

The logo for ATESST, featuring the word "ATESST" in a bold, red, sans-serif font. The letter "A" is stylized with a vertical dashed line through its center.

## ATESST

*Advancing Traffic Efficiency and Safety through Software Technology*

Improved safety, efficiency as well as environmental-friendliness require appropriate software-based systems. To cope with complexity, avoid errors and optimize the product to different objectives, rigorous system specification and development is necessary.

**ATESST** addresses system modeling techniques and will deliver an automotive architecture description language, ADL. Focus is on achieving an adequate information structure for all engineering information involved in automotive software development.

The ADL will be based on the EAST ADL from the ITEA project EAST-EEA and aligned with the AUTOSAR initiative and the OMG (UML2 profiles and SysML). Moreover, the result will be delivered as an UML2 profile, thus enabling open usage and standardization of the results.

### **More Information:**

[www.atesst.org](http://www.atesst.org)

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## Description of work

Improvement of automotive safety, efficiency and environmental-friendliness relies heavily on the usage of electronics and software.

Recent systems provide optimization and coordination of functions within the vehicle but also externally between vehicles and road infrastructure (environment). The complexity induced by the electronic architecture and increasingly by the applications, needs to be managed adequately.

The goal of **ATESST** is to deliver an Architecture Description Language suitable for these systems. This provides a means to handle the complexity and improve safety, reliability, and cost and development efficiency of automotive electronic systems.

The **ATESST** results will be based on the EAST-ADL (Architecture description language developed in the ITEA EAST-EEA project). A revised version of EAST ADL will be delivered, EAST-ADL 2.0, where existing constructs are validated and adjusted, and additions are made where needed. In particular, environment modelling and behaviour specification will be refined.

These areas are both important aspects of handling application complexity. Also, the support for variability, re-use, and requirements specification will be amended. Variability of automotive system increases the complexity that engineers are facing and is a major threat to safety and reliability.

EAST-ADL 2.0 will be formalized through the definition of a UML2 (Unified Modelling Language) profile. The **ATESST** results will be validated through the implementation of a prototype tool based on the Eclipse framework and an automotive demonstrator. The demonstrator will contain safety related functions of different character.

### ATESST develops

- Automotive Architecture Description Language
- UML2 Profile
- Prototype Modelling Tool
- Demonstrator Application

Project Acronym: **ATESST**  
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### Participants:

Volvo Technology Corp., DaimlerChrysler, SiemensVDO Automotive, ETAS, Mentor Graphics, CEA, Kungliga Tekniska Högskolan, TU Berlin.