CASE STUDY

GRAMMATECH

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 – 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 up by 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.

Stoneridge, Inc.

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 | MirrorEye®
BETTER SAFETY THROUGH BETTER VISION™

OTHER CUSTOMERS IN THE *TRANSPORTATION* INDUSTRY INCLUDE:

Alpine
BMW Group
Continental
Daimler
Denso
GR Transportation
Hyundai
Kawasaki
Korean Air
Panasonic
Volvo

Despite investment being poured into autonomous technology by the transportation industries, the number of commercial vehicle accidents on US roads continues to rise. According to the FMCSA, between 2009 and 2017, there was a 40% increase in fatal large truck crashes.

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.
Stoneridge teams are developing safety critical technology, like MirrorEye®, and it is equally important that their partners keep safety and security at the forefront. When choosing a static code 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.
CodeSonar®'s thorough analysis capabilities support their delivery of

> CodeSonar® is a modern SAST tool that integrates well into our development workflow. The tool allows our developers to work more efficiently, while raising the quality bar across standard software components our products depend on.

Per-Erik Andersson
Chief Engineer Software and System Verification

safe and secure products and raise 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.

"CodeSonar® is packed with features," says Per-Erik Andersson, Chief Engineer Software and System Verification. "It easily integrated with our existing processes, met our established quality standards and offers a thorough analysis of the entire software solution – not just each module as a separate entity."

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® allow for a clearer look into new warnings versus resolved warnings.

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 CI, 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.

GRAMMATECH

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