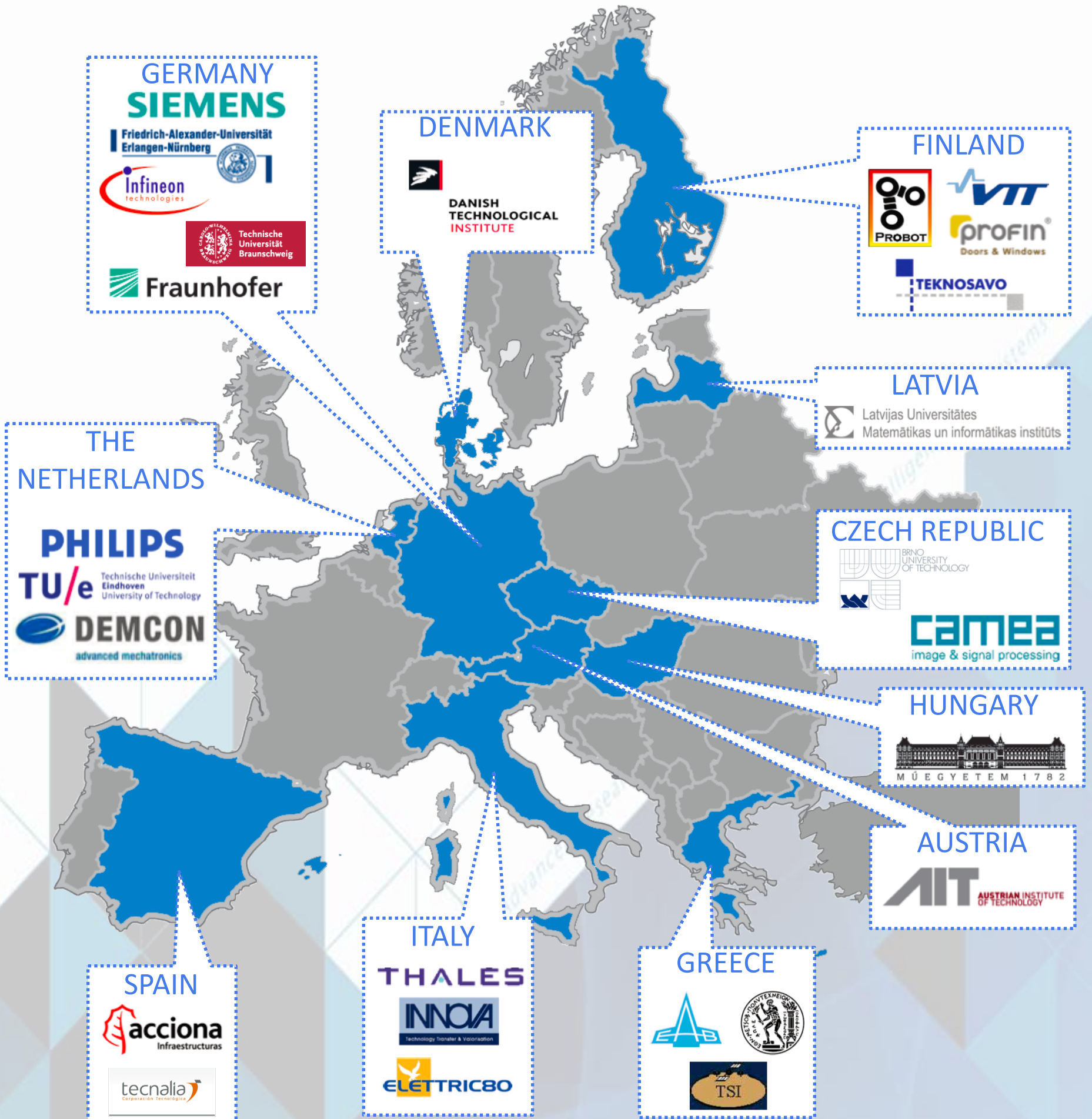




# R3-COP

Project partners





# R3-COP

## Resilient reasoning robotic co-operating systems

### PROJECT summary

R3-COP (Resilient Reasoning Robotic Co-operating Systems) aims at providing European industry with new leading-edge innovation that will enable the production of advanced robust and safe cognitive, reasoning autonomous and co-operative robotic systems at reduced cost.

The major objective is to achieve cross-sector reusability of building blocks, collected in a knowledge base, by developing and implementing a generic framework and platform with domain-specific instantiation, and use of a multi-purpose computing platform.

### RELEVANCE CALL 2009 objectives

Originating technology and methodology to reduce cost and development cycles of resilient robotic systems by 15% while managing 25% of complexity increase at 10% less effort by 2013. A generic framework for multi-purpose computing platforms sets a universal standard elevating the strategic European position.

### MARKET innovation

The project aims to overcome the fragmentation of the robotic sector by creating a cross-domain platform of methods and tools for the design, development and validation of resilient and usable real world autonomous systems. These systems will be able to reason, learn and cooperate in different application domains such as surveillance and rescue, agriculture, people care, home environments and transport. Research will target resilient cooperation models and protocols, robust computer navigation and vision algorithms, semantic reasoning methods, methods and tools for the efficient testing and validating of dependable adaptive autonomous systems.

### TECHNICAL innovation

- Technology
  - Fault-tolerant, high-performance processing platform based on a multi-core architecture
  - Developing new test strategies for mobile and adaptive systems with complex sensor input (vision) with measurable coverage
  - Robust perception of the environment
  - Reasoning, learning and reliable action control
- Methodology
  - Development framework with an underlying knowledge base
  - Tool platform for guarded development and standardized testing
  - Model-driven process for the compositional development of safe and robust robotic co-operating (autonomous) systems
- Demonstrators from ground-based, airborne and underwater domains, including domestic and manufacturing applications as well.



<b>PROJECT COORDINATOR</b>	<b>START</b>
Prof. Dr.-Ing. Mladen Berekovic	May 2010
<b>INSTITUTION</b>	<b>DURATION</b>
Technische Universität Braunschweig	36 months
<b>EMAIL</b>	<b>TOTAL INVESTMENT</b>
berekovic@c3e.cs.tu-bs.de	18,3 M€
<b>WEBSITE</b>	<b>NUMBER OF COUNTRIES</b>
<a href="http://www.r3-cop.eu/">http://www.r3-cop.eu/</a>	11
	<b>PARTICIPATING ORGANISATIONS</b>
	26