



R3COP

Robust & safe mobile co-operative autonomous systems

EXECUTIVE summary

Provide 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.

RELEVANCE CALL 2009 objectives

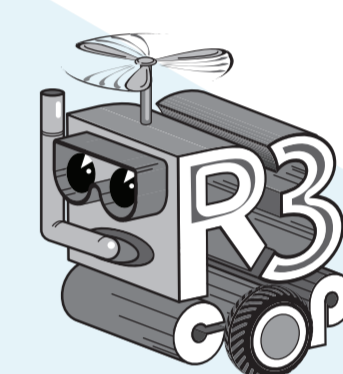
Originating technology and methodology to reduce cost and development cycles of resilient robotic systems by 15% while managing 25% of complexity increase at 10% less effort by 2013. A generic framework for multi-purpose computing platforms sets a universal standard elevating the strategic European position.

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
 - 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 standardised test
 - Model-driven process for the compositional development of safety and security critical systems
 - New validation and test methods for autonomous systems
- > Demonstrators from ground-based, airborne, and underwater domains



| | |
|-------------------------------------|------------------------------------|
| PROJECT COORDINATOR | START |
| Prof. Dr. Mladen Berekovic | May 2010 |
| INSTITUTION | DURATION |
| Friedrich-Schiller Universität Jena | 36 months |
| EMAIL | TOTAL INVESTMENT |
| berekovic@ida.ing.tu-bs.de | €18.3 M |
| WEBSITE | PARTICIPATING ORGANISATIONS |
| http://r3-cop.eu | 27 |
| | NUMBER OF COUNTRIES |
| | 11 |

