

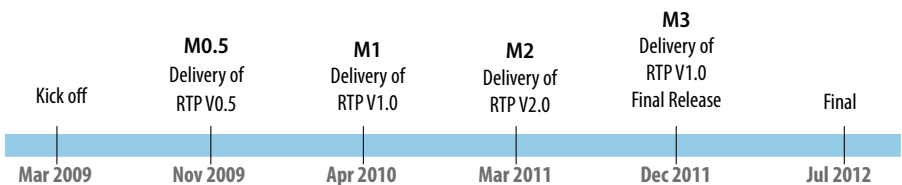
■ Motivation and Objectives

One of the major CESAR objectives is to reduce costs for the development of safety critical systems while ensuring the quality and safety properties. CESAR aims to achieve this cost reduction in the System Engineering by improvement of their disciplines and by establishing fundamentals for tool interoperability including the Reference Technology Platform (RTP), a seamless tool chain. Therefore CESAR follows the following approach:

- Bringing innovations in tools and methods of the Requirements Engineering (RE) discipline
- Bringing innovations in tools and methods of the Component Based Development (CBD) and extend CBD with multi views and multi criteria,
- Combine Requirements Engineering and Design System Engineering because a close collaboration between RE and CBD is necessary to achieve the ambitious CESAR goals,
- The Integration of these disciplines accompanied with an adequate tool support into a seamless tool chain, CESAR Reference Technology Platform (RTP) will lead to the full potential of the CESAR approach.

■ Project Plan, Milestones and Deliverables

CESAR follows a development process with two innovation cycles. The Reference Technology Platform will be enhanced and extended in each innovation cycle with new capabilities requested and evaluated by the Domain Subprojects, leading to a new version of the Reference Technology Platform. The CESAR project has been extended from 36 months to 40 months with a corresponding postponing of M2 and M3 by each 2 months.



■ Technical Approach

CESAR is following a multi-domain approach which is mainly industrial driven:

- Identification and formulation of industrial needs (requirements) by Domain-Sub Projects (Aerospace, Automotive, Automation and Rail),
- Solutions (don't re-invent the wheel) provided by Technical Subprojects in a convergent bottom-up and top-down approach,
- Results (Technical Items) are delivered to Domain Subprojects (integrated or not integrated in RTP),
- Evaluation and feedback through the end user Pilot Applications.

■ Achievements up to M2 (extract)

- First internal draft of interoperability specification as a vision of a future standard.
- CESAR RTP V2.0, regrouping assets ranging from stand alone tools implementing CESAR methods to dedicated, integrated tool chains. Each domain developed representative prototype demonstrators to illustrate the industrial applicability of the Interoperability and RTP concept. These demonstrators provide the direct answer to the Domain's Pilot Application, showing a concrete gap or need in the development processes of the corresponding industry.
- Systematic description of methods for requirement elicitation, definition, and analysis as well as for requirement management.
- CESAR Practice Library (CPL) representing an organized and easily accessible collection of practices and processes that are being collected in the project. The CPL is domain independent. It collects information about methodology, guidelines, views usage, reference processes and tools. It mentors and focuses on requirement engineering, component-based design and safety.
- Breakthroughs in Component Based Development on the concept of connectors and connection patterns (component composition).

Budget	58.5 M€	Funding	28.3 M€
Duration	40 Months	Start	March 2009
DG	INFSO / ARTEMIS JU - Embedded Systems	Contract n°	100016
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Partners	54 partners from 10 countries, among them CRF, Volvo		
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