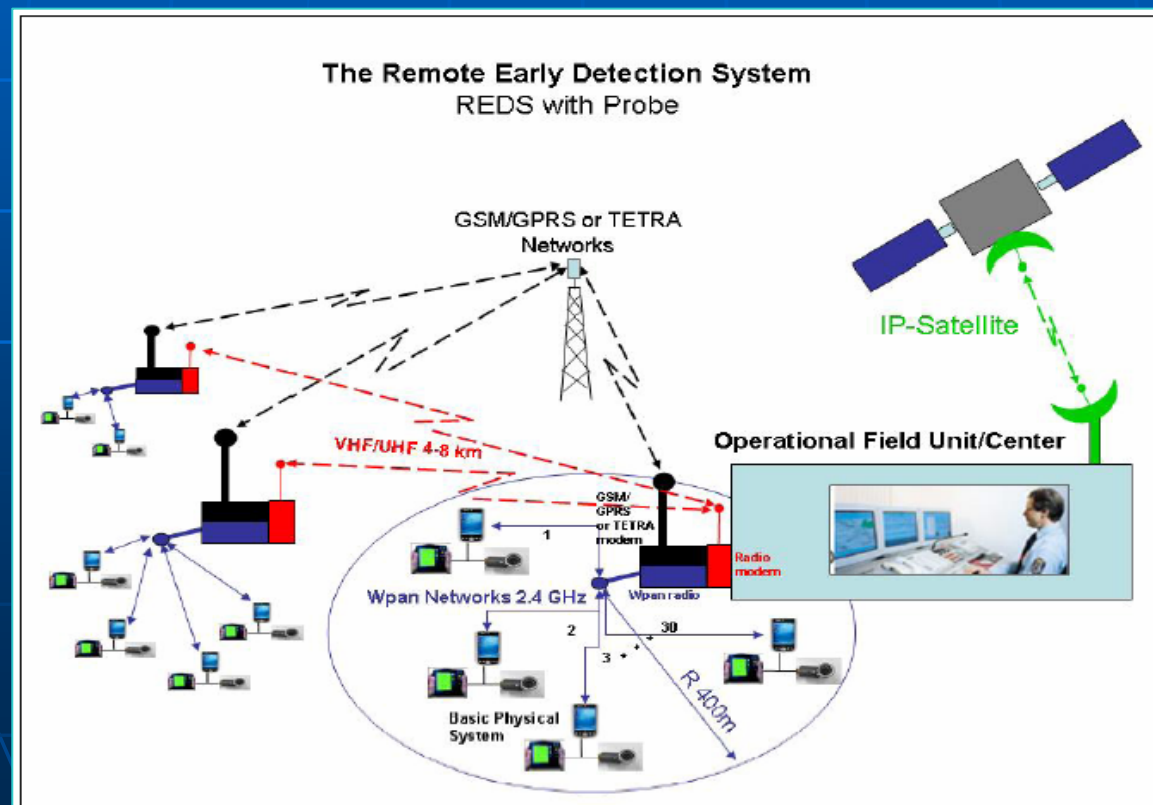
FIRST responder device



Remote Early Detection Systems (REDS)

Objectives:

- Development of probes for early location and situation monitoring
- Development of a remote system for data analysis and decision support, based on developed algorithms and software for early location and monitoring



Operational and Innovative methods and Techniques in USaR Operations

Objectives:

- Survey, evaluate and benchmark methods and technology status in USaR
- Enhance medical knowledge and on-site support of entrapped people

