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.

**PARTICIPATING ORGANISATIONS**
- Advanced Research & Technology for EMbedded Intelligence and Systems
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- Fraunhofer Aachen University
- Honeywell
- Intel
- Kone Oyj (FI)
- Neuendorf
- NXP
- Oracle
- PMI
- Siemens
- Spain National Aerospace Institute
- STMicroelectronics
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- Thales
- TDK
- UGR
- United Kingdom
- Visteon
- Volveas
- ZF

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**WEBSITE**
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**START**
April 2010
**DURATION**
36 months
**TOTAL INVESTMENT**
€25.7 M
**PARTICIPATING ORGANISATIONS**
41
**NUMBER OF COUNTRIES**
9

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