



# CRYSTAL

*CRITICAL sYSTEM engineering AccELeration*

## BACKGROUND

The process of developing, deploying, governing, operating and maintaining modern safety-critical embedded systems is highly complex and requires specialized tools supporting different activities throughout the product life cycle. The overall process can be effective and efficient only, if it supports collaboration among all involved stakeholders and consequently interoperability between the tools they are using. The main technical challenge in addressing this problem is the provision of open and common interoperability technologies supported by the different tools that generate and provide access to data covering the entire product lifecycle.

## PROJECT

The project CRYSTAL (CRITICAL sYSTEM engineering AccELeration) takes up the challenge to establish and push forward an Interoperability Specification (IOS) as an open European standard for the development of safety-critical embedded systems in the automotive, aerospace, rail and health care domain. This standard will allow loosely coupled tools to share and interlink their data based on standardized and open technologies that enable common interoperability among various life cycle domains. To ensure readiness for industrial uptake, CRYSTAL is driven by real-world industrial use cases and builds on the results of successful predecessor projects like CESAR, iFEST, MBAT, p/nSAFECER, SAFE, TIMMO-2-USE, OPENCOSS and EMC2 on European and national level.

## IMPACT & MARKET INNOVATION

Creating and establishing a new standard on a large scale in an already consolidated market cannot be achieved by small individual organizations. With a budget of more than 82 million Euro and 68 partners from 10 different European countries, CRYSTAL has the critical mass to accomplish this endeavor. The project consortium is made up of participants from all relevant stakeholders, including OEMs, suppliers, tool vendors and academia.

The technologies provided in CRYSTAL will lead to faster development cycles including early validation of design concepts. The CRYSTAL IOS will increase the flexibility for all stakeholders and has the potential to deeply impact the market on a global level. OEMs can easily combine tools from different vendors, and tool vendors will be able to find new market opportunities in an open and extensible environment.



<b>PROJECT COORDINATOR</b> Dr. Christian El Salloum	<b>START</b> 01.05.2013
<b>INSTITUTION</b> AVL List GmbH	<b>DURATION</b> 36 months
<b>EMAIL</b> Christian.ElSalloum@avl.com	<b>TOTAL INVESTMENT</b> €82 M
<b>WEBSITE</b> www.crystal-artemis.eu	<b>PARTICIPATING ORGANISATIONS</b> 68
	<b>NUMBER OF COUNTRIES</b> 10

