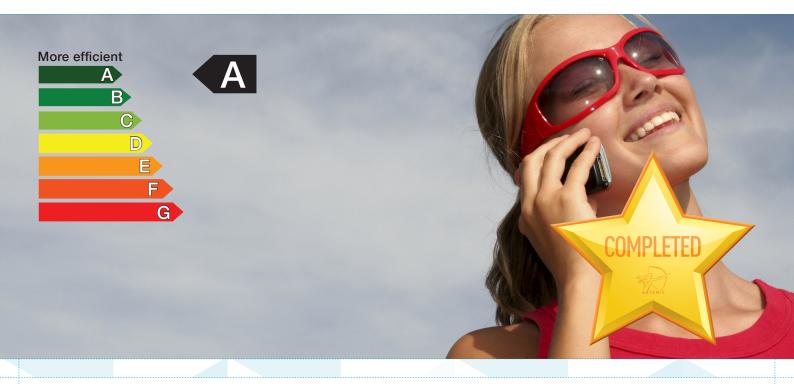
SCALOPES



SCalable LOw Power Embedded platformS



EXECUTIVE summary

The top-level goal of SCALOPES is to enable an industrially sustainable path for the evolution of low-power multi-core computing platforms for application domains with strategic value for European competitiveness. The project focuses on cross-domain technology and tool developments for multi-core architectures.

These developments are driven by and proven for four different application domains:

- > Communication Infrastructure
- > Surveillance systems
- > Smart mobile terminals
- > Stationary video & entertainment.

CONTRIBUTION to SRA

ARTEMIS has identified a number of representative 'Application Contexts' to focus upon for the development of new technologies. The identified 'Application Contexts' are:

- > 'Industrial systems' (1)
- > 'Nomadic Environments' (2)
- > 'Private Spaces' (3)
- > Public Infrastructure' (4).

The SCALOPES project is focusing on all four application areas and in addition is looking into a maximum commonality of technological developments across these sectors. The specific

applications covered in SCALOPES and their link with the above $\ensuremath{\mathsf{ARTEMIS}}$ Application

Contexts, are:

- > Communication infrastructure for next generation networks (1, 2, 3, 4)
- > Distributed surveillance systems with audio-video processing & communication capability (1, 3)
- > Smart mobile terminals with mobile multimedia support (2, 3, 4)
- > Stationary video: home TV and distributed quality monitoring environments (1, 3, 4).

MARKET INNOVATION & impact

The objectives of the SCALOPES project will be considered as successfully reached when the following measures of success are obtained after the finalization of the SCALOPES project:

- > The power consumption is reduced by 30 % while the performance is increased by 20 % for multi-core embedded systems in all application domains of SCALOPES.
- > Compared to reference Home TV's from 2008, power savings of >35% in 2009, and 50% at the end of the project in March 2011.
- > Design tools developed allow a reduction of design time of 20% for the typical embedded system architecture designs for the application area covered.
- > The resource management framework for the display controller should allow 50% increase in resource usage with 50% decrease in form factor.

RELEVANCE & CONTRIBUTIONS to Call 2008 Objectives

SCALOPES is focusing on ARTEMIS Sub Programme 5: 'Computing Environments for Embedded

The main technology focus in SCALOPES is on:

- > Energy & resources management solutions
- Low-energy design methods & associated runtime methods
- Design of energy-efficient multiprocessor systems.

Those technologies are developed in consistency with existing and emerging standards and based on existing state-of-the-art tools as available in industry and in the key research institutes in Europe involved in this area, who are all partner in SCALOPES.

R&D INNOVATION and technical excellence

- > Move from vertically-integrated platform-specific to horizontally structured multi-domain
- The development of platforms to provide real-time data processing capabilities (image, video, audio, packet processing) with high energy efficiency.
- Enable high-productivity development and retargeting of software with reliability, predictability and energy efficiency.

At the level of innovation, having a large number of relevant partners involved in SCALOPES leads to the following benefits:

- > The visibility achieved through the size and relevance of the partnership may lead to an ad-hoc 'industrial network of excellence'.
- The creation of a critical mass can lead to the support for pushing new standards or evolving existing ones.
- For universities, the access to a wider scope of real-life industrial applications.
- For application developers, the exchange of ideas far beyond their own corporations that in turn lead to more advanced functionalities.

PROJECT partners





































































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DURATION 27 months

TOTAL INVESTMENT €36 M

PARTICIPATING ORGANISATIONS

NUMBER OF COUNTRIES 11



