

Media Release

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MISRA consortium announce integration of AUTOSAR C++ coding guidelines into updated industry standard

Two world leading consortiums in coding guidelines, MISRA and AUTOSAR, have today announced that their industry standard for best practice in C++ will be integrated into one publication.

The goal is to provide a common set of rules, supporting software development in a number of innovative sectors.

In 2008 MISRA, a consortium of manufacturers, component suppliers and engineering consultancies, published MISRA C++, a language subset that outlined expert guidance for C++ programming. Based on this publication, AUTOSAR started to develop their own guidelines.

AUTOSAR has released their C++ guidelines as part of the Adaptive AUTOSAR platform twice a year since March 2017. This paved the way for the E/E development with the focus on performance as well as safety and security.

MISRA will merge the AUTOSAR guidelines with its own established best practice to develop a single 'go to' language subset for safety-related C++ development. The MISRA led guidelines will incorporate the latest version of C++ language - C++17 - and, when available, its successor C++20.

The new guidelines for the safe and secure application of both embedded control systems and standalone software will provide the framework for C++ use in several fields of application. This includes sectors such as automotive, aerospace, telecommunications, medical devices, defense and engineering.

Chris Tapp, Chair of the MISRA C++ Working Group, said, "We have a proud history in producing coding guidelines and we are excited to continue developing the industry standard for years to come. Our method has always been, quite simply, to provide information written by engineers, for engineers – and these C++ guidelines will be no different."

Rick Flores, Chairman of AUTOSAR, said, "It is crucial for innovative industries to be supported with a common, understandable C++ language in one place, a gold source for developers. We see the universal growth in C++ usage across some of the most transformative areas of industry, from connected autonomous vehicles to the development of AI underpinning the next generation of software intensive systems. I would like to thank the AUTOSAR community for its efforts to accelerate the development of the merged guidelines."

The MISRA consortium was conceived in the early 1990s as a project in the UK government's 'SafeIT' programme to develop guidelines for embedded software in road vehicle electronic systems. Membership now consists of members from other industries in the safety-related embedded systems world, alongside automotive companies.

MISRA C was a landmark project that has since gone on to become the de facto standard for embedded C programming in the majority of safety-related industries.

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MISRA

MISRA is a collaboration between manufacturers, component suppliers and engineering consultancies which seeks to promote best practice in developing safety and security-related electronic systems and other software-intensive applications.

The MISRA members at present are (in alphabetical order):

- Bentley Motor Cars
- Delphi Diesel Systems
- Ford Motor Company
- Jaguar Land Rover
- HORIBA MIRA
- Protean Electric
- Ricardo UK
- University of Leeds
- Visteon Engineering Services
- ZF TRW

About AUTOSAR (AUTomotive Open System ARchitecture)

AUTOSAR (AUTomotive Open System ARchitecture) is a global development partnership of car manufacturers, suppliers and other companies from the electronics, semiconductor and software industries. Since 2003, they have been working on the development and introduction of several open, standardized software platforms for the automotive industry. By simplifying replacement and update for software and hardware, the AUTOSAR approach forms the foundation for reliably controlling the growing complexity of electronic and software systems in today's and future vehicles. In addition, AUTOSAR improves cost efficiency by enabling its partners to cooperate in a competitive way. The "Core Partners" of AUTOSAR are the BMW Group, Bosch, Continental, Daimler, Ford, General Motors, the PSA Group, Toyota and the Volkswagen Group. In addition to these companies, more than 200 partners play an important role in the success of the partnership and can use the standards free of charge.

Further information:

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