

Taking AUTOSAR's organization to the next level

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As domain-agnostic software-engineering experts, DevelopGroup's journey with AUTOSAR started in 2019. We were awarded as a contractor for the analysis of the architecture of AUTOSAR's Adaptive Platform and the methodology for creating this architecture. While we already had experience with systems engineering, software engineering, and process consulting in the automotive domain, we were new to AUTOSAR. This view from outside helped us finding issues that an insider may have overlooked.

In combination with our extensive experience in software-architecture and process consulting, we identified several possibilities for improvement.

After the initial analysis, we worked together with Working Group *Architecture* to realize these improvements. The deep and sometimes tough technical discussions with the highly skilled members of the working groups were always inspiring and led to several changes and additions to the standard: Among other improvements, we introduced explanatory documents that describe the software architecture of the Adaptive Platform, document the architectural decisions, and record the basic quality requirements as a foundation of the Adaptive Platform.

We established informal subgroups for specific topics with dedicated experts in order to decrease the workload in the calls and meetings of the complete Working Group Architecture.

The collaboration has since broadened and deepened. We still provide improvements on the methodology and the architecture of the Adaptive Platform standard while picking up the specifics and intricate details of the automotive software ecosystems. The implementation of spikes is often helpful for making sound architectural decisions. Thus, it was quite natural for us to step up and contribute to the Adaptive Platform Demonstrator (APD) development when AUTOSAR was looking for additional software development support.

Since 2022, we took over a large part of the *AUTOSAR Technical Support Functions*, including technical, quality, change, and release management, quality assurance, and the technical office. We are glad to maintain and improve these organizational and technical fundamentals for the standardization work.

We use our experience in these topics from numerous projects for the benefit of AUTOSAR while we have the chance to learn a lot about the specifics of such a large and international standardization effort.

Our partnership with AUTOSAR and the great collaboration has allowed us to broaden our business in the automotive domain. Amongst others, we participate in the implementation of a commercial AUTOSAR Adaptive Platform stack for one of our customers. This enables us to feed back even more detailed improvements to AUTOSAR. We appreciate the engagement of AUTOSAR in the important topic of the *Software Defined Vehicle (SDV)*. The increasing connectivity of vehicles and interaction with backend systems, the transformation and acceleration of the software engineering processes in the automotive domain and the adoption of methodology from software engineering in other domains are a perfect match with our business model of providing software engineering excellence across domains.

We are happy to exploit our expertise for the future development of AUTOSAR, in particular also with our contribution to Working Group *Cloud*.