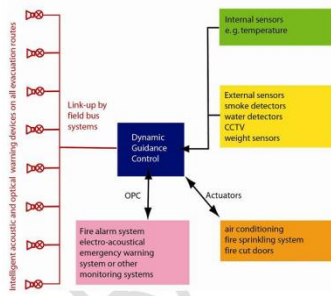


R&D PROJECT



Title of the project

Intelligent Personal Fire Evacuation System

Acronym

SIEPI

Content of the project

This project aims to develop a new fire evacuation system that will solve the weaknesses of the current system. In this way, the lives of the occupants of a building where this type of accident occurs can be saved. The solution presented here is an attempt to make up for these deficiencies.

General objectives

The overall objective of the project is to research and develop an intelligent algorithm for calculating an optimal evacuation route depending on the characteristics and situation of the fire, the situation of people and the structure of the building. The ZGS system enables a dynamic control of the optical-acoustic escape route supporting the evacuation process in buildings, tunnels, ships and other places.

Existing evacuation systems are based on visual aids or an announced escape route. If the risk develops exactly on the route to the emergency exit, people reach the danger zone, and it becomes a disaster.

The ZGS reacts to possible sources of danger and leads to the configuration of an alternative route to get people to a better and safe position.

Results and conclusions

The functional novelties of this project are:

- Combination of optical and audible signals.
- Creation of a completely new language that works in conditions of intense smoke and/or darkness.
- Recognition of the fire source and subsequent calculation of the optimal emergency exit route dynamically.
- This system is of particular value for blind or visually impaired people to be able to exit without the help of third parties.
- Full compatibility with existing evacuation systems.

The developed system has the following functionalities:

- Indicates the way ahead by combining sound currents with optical signalling.
- The optical signalling is independent of the language of the country (it is an international signalling) and works even in situations of very thick smoke and darkness.
- The system calculates the location of the fire in order to obtain the optimal evacuation route.
- Blind or visually impaired people do not need the help of a third party.
- No changes to the configuration of existing fire detection and alarm systems are necessary.



BUSSINESS AREAS

**Infraestructure area
COMSA, S.A.**

DURATION

2010-2013

BUDGET

870.700€

KEYWORDS

Dynamic orientation system, fire location

COORDINATOR

Joan Peset

COLLABORATING ENTITIES

Zöllner

EXTERNAL FUNDING

