

Media Release

January 14, 2010

AUTOSAR published its new Release 4.0

The development partnership AUTOSAR (AUTomotive Open System ARchitecture) has published a new release of its specifications on December 18, 2009. With Release 4.0 the AUTOSAR Partnership has ended successfully its Phase II. The basic architecture of Release 4.0 is a logical development of the well established architecture of Release 3.0. The new release contains a large number of new features that were demanded by the different applications of domains the AUTOSAR standard is covering. New concepts introduced in Release 4.0 add technical and functional improvements and extensions to the main areas including functional safety, architecture, communication stack, methodology & templates and application interfaces. The specifications of Release 4.0 are accessible on the internet at www.autosar.org for information only. All partners and members of AUTOSAR have full, royalty free exploitation rights of the standard.

“One of the main goals for Phase II was to broaden massively the support for new hardware technologies such as multicore processors,” AUTOSAR Spokesperson Simon Fürst says. “Release 4.0 provides all features ECUs of the next generation of cars will need. Among many others this includes support for functional safety, multi core microcontrollers, LIN 2.1 and FlexRay 3.0 support and a timing model.” In addition, the number of Application Interfaces is increasing by approx. 320 to a total number of 540 Application Interfaces.

Methodology and Templates

A major focus of the development partnership was on maturing methodology and templates. Regarding the improvements particularly the harmonisation of ECU configuration parameters, the enhancements on measurements and calibration, the rework of the ECU Resource Template as well as the further alignment with the Field Bus Exchange Format (FIBEX) standard play a key role. “The FIBEX standard has been harmonized with AUTOSAR and now former gaps between both standards have been bridged successfully,” says Simon Fürst.

Furthermore Release 4.0 also implements the support of large data types and dynamic length signals, while the previous Release 3.0 has restricted signals to 8 bytes due to the CAN and LIN frames format. In addition the methodology and templates are able to describe timing requirements.

Application Interfaces

Release 4.0 contains a large set of application interfaces, which are standardised by AUTOSAR for the following five vehicle domains: Body and Comfort, Powertrain, Chassis, Occupant and Pedestrian Safety as well as Human Machine Interface (HMI). A major focus in this respect was on interface specification of well established applications in order to emphasize software reuse and exchange. The deployment of AUTOSAR Standardized Application Interfaces is a key factor for the reuse of applications. Therefore the application interfaces description contains a large amount of data standardised by experts of all partners and members.

Validation Process

As the high quality of Release 4.0 should be guaranteed from the very beginning, AUTOSAR conducted an intense validation process. While in previous releases the specifications out of one development were validated on hardware platforms the results of the validation of Release 4.0 has been mainly incorporated into the standard before its release. This was possible, because the new and extended specifications are a partial extension of the existing architecture which is very stable. Implementations of Release 3.0 have already been available on the market for a long time.

For the first time the development partnership has also realised the validation of methodology and templates, ensuring a high quality. The validation of methodology is based on the new release, whereas the validation of templates is partly based on Release 3.0 due to tool availability.

“While the existing releases will be maintained during AUTOSAR Phase III, development will continue,” AUTOSAR Spokesperson Simon Fürst explains. “New or extended features will be introduced selectively during the next years and will always have to follow the rules of backwards compatibility.”

AUTOSAR (AUTomotive Open System ARchitecture) is a worldwide development partnership of car manufacturers, suppliers and other companies from the electronics, semiconductor and software industry. Since 2003 they have been working on the development and introduction of an

open, standardized software architecture for the automotive industry. By simplifying the exchange and update options for software and hardware with the AUTOSAR approach, it forms the basis for reliably controlling the growing complexity of the electrical and electronic systems in motor vehicles. AUTOSAR also improves cost efficiency without compromising quality. The "core partners" of AUTOSAR are the BMW Group, Bosch, Continental, Daimler, Ford, PSA Peugeot Citroën, Toyota and Volkswagen. In addition to these companies, more than 65 "premium" and "development members" as well as over 85 "associate members" play an important role in the success of the partnership. Companies which join the AUTOSAR development partnership can use the specifications free of charge.

Additional information is available at:

www.autosar.org

media@autosar.org