

## R&D Partner Search

### 1. Collaboration Details

#### Project idea or Expertise offer

- Project idea       Expertise offer

#### European funding source

- Eureka  
 FP7 Cooperation  
      Health  
      Information and communication technologies  
      Energy  
 FP7 – Ideas  
      ERC Starting Independent Research Grant  
      ERC Advanced Investigator Research Grant  
 FP7 – People  
 FP7 – Capacities  
      Research Infrastructures  
      Research for the Benefit of SME  
      Regions of Knowledge  
      Research Potential of Convergence Regions  
      Science and Society  
      Support to Coherent Development of Research Policies  
      International Cooperation  
 CIP – Entrepreneurship and Innovation Programme  
 CIP – ICT Policy Support Programme  
 CIP – Intelligent Energy Europe Programme  
 Other European funding

### 2. Project Idea / Expertise Offer

#### Titel

Fault Diagnosis of Networked Control Systems

#### Keywords

fault diagnosis  
 test automation  
 control systems  
 hardware-in-the-loop  
 real-time systems  
 networked hybrid systems  
 cause-effect graph

## Description of project idea or expertise

### Problem Description

The software in networked control systems, e.g. in the area of automotive, building or energy systems, enables new functionalities. Thus increased system complexity causes failures during system development and maintenance, which has to be diagnosed and repaired. During development of networked components automatic regression tests are very important. In the integration phase communication, hardware and timing failures appear although the components themselves are assumed to be faultless. Also, after market introduction contain such systems failures requiring continual diagnoses.

### Research Objectives

To support automatic procedures we assume test planning based on cause-effect graph and pursue following research objectives:

- use of information about system-structure of the test object by means of model building methods,
- representation of measurement data to support high-level abstractions,
- automatic evaluation of planning and measurement data to support fault diagnoses,
- unified treatment of discrete and continuous dynamic systems

Developed procedures should be verified in laboratory and in real-working environment.

## 3. Partner search

### Targeted partner organization type(s)

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> SME (< 250 employees) | <input type="checkbox"/> Large Company                           |
| <input checked="" type="checkbox"/> University            | <input checked="" type="checkbox"/> Research / Technology Centre |
| <input type="checkbox"/> Other:                           |  |

### Targeted partners skills and competencies that you seek

We search for academic and industrial partners as method developer and applier in the area of

- networked control systems
- automatic regression tests for networks
- software and network fault diagnosis

We work on methods and tool for test automation of distributed real-time systems for several years with applications to automotive and building automation systems.