



CHESS

Composition with Guarantees for High-integrity Embedded Software Components Assembly

EXECUTIVE summary

To improve Model Driven Engineering practices and technologies to better address safety, reliability, performance, robustness and other extra-functional concerns while guaranteeing component correctness.

RELEVANCE CALL 2008 objectives

Reduce fatalities and injuries by building cost-efficient processes and methods supporting the development and operation of safety enabling embedded systems based on model-driven processes for the compositional development of safety and security critical systems.

MARKET innovation

CHESS technologies will reduce the system development costs of high-integrity embedded systems for Railways, Space and Telecommunications and enable more complex systems to be developed that are safe and reliable yet cheaper to evolve in order to address changing needs of citizens and industry.

European leadership in high-integrity systems

CHESS will create an opportunity for European industry to lead the emerging market for flexible but high integrity software components, and to acquire new world class skills in the handling of extra-functional properties such as safety, security and dependability for critical real-time software systems.

TECHNICAL innovation

- > New modelling languages capable of handling extra-functional properties for real-time embedded systems
- > Development tools providing more efficient evaluation of extra-functional properties of embedded systems components
- > Support for the verification of extra-functional properties of components at the abstract model level and at run time
- > Extra-functional requirements mapped onto the architectural model, attached to components, and preserved run time
- > Multi-domain development technologies verified and validated through industrial use cases in Railways, Aerospace and Telecommunications
- > Fundamental improvement in the software quality of EU high-integrity real-time embedded systems



PROJECT COORDINATOR Silvia Mazzini	START February 2009
INSTITUTION Intecs	DURATION 36 months
EMAIL silvia.mazzini@Intecs.it	TOTAL INVESTMENT €16.1 M
WEBSITE www.chess-project.org	PARTICIPATING ORGANISATIONS 18
	NUMBER OF COUNTRIES 6

