DEMANES

Design, Monitoring and Operation of Adaptive Networked Embedded Systems

ARTEMIS

EXECUTIVE *summary*

The goal of DEMANES (Design, Monitoring and Operation of Adaptive Networked Embedded Systems) is to provide a framework and component-based methods and tools for the development of run-time networked embedded systems.

RELEVANCE CALL *objectives*

DEMANES will deliver results related to the following ARTEMIS targets:

> Reduce the cost of system design
> Achieve reduction in development cycles
> Achieve cross-sectoral re-usability of embedded systems
> Reduce effort and time for re-validation and re-certification
> Manage an increase in complexity with less effort

MARKET *innovation*

Application Contexts where DEMANES will provide market innovation and will generate an impact are:

> **Industrial Systems** (Industry for airports, urban transport, city logistics, urban safety and security)
> **Nomadic Environments** (PDAs, smart phones, body sensors, public transportation)
> **Private Spaces** (home, smart TVs and sensors)
> **Public Infrastructure** (public urban spaces, transport stations and vehicles, airports)

Therefore DEMANES will help to boost European industry's potential to create major market opportunities and establish leadership. The networked embedded project aims to develop technologies that increase capabilities in strategic fields such as aerospace, automotive and emergency systems.

TECHNICAL *innovation*

DEMANES aims to develop a smart integrated tool chain, reusable components and a framework for the design, implementation, testing, validation and operation of adaptive networked embedded systems. The tool chain will

> model the architecture and the operation of networked embedded systems to guide the design process and to enable the use of design patterns and reuse of software components
> support the design process of such systems by providing simulation and evaluation environments and test-beds along the different stages of the development process
> support the implementation of such systems by providing services for self-organisation, reconfiguration and self-optimisation as aspects of the execution environment
> monitor the internal and external operational conditions and manage adaptation at run time.

Demanes

PROJECT COORDINATOR Marco Soddu	**START** May 2012
INSTITUTION AKHELA S.r.l.	**DURATION** 36 months
EMAIL marco.soddu@akhela.com	**TOTAL INVESTMENT** €20.5 M
WEBSITE www.demanes.eu	**PARTICIPATING ORGANISATIONS** 24
	NUMBER OF COUNTRIES 5

THE NETHERLANDS

PHILIPS

T U Delft Delft University of Technology

DEVLAB DEVELOPMENT LABORATORIES

TU/e Technische Universiteit Eindhoven University of Technology

NXP

TNO innovation for life

PHILIPS

FINLAND

mega

UNIVERSITY OF EASTERN FINLAND

CVS Convergens

CZECH REPUBLIC

Merica

ITALY

VITROCISET

akhela

atac

POLITECNICO DI TORINO

Selex ES
A Finmeccanica Company

SPAIN

HI iberia

LEITAT Technological Center member of TECNIO
managing your technologies

tecnalia Inspiring Business

INABENSA

INTEGRASYS

POLITÉCNICA
CSIC