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Case Study

Driving Innovation and Compliance:

How Stoneridge, Inc. Enhances Vehicle Safety with CodeSonar®

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MirrorEye[®]
BETTER SAFETY THROUGH BETTER VISION™

Stoneridge, Inc. is a global leader in highly engineered electrical and electronic components for the commercial vehicle, passenger car, and off-highway markets. Its global footprint encompasses 27 locations in 15 countries.

Stoneridge solutions power vehicle intelligence systems, provide dramatic increases in fuel efficiency, reduce emissions, and improve safety and security for everyone on the road. Their technology and partnership-oriented approach to product design and development enables them to meet the greatest market needs both today and tomorrow. Stoneridge provides intelligent systems that maximize fleet performance today while integrating our existing portfolio of connectivity, vision, and safety and driver information systems to bring the greatest value to their customers in the increasingly data-driven world of tomorrow.

They offer an unmatched track record of OEM-grade experience, a range of highly engineered and award-winning systems and solutions, and a proven innovation mindset backed by a real commitment to R&D.

Stoneridge exemplifies safety, efficiency and innovation with MirrorEye[®], the first camera monitor system (CMS) to receive a federal exemption from the Federal Motor Carrier Safety Administration (FMCSA). The exemption allows MirrorEye[®]-equipped trucks to operate on the road with an integrated system of cameras and digital displays as an alternative to conventional mirrors. MirrorEye[®] eliminates blind spots and

provides a greater field of view for drivers in any weather-related or operating condition, improving safety for everyone on the road.

When choosing a static analysis tool, Stoneridge's primary considerations were raising the software quality and security bar through improved awareness, finding a well-established and supported tool with C/C++ support, and strong support for MISRA, CERT-C/C++, and ISO 26262 compliance.

The CodeSonar logo is displayed in white text within a white rectangular box. The background of the box is a vibrant green with a subtle pattern of faint, overlapping code snippets in a lighter green color.

CodeSonar[®]

CodeSonar[®]'s thorough analysis capabilities support its delivery of safe and secure products in-team quality awareness. CodeSonar's ISO-26262 compliance not only meets the industry's requirements but supports Stoneridge with delivering technology that exceeds them.



The user interface of CodeSonar allows for a developer-friendly work environment when collaborating as a large team. Within Stoneridge's development process, tool findings are subject for review, and the built-in build tracking capabilities within CodeSonar allows for a clearer view of new warnings versus resolved warnings.

"CodeSonar® is packed with features... It easily integrates with our existing processes, meets our established quality standards and offers a thorough analysis of the entire software solution, not just each module as a separate entity."

Stoneridge has integrated CodeSonar into two core software development areas, MirrorEye® and instrument clusters. Multiple development teams utilize CodeSonar in their daily practices, interfacing with Jenkins C, Subversion and Git environments and workflows, where analysis jobs are executed. Most of the code analyzed is C-code, but with C++ on the rise throughout their development, CodeSonar is able to support both languages.

All said and done, CodeSonar helps Stoneridge to achieve the safety and security that they need, efficiently allowing engineers to spend more time developing new and innovative features for Stoneridge's customers.



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