# AUTOSAR and ASAM – Current Activities

- Inside view of standardization bodies
- AUTOSAR and ASAM
- dSPACE's commitment

Generally accepted standards are indispensable in industry. Developing and introducing them is a complex process, however – as is integrating them into existing products. We spoke to dSPACE staff members Joachim Stroop, Spokesman for the AUTOSAR Template Team, and Dr. Jobst Richert, ASAM Board member, about the importance of standards and their effect on dSPACE products.

***A lot of coordination and development work is involved in introducing and establishing standards. Why does dSPACE support standardization efforts?***

*Stroop:* From the point of view of the users, standards provide excellent investment protection. Products that completely support a standard are interoperable with complementary tools on the market. Moreover, standardization efforts frequently reflect technological advances. For example, AUTOSAR aims to establish a domain-specific component architecture for vehicle electronics. We are cooperating on developing new technologies and giving innovations early support.

*Richert:* dSPACE's position is that if file formats or APIs give tool suppliers no competitive advantage, a standardized solution must be found and supported. However, the standards must be completely viable in practice, to prevent proprietary solutions becoming established in parallel. This requires technical expertise, which dSPACE can contribute by involving its specialist engineers in many technical work groups and at management level.

▲ *Joachim Stroop, Spokesman for the AUTOSAR Template Team and Product Manager for System and Function Design Tools at dSPACE.*

***What standardization activities do you currently regard as the most important, and what areas is dSPACE involved in?***

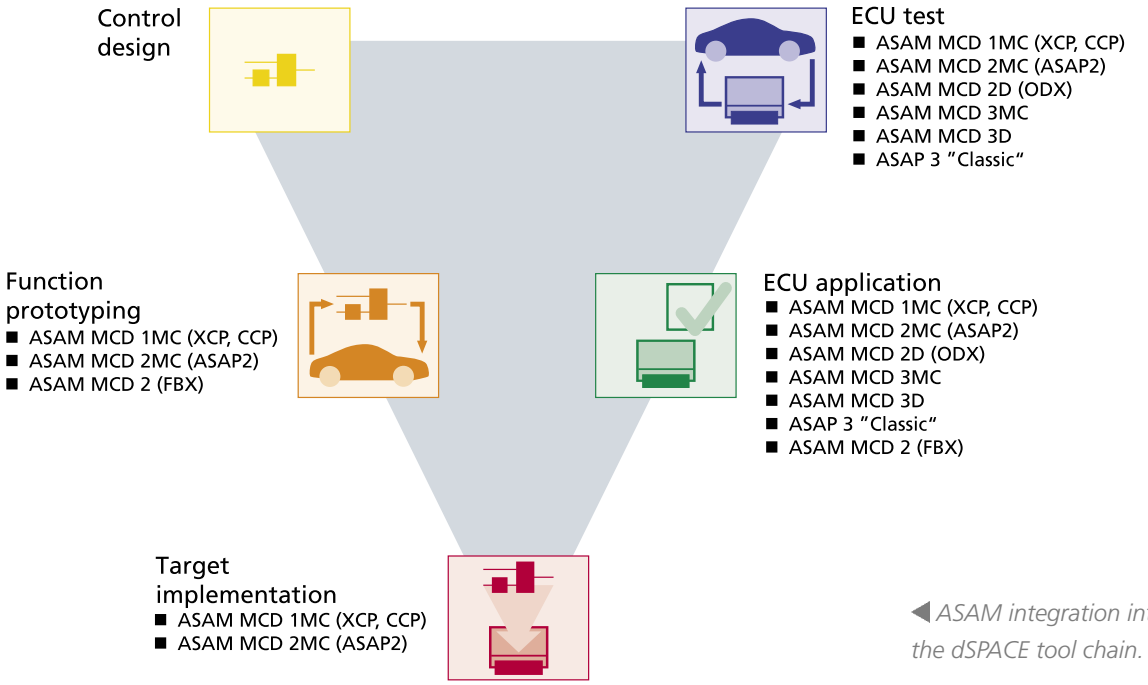
*Richert:* dSPACE's longest association with standardization activities is with ASAM and its predecessor, ASAP. When ASAM was founded in December 1998, dSPACE was one of the founder members. The fields covered by the standardization of automation and measurement systems are relevant to virtually all dSPACE products.

*Stroop:* AUTOSAR is a development partnership that aims to develop a standardized concept of electrics/electronics architecture and use it commercially. AUTOSAR's approach is so wide in scope that a large number of further standards have been involved, for example, the FlexRay communication protocol. We have been Premium Members in the AUTOSAR partnership since 2004 and are actively involved in the central work groups drawing up the specifications. With our years of experience as tool manufacturers, we are contributing to ensuring the infrastructure and to introducing an AUTOSAR development process.

***Since ASAM was founded in 1998, and AUTOSAR in 2003, there have been considerable developments in both bodies. What are the current concerns?***

*Stroop:* The first AUTOSAR standards came out in May 2006, so AUTOSAR has now reached the result publication phase. The objective up to completion of AUTOSAR's current phase will be to finalize the specification and ensure a consensus for it. Everyone involved has invested an enormous amount of work to achieve these results. The current status is being deployed in initial field trials and is also the basis for various tool developments.

*Richert:* ASAM has a longer history, so the situation is different. The standards published in the Automotive Electronics field (ASAM AE) play a particularly important role in virtually all phases of the ECU development process. This is obviously reflected in the dSPACE tool chain.




◀ *ASAM integration into the dSPACE tool chain.*

The ASAM AE standards used to be mainly isolated interface and format standards, but they are now going in the direction of process support according to the V-cycle. Integrating the working results from the MSR consortium into ASAM has also had a particular impact.

In the past, ASAM's other fields of activity, such as ASAM GDI and ASAM ODS, were only important to individual projects at dSPACE. The aim in the medium term is for dSPACE products to support these standards, for example, ODS-based storage of hardware-in-the-loop data. At the moment there is not enough demand for such solutions.

***Membership of several bodies takes a lot of time and human resources. What advantages are there in active participation, particularly in the ASAM and AUTOSAR organizations?***

*Stroop:* When a company is represented on both bodies, there are obviously synergies that can be harnessed. dSPACE is in the fortunate position of having an inside view of both bodies and being able to influence them both. We are ideally situated to spot cross-relations such as overlaps in content or potential synergies, so we can plan product developments accordingly.

***How does the widespread use of ASAM affect dSPACE products?***

*Richert:* We place great importance on ASAM and have integrated the interface specifications into various parts of our tool chain. The standard is a fixed part of the process for implementating, testing, and calibrating ECUs. New ASAM standards are being added every year. The last one was ODX support in CalDesk, for example. Future ones will include the new exchange format for calibration data, CDF 2.0, and further XCP transport layers.

▲ *Dr. Jobst Richert, member of the ASAM Board and Section Manager for SW Development at dSPACE.*

***Does AUTOSAR influence dSPACE products to the same extent as ASAM?***

*Stroop:* We're just beginning to integrate AUTOSAR into dSPACE products. One example is currently the integrated AUTOSAR connection in TargetLink 2.2. Obviously, we won't stop at just one product. You can look forward to further developments in the future.

**Thank you for talking to us.**

For a detailed report on TargetLink 2.2, see page 20.