



CodeSonar Enables Merit Automotive to Deliver Quality Products and Meet Safety and Security Requirements



About Merit Automotive Electronics System

Merit Automotive Electronics Systems is a global supplier of complex mechatronics modules and switches for the automotive industry. Merit's customers include many of the world's leading passenger and commercial vehicle manufacturers. The company, which was first established in the 1940s, is committed to excellence and productivity deeply caring about customer satisfaction and the delivery of high quality products.

GrammarTech CodeSonar

CodeSonar – Seamlessly integrate static application security testing into the DevSecOps process to analyze source and binary code, address security and functional safety issues early, improve code quality throughout the software development life cycle and accelerate projects.

It is highly likely that many of us have driven a vehicle with products installed from Merit Automotive Electronics Systems. The company's switches and modules are designed to provide control steering column, seat, instrument panel, mirror and window functions. Merit also develops the software embedded in these devices that enables how they function, conduct diagnostics and communicate with the vehicle's subsystem and network.

For Merit, delivering quality products that meet safety and security requirements is both integral to its success and that of its customers as they manufacture vehicles their drivers depend upon. "The quality of our products starts with ensuring the quality of the software we develop. Good quality software is good for safety and security," stated Piotr Reczek, software team leader for Merit

Merit's software team is based in its research and development center in Krakow, Poland. This is where the team develops and integrates the software embedded in the switches and modules the company manufactures. To meet quality, safety and security requirements, the team follows guidelines and standards for developing code for automotive devices including Automotive SPICE (ASPICE), ISO 26262 and MISRA.

"To prove that we follow these standards, we need to run static analysis to generate a report for each project," said Reczek. "If non-conformity is identified, we then need to show justification that the issue was fixed"

"Following ASPICE guidance and proving it with CodeSonar helps us ensure we are developing quality software,"

*– Piotr Reczek, Software Team Leader at Merit
Automotive Electronics Systems*

CodeSonar Enables Merit Automotive to Deliver Quality Products and Meet Safety and Security Requirements



Merit chose CodeSonar from GrammaTech as its static analysis testing solution for its development team as they were no longer satisfied with the tool they had been using. When evaluating CodeSonar, the development team found it easy to use, better for managing multiple projects and provided the necessary integration capabilities to make the team more efficient.

With a development environment that includes Jenkins and GitHub, CodeSonar was able to seamlessly integrate into the developer workflow to automate static analysis testing. The development team now uses Jenkins to run static analysis testing with CodeSonar on every code commitment which is a more efficient process to generate testing results.

Having CodeSonar integrated into their development process enables its developers to analyze all of the software they are developing. This is especially important for Merit as static analysis testing is required by ASPICE, a standard for automotive software best practices.

With over 100,000 lines of software code per switch and module, automating static analysis testing on a total code base of millions of lines of code was a must to fulfill the ASPICE requirement. By testing regularly for the rules with CodeSonar, the development team can meet the rules requirement from the very beginning of a project.

“CodeSonar gives us the ability to test our software code to a scope of hundreds of rules and metrics to ensure we are following the ASPICE best practices. Following ASPICE guidance and proving it with CodeSonar helps us ensure we are developing quality software,” added Reczek.

Next steps for the development team will be to start using CodeSonar for functional safety and security testing of software code. Automating more of the static analysis testing will enable more efficiencies for the development team to accelerate projects and take on more. “Fulfilling quality, safety and security requirements of our products gives our customers confidence in using Merit products in their vehicles,” stated Reczek.

For more information or to request a CodeSonar demo, contact GrammaTech or visit [grammatech.com](https://www.grammatech.com)