



# RECOMP

*Reduced Certification Costs Using Trusted Multi-core Platforms*

## EXECUTIVE summary

RECOMP will reduce the cost of certifying or re-certifying embedded systems across many safety-critical and mixed-criticality applications. It will achieve this by providing platform architectures and components, especially for advanced multi-core systems, together with the required design methods, tools and guidelines to ensure certifiability.

## RELEVANCE CALL 2009 objectives

RECOMP aims to accelerate time-to-market and reduce lower total system cost, certification and re-certification efforts as well as the supplier-based development process by developing a common multi-domain architecture, APIs, design tools and associated runtime support for multi-core HW/SW platforms under safety requirements. In this way RECOMP contributes to ASP1 and ASP5.

## MARKET innovation

- > To enable broad usage of multi-core technologies for safety-critical systems.
- > To enable faster time-to-market in competitive product areas with large European economic interests (transport and industrial control, etc.) due to faster, cheaper and more highly transparent and reliable certification.
- > To enable optimum competitive positioning of chip and tool vendors in a global system design market.
- > To help maintain a sustainable position for European certification service providers with an international world leadership reputation.
- > To allow SMEs to access safety-critical markets without having the obstacle of extremely high certification costs.

## TECHNICAL innovation

The RECOMP approach will provide the necessary design methods, tools, practices and processes to support the modular certification and pre-certification of multi-core components. RECOMP will also provide Hardware and Software platforms based on application independent HW/SW mechanisms that enable safe multi-core virtualisation and core-to-core communication. RECOMP will enable a transition from sectoral, vertically structured markets to a horizontally structured market by providing common methods, tools and reference platforms for mixed-criticality multi-core embedded applications. RECOMP will have an impact on standardisation through liaison with relevant standardisation activities in the following areas: Functional Safety EC/EN/DIN 61508, SW standards (e.g. ISO/IEC 15504 SPICE and CMMI + SAFE extension) and middleware with AUTOSAR. RECOMP will contribute to the creation of an industrial ecosystem for highly efficient design and certification of mixed safety critical multi-core based systems.



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| <b>PROJECT COORDINATOR</b><br>Jarkko Mäkitalo                                       | <b>START</b><br>April 2010               |
| <b>INSTITUTION</b><br>Kone Oyj (FI)   | <b>DURATION</b><br>36 months             |
| <b>EMAIL</b><br>Jarkko.Makitalo@kone.com  | <b>TOTAL INVESTMENT</b><br>€25.7 M       |
| <b>WEBSITE</b><br><a href="http://atc.ugr.es/recomp/">http://atc.ugr.es/recomp/</a> | <b>PARTICIPATING ORGANISATIONS</b><br>41 |
|   | <b>NUMBER OF COUNTRIES</b><br>9          |

