Axivion Bauhaus Suite manages product variants at HENSOLDT Sensors

With Axivion Bauhaus Suite, the growing number of software-based product variants used can be managed easily. At HENSOLDT Sensors (formerly Airbus DS Electronics and Border Security), the Axivion tool suite, with its automatic architecture and code analysis, supports successful variant management and the efficient further development of products with many variants.

Multitude of variants due to individual customer requirements

HENSOLDT Sensors is a leading global provider of premium electronics in the fields of defence, reconnaissance and surveillance as well as situation assessment.

The Software Engineering – Operational Support Systems (OSS) department is responsible for software development for mission planning and support systems for the weapon systems of all helicopter types. Since international customers have very individual requirements for these operational support systems, a product-line architecture, which can be managed and further developed efficiently, was introduced for the multitude of system variants. To ensure that the planned structures are also implemented systematically and uniformly and correctly by the software implementation, it is necessary to check compliance with the architecture – a task which involves considerable manual effort.

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Advantages over manual tests

In the meantime, manual checks are no longer capable of meeting the high requirements in a time and cost-efficient manner. Because of this, the company decided on the Axivion Bauhaus Suite. This not only enables a very efficient, but also a constantly complete review of the actual architecture. The continuous comparison of the product implementation in the source code with the specified product line architecture means that deviations are immediately visible to the architects and developers.

Daniel Zimmermann, Head of OSS Software, HENSOLDT Sensors GmbH pinpoints the advantages: "With the Axivion Bauhaus Suite, we have significantly reduced our integration efforts and the integration risk."

Metrics and code tests against software erosion

Beyond architecture analysis, the Axivion Bauhaus Suite is also used to test metrics.

In addition, programming guidelines are monitored with the Axivion Bauhaus suite, in order to ensure that the software can be maintained, in order to minimise the probability of errors and to protect the code against further causes of software erosion. The results of the metrics and code tests are also used as KPIs in reviews and reporting. The reviews are free of repetitive ballast – they therefore run significantly more efficiently and allow architects and developers to concentrate fully on the main, constructive aspects. Permanent analysis during development ensures that the architecture is implemented consistently as planned.

The ˝living˝ and always current architecture also increases flexibility in development and allows HENSOLDT Sensors to respond quickly to change requests from customers. This means that any deviations can be corrected much more cost-effectively and with less risk to the deadline.

About HENSOLDT

HENSOLDT is an independent and globally leading supplier of premium sensors for security and surveillance missions. The company is a global player in such areas as missile warning systems and submarine periscopes. Moreover, HENSOLDT is very active in the market for radar systems, optronics and electronic protection systems. The company comprises the security and defence electronics activities of the Airbus Group, which were spun off from the group in 2017 and have now entered the market as a new sensor house under the brand name of HENSOLDT. HENSOLDT employs approximately 4,000 employees, generating annual revenues of about € 1 billion.

For further information on HENSOLDT go to www.hensoldt.net

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About Axivion

Axivion, based in Stuttgart, Germany, is a provider for innovative software solutions for static code analysis and for protection from software erosion. The core product of Axivion is the Axivion Bauhaus Suite, a tool suite for the improvement of software quality and maintainability of software systems implemented in the programming languages Ada, C, C++, C#, and Java. In addition to static code analysis, the tool suite includes innovative software tools for architecture verification and clone management. Moreover, the tool suite detects software erosion factors such as cycles, dead code and violations of programming rules. Axivion's MISRA checker covers 100 % of all automatically testable MISRA rules for the standards MISRA C:2004, MISRA C:2012, and MISRA C++:2008. Furthermore, the CERT® programming rules for secure software development are supported.
The Professional Services Team of Axivion offers methods and training concepts as well as service and consulting to support customers to assure an effective and efficient rollout of the tools.
Axivion's customers are companies that develop innovative technical software across different industries, e. g. industrial automation, automotive, railway, electronics, information and telecommunication, avionics, medical, mechanical engineering, as well as measurement, control and regulation technology.

Since its foundation in 2006, Axivion maintains close research links to the University of Stuttgart, Germany, and to the University of Bremen, Germany to keep up with the newest trends in programming and code analysis research.

For more information on the Axivion Bauhaus Suite and the services provided by Axivion for quality assurance in software development, see www.axivion.com.

axivion
stopping software erosion