

AUTOSAR

## ***First Autosar basic software with ASIL-D***

**Exida has verified that the Autosar 4 basic software from Vector fulfills the requirements of ISO 26262 up to the ASIL-D level. In the assessment, the software components for the CAN communication were evaluated.**

The ASIL-D certificate for its Autosar software makes Vector the world's first company to offer software that has been certified by an independent assessment. This lets developers implement significantly higher performance ECUs for safety-related applications. Exida, a specialist for functional safety, issued the certificate on September 8, 2016.

To ensure that safety-related and non-safety-related software components do not interfere with one another, their data is usually stored in separate memory areas. With the basic software certified up to ASIL-D, they can now be executed in the same partition as the safety-related application software. This approach increases performance, because task switching, reprogramming of the Memory Protection Unit (MPU), and additional copying can be eliminated. In addition, safety requirements that were previously implemented on the application level can now be allocated to the basic software.



(Photo: Exida)

In the assessment, the operating system and the software components for CAN, LIN, and Flexray communication were evaluated, as were the components for system control and memory management. Vector applied the relevant methods of ISO 26262 for the development of its safe basic software. Particular focus was on the use of special verification methods to achieve full coverage for the specific user configuration despite the high configurability of the modules.

In the assessment, it was verified that all software modules were sufficiently free from interference. Extensive semi-formal design and traceability records were also created for the assessed components. The Autosar basic software that is certified to ASIL-D is distributed under the name Microsar Safe. It is available for many micro-controllers used in the automotive industry.

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