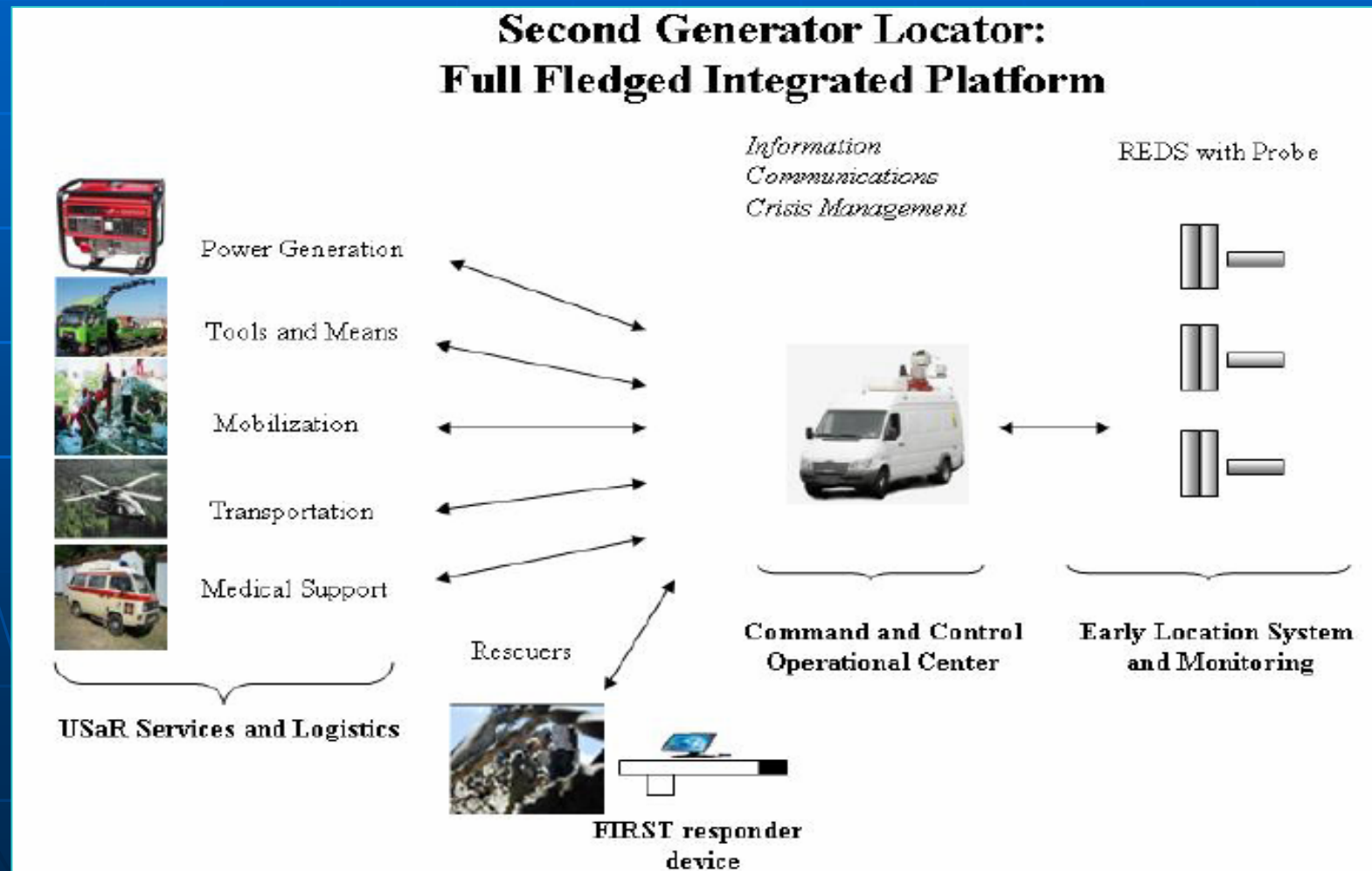


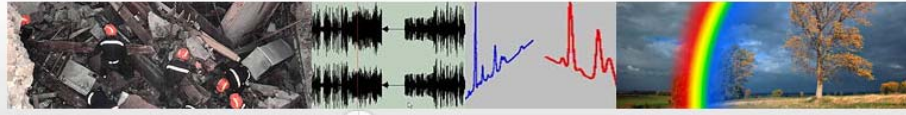
Integrated Platform for supporting USaR Operations

Objectives:

- **Configure, tune and optimize chemical, optical, acoustic methods for sensitive and selective human and event recognition**
- **Build up general directions and specifications consensus for the architecture of the SGL integrated platform and its modules for a system tailored to end-users needs**
- **Develop all physical and software modules of SGL platform**

- To develop the SGL platform
- To validate the SGL platform and the prototype devices
- To optimize the prototype devices and the SGL platform
- To improve system performance by using performance indicators





SECOND GENERATION LOCATOR for URBAN SEARCH and RESCUE OPERATIONS

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Welcome to the SGL for USaR project

Intro



The Second Generation Locator for Urban Search and Rescue Operations (SGL for USaR) is mission oriented towards solving critical problems following massive destruction and large scale structural collapses in urban locations.

SGL for USaR addresses Call FP-7-SEC-2007-1 (4. Restoring Security and Safety in Case of Crisis / SEC-2007-4.2.-02: Integrated Specialist Search and Rescue System).

SGL for USaR is formed by eight sub-projects running in parallel, which are considered the work packages of the project. These work packages address the development of simulation environments for developing and testing location methods and devices; the development and validation of portable devices for location operations; the development and validation of smart sensors environment for monitoring the situation under the ruins; the management of medical information, including privacy and bioethics; and finally the development of an ICT platform that will integrate all the previous data, ensure interoperability and control the flow of the information from the field to the operational center.

About this webpage

Through this webpage visitors can download brochures and relevant material, different volumes of the Newsletters prepared so far, as well as selective demonstration. It also gives access to the Technology Forum that operates in the framework of SGL for USaR project. The basic goal of the forum is to become a platform for experience, knowledge and know-how exchange. The Technology Forum shall host discussions and blogs from some of the project members, wikis with scientific, technological and operational information and provide mailing lists and forums for public to participate.

Human signatures

Search

First responder

Audio/Video

Simulator

Procedures

Integration

See More:

SGL for USaR web site: www.sgl-eu.org

Technology Forum: <http://tech-forum.sgl-eu.org>

Thank you for your attention...