ADDRESSING THE CHALLENGE
The complexity of automotive software projects requires dedicated tool chains that combine best-in-class tools either commercially available or company owned as well as open source tools. AMALTHEA4public is providing the basic infrastructure and the means to set up these complex tool chains and design flows, enabling automotive suppliers and OEMs to develop complex products more efficiently and helping tool vendors and engineering companies to integrate their products and know-how into projects as well as supporting the reuse and sharing of development artefacts.

PROPOSED SOLUTIONS
AMALTHEA4public is moving its predecessor’s Eclipse-based open source tool chain infrastructure forward by adding unique selling points, showing success stories and integrating recent and new research results. The new project intends to add features like testing, verification and validation, safety, systems engineering, product-line engineering and many-core support, also addressing additional domains like ICT and automation. For the integrative tool chain, interfaces, models and DSLs have to be designed and developed or investigated and adopted from other public funded projects. The complexity of automotive software systems makes product-line support via all stages an essential innovative feature. AMALTHEA4public will integrate innovative concepts for the early design phase to allow front load design and cross-domain systems engineering. Further innovations will be verification and test support through all stages. AMALTHEA4public will also address safety-compliant design according to ISO-26262 and ISO-61508.

PROJECTED RESULTS AND IMPACT
The major expected outcomes are an Eclipse-based tool chain environment, the integration of tools for all major design steps, and the demonstration of the capabilities with a real-world case showing the extended AMALTHEA design flow and methodology. Furthermore, a community built around the open source tools will disseminate the results and ensure continuous development of the tool chain platform. Companies and R&D partners will enjoy the benefits of a de-facto standard for tool chains and the support given by the innovative features of the extended AMALTHEA tool chain platform. AMALTHEA4public will generate a competitive advantage for automotive OEMs, automotive system suppliers, software development tool suppliers and consulting as well as engineering service companies and other domains like ICT.
AMALTHEA4Public

ITEA is the EUREKA Cluster programme supporting innovative, industry-driven, pre-competitive R&D projects in the area of Software-intensive Systems & Services (SiSS). ITEA stimulates projects in an open community of large industry, SMEs, universities, research institutes and user organisations. As ITEA is a EUREKA Cluster, the community is founded in Europe based on the EUREKA principles and is open to participants worldwide.

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Project leader
Jörg Teßmer, Robert Bosch GmbH

Project email
joerg.tessmer@de.bosch.com

Project website
www.amalthea-project.org

https://itea3.org