



SMART

A new wireless sensor network infrastructure

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 Evangelos Ladis	START March 2009
INSTITUTION Hellenic Aerospace Industry S.A.	DURATION 36 months
EMAIL egladis@haicorp.com	TOTAL INVESTMENT €4.5 M
WEBSITE www.artemis-smart.eu	PARTICIPATING ORGANISATIONS 11
	NUMBER OF COUNTRIES 5

THE NETHERLANDS

PHILIPS

Nanosens

GERMANY

LIPPERC
THE EMBEDDED PC COMPANY



TECHNISCHE UNIVERSITÄT
CAROLO-WILHELMINA
ZU BRAUNSCHWEIG

GREECE



Telecommunication
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SPAIN



POLITÉCNICA

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THALES