

ATESST



[Click here to download the UML Modeling tool Papyrus and the EAST-ADL2 profile](#)

Dear Colleague,

welcome to the first issue of our ATESSST2 newsletter in which we would like to point to selected project results in a series of newsletters from now and over the next 6 months. Further information on the ATESSST2 project and the EAST-ADL2 language can be found at <http://www.atesst.org/>.

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General Information



ATESST2 is an FP7 project under DG ICT, General Directorate, Information and Communication Technologies. We are working in a consortium of ten partners to provide enabling technology to automotive embedded systems developers.

We advocate model-based development and suggest an approach based on the EAST-ADL2. The EAST-ADL2 is a meta-model or template for the engineering information related to automotive embedded systems.

EAST-ADL2 concepts have been adopted in other projects, including TIMMO (<http://www.timmo.org/>) and EDONA (<http://www.edona.fr>), and it is being considered for adoption in CESAR (<http://www.cesarproject.eu/>).

Webinar: EAST-ADL2 Concept Presentation on 26 January 2010, 13.00 o'clock

You are invited to take part in a web-based overview presentation of EAST-ADL2 on Tuesday, 26 January 2010, 13.00 o'clock. If you are interested, please send a mail to owner-sig-adl@vtec.volvo.se. You will then receive further information about how to participate in the webinar.

EAST-ADL2 Spotlight

ATESST2 defines EAST-ADL2 as a domain-specific language using meta-modeling constructs such as classes, attributes, and relationships.

The project also implements a UML2 profile which is used in UML2 tools for user modeling.

The EAST-ADL2 definition also serves as the specification for implementation in domain-specific tools.

EAST-ADL2

EAST-ADL2: An Overview

The architecture description language EAST-ADL2 provides a basis for documenting and managing the various artifacts of an advanced embedded system (requirements, features, desired behaviors, software, and hardware components), and their dependencies (refinement, allocation, composition, communication, etc.). Any modeling language is directed by the product aspects and process stages it intends to support. EAST-ADL2 is defined with the development of safety-related embedded control systems as a benchmark. EAST-ADL2 bridges the gap from early analysis via functional design to the implementation perspective and back to integration and acceptance testing up to Vehicle level (see the [EAST-ADL2 System Model Overview](#)).

The main role of EAST-ADL2 is that of providing an integrated system model. On this basis, several concerns are addressed:

- Documentation, in terms of an integrated system model.
- Communication, by providing predefined views as well as the information sufficient for generating a number of other views.
- Analysis of a complete embedded system through the description of system structure and properties. Special emphasis has been placed on modeling support for analysis of component interfaces, timing correctness, and safety analysis.

AUTOSAR Spotlight

AUTOSAR defines a software architecture platform by standardization of its infrastructure and a communication layer suitable for distributed systems.

The standard also defines description means for the execution platform including control units, network topology, I/O, and middleware and application software components.

The platform and the description means make it possible to integrate software from different suppliers on the same hardware. Reuse is favored and dependencies between application software and hardware are avoided.

AUTOSAR

Connection between EAST-ADL2 and AUTOSAR

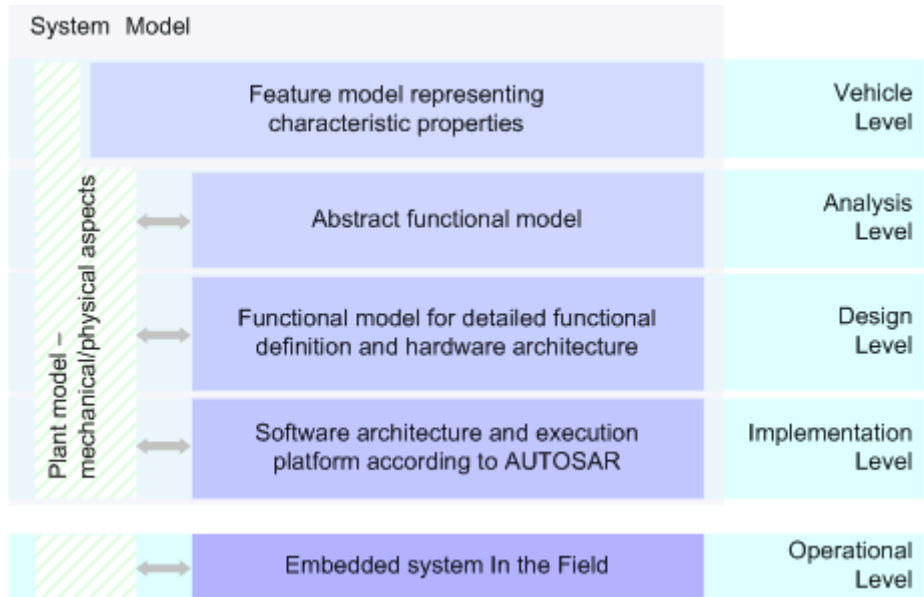
EAST-ADL2 and AUTOSAR in concert provide means for efficient development and management of the complexity of automotive embedded systems from early analysis right down to implementation. Concepts from model-based development and component-based development reinforce one another.

An early, high-level representation of the system can evolve seamlessly into the detailed specifications of the AUTOSAR language. In addition, the EAST-ADL2 incorporates the following system development concerns:

- Modeling of requirements and verification/validation information,
- Feature modeling and support for software system product lines,
- Modeling of variability of the system design,
- Structural and behavioral modeling of functions and hardware entities in the context of distributed systems,
- Environment, i.e., plant model and adjacent systems, and
- Non-functional operational properties such as a definition of function timing and failure modes, supporting system level analysis.

EAST-ADL2 System Model Overview

[Click here to download a presentation with an overview of EAST-ADL2](#)



If you choose to receive/not to receive future ATESS2 newsletters, please inform owner-sig-adl@vtec.volvo.se.

The ATESS2 consortium

