

GENIVI adopts full open sourcing strategy

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At the *Automotive Linux Summit* which opened today (19 September) at Gaydon in the UK, the GENIVI Alliance announced that it plans to make all of its proprietary code publicly available to the open source community.

Matt Jones, GENIVI's Vice President and technical lead for Next Generation Infotainment Systems at Jaguar Land Rover, made the announcement in his address at the event. "By moving our previously internal code development activities into the public open-source community model, GENIVI hopes to simplify contribution from its members and to engage individual contributors in the FOSS (Free and Open-Source Software) community who are not members. The benefit for open source developers is freely available access to advanced automotive software, an opportunity to directly contribute to its development, and a clear path for adoption of this technology by related industries."

As *Joel Hoffmann, GENIVI Alliance Treasurer, recently explained to Automotive World's Automotive Megatrends magazine*, 80% of GENIVI's total effort comes directly from the open source community, with a further 15% representing open source code modified to accommodate automotive-specific requirements. It is the remaining code, which to date has been internally-developed, which GENIVI is opening up to the open source community.

"The 5% of the code that was only available to GENIVI will now be available to the entire open source community," said Hoffmann in a media briefing on 17 September.

Opening up to the open source community will not have any effect on GENIVI's compliance programme, assured Hoffmann, who is also an Industry Partner Strategist in Intel's Automotive Solutions Division. "The compliance programme is only available to GENIVI members. Non-members can take part in the code development that takes part on public project sites, but if they want to market a product as GENIVI-compliant, then they have to become a GENIVI member."

Hoffmann said that opening up the code to the open source community will bring diversity, improve the quality of the code, and accelerate the speed of software development. "Automotive is a popular and attractive place for developers to make a contribution. Up to now, some of those developers didn't have the resources to be a member of GENIVI. It should move the development much faster." This was echoed by Jones in his address: "The benefit for GENIVI is an increased level of interest and activity towards achieving the Alliance's goal of a common software infrastructure for IVI [In-Vehicle Infotainment]."

This move is primarily about contribution and adoption, said Graham Smethurst, GENIVI President, during this week's media briefing. Smethurst is also BMW Group's General Manager, Infotainment and Communication Systems. "Once we take the projects to open source, clearly they are available to anyone who chooses to use them." This will naturally include OEMs that are not currently GENIVI members. However, "the more people that use it, the more eyes that look at it, and the more reviewing it gets," the more the code quality should improve, said Smethurst.

GENIVI is expecting to see interest from outside traditional automotive circles. "We think the developers that will be attracted to this are not necessarily going to be automotive software developers," explained Hoffmann. "They are going to be from other industries. It is very possible that our code could end up in non-automotive applications, and that would really help to make the code even better. Those environments would never [normally] show up at a GENIVI conference or GENIVI expert group." However, the extent to which GENIVI code is relevant to other industries is not yet clear. "This was a long discussion before we decided to take this step," said Smethurst. GENIVI code is developed and optimised for heavily embedded automotive applications, rather than server or desktop applications, "but we would like to think this code does not just stay in automotive."

The automotive industry has traditionally been very reluctant to share information; however, the OEMs' attitude to open sourcing is slowly changing, particularly within the GENIVI Alliance. Hoffmann told Automotive World that "the acceptance of an open collaborative approach is notable in infotainment, at least the software element. Because the complexity of infotainment is so high, and the competition from smartphones combined with low end radios is strong, this trend should continue at the OEM level." He cites Toyota's recent statement of support for Linux as an example of the growing acceptance of open sourcing at an OEM level. "Both GENIVI and the Linux Foundation are promoting a fully public open source model, and the OEMs see this as a way to establish their own layer of software IP in addition to a public baseline. This concept has worked for enterprise Linux servers, and time will tell if cars will be similar."

Established in 2009, the GENIVI Alliance is a non-profit industry organisation which currently boasts over 165 members from a variety of industries including automotive OEMs and Tier One suppliers.

[Follow this link to read a full-length interview with Joel Hoffmann](#)