

Member Profile: BMW Group



BMW GROUP

With Graham Smethurst, Research Lead at BMW Group

Why did BMW adopt open-source development practices?

In October 2008, after successfully delivering another proprietary head unit via a task force, I sat with my senior manager to discuss lessons learned. We concluded that there had to be another way to develop in-vehicle infotainment (IVI) solutions. Why did we repeatedly develop the foundation software with different Tier 1s? Why wasn't it possible to re-use the non-differentiating, customer-irrelevant portion of an IVI solution across Tier 1s and vehicle generations? Why did we always start from scratch? We agreed on an experiment, and in 2009, the experiment became the GENIVI Alliance.

BMW's motivation behind GENIVI was the establishment of an open-source development approach for automotive IVI. The goal was to establish an automotive community that would collaborate and contribute towards enabling software reuse not only at BMW but across the industry sector. For BMW, the experiment worked. The delivery of BMW's first open-source head unit in 2013 was painful, but the experience had a far-reaching, long-term strategic impact that strongly influenced the current BMW software organization and processes.

GENIVI facilitated an industry mindset shift in IVI development and established open source as the de facto approach. Building on this success, it's logical that in 2021, the GENIVI membership decided there was a new challenge to be addressed data and the connected vehicle. COVESA was born. Many of the GENIVI members transitioned into COVESA, bringing with them the open-source knowledge accumulated over 12 years, ensuring that COVESA remains the go-to alliance for open-source best practices in automotive.

What would BMW like to achieve within COVESA?

Mobile phones and their associated ecosystems have set the benchmark for updating and refreshing digital functionality and experiences. The automotive industry is measured against this benchmark. All vehicle users, from the first to the last, will expect the latest personal digital experience in and around their vehicles. This is a challenge facing many OEMs and, therefore, is a problem best solved together. BMW intends to address this challenge collaboratively within the COVESA open-source community.

BMW has three primary targets within COVESA:

1. To enable improved development efficiency and speed of delivery by decoupling digital experience development and deployment from specific OEM foundation implementations. To achieve this, relevant vehicle network signals must be described in a standard and governed data format that is applied by all OEMs. A combination of the COVESA Vehicle Signal Specification (VSS) with defined access methods and interfaces can enable consistent, secure, and privacy-compliant data access at relevant vehicle touchpoints.
2. To ease the integration of consumer ecosystems, apps, and services into the vehicle digital experience by avoiding fragmentation when implementing extensions or functional enhancements to solutions such as AOSP with the aim being to ensure consistency across OEMs.
3. To inspire. A car is an element within mobility solutions, but data from vehicles alone is insufficient to deliver a compelling multimodal mobility experience to the user. Ideally, the example set by the COVESA community will inspire other sectors of the mobility ecosystem (e.g., charging) to collaborate in data format and access standardization activities.