



# EUROP COM

## *Emergency Ultrawideband RadiO for Positioning and COMMunications*

EUROP COM will investigate and demonstrate the use of UltraWideBand (UWB) radio technology to allow the precise location of personnel to be displayed in a central control vehicle and simultaneously improve communications reliability.

In emergency situations, particularly within large buildings, safety and co-ordination of operations is hampered by lack of knowledge of the whereabouts of emergency personnel. In addition, communications with rescuers can be difficult.

### More Information:

<http://www.ist-europcom.org>

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## Objectives

The overall goal of the project is to improve risk management, by improving the safety and effectiveness of emergency service workers operating inside buildings. More specifically, the project aims to:

- Improve situational awareness in emergencies, by measuring and reporting the location and status of emergency service personnel;
- Provide reliable communications in environments (such as inside buildings) where conventional systems are ineffective or no longer operational;
- Locate survivors of an emergency in smoke-filled rooms or buried under rubble;<sup>1</sup>
- Map the inside of smoke-filled buildings, to assist navigation within the building.<sup>1</sup>

To achieve this, the project aims to advance to a position where commercial development of such equipment, based on UltraWideBand (UWB) radio, is possible.

<sup>1</sup> Note that these items may not be included in the 'proof of principle' prototype. The project is intending to determine their feasibility.

## Description of the work

In emergency situations, particularly within smoke-filled, partially or completely collapsed large buildings, safety & co-ordination of the operations is hampered by a lack of knowledge of the location of emergency personnel. In addition, communications with rescuers can be difficult.

The project will investigate & demonstrate the use of UltraWideBand (UWB) radio, to allow the precise location of personnel to be measured & displayed in a control centre & simultaneously improve communications reliability. The feasibility of using UWB to search for survivors in smoke-filled rooms or buried beneath rubble & to generate simple maps will also be investigated.

The approach that will be taken is summarised in the following ordered list of top-level activities:

- Requirements definition and prioritisation, involving discussion with the potential users;
- System design: An iterative process - carry out experiments for the highest risk areas, potentially modifying design concepts as a result. Assess competing UWB technologies and choose the technology for the prototype.
- Prototype building and laboratory testing;
- Trials to characterise system performance;
- Exploitation and marketing plan.

Project Acronym: **EUROPCOM**  
Project Reference: **IST-2002-004154**  
Contract Type: **Specific Targeted Research Project (STREP)**  
Start Date: **01/09/2004**  
Duration: **36 months**  
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Project Cost: **4.1 Mio €**  
Project Funding: **2.45 Mio €**

### Participants:

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