



Autosar – The rules for developing critical software with ISO C++14 in the automotive Industry

17th November 2022



Driving embedded software quality



Autosar – The rules for developing critical software with ISO C++14

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| Date: | 17 th November 2022 |
| Duration: | 1 day, 9:00 am – 5:00 pm UTC/GMT+1 |
| Location: | Online |
| Speaker: | Ralf Schneeweiß |
| Language: | EN |
| Price: | € 825 (plus the legally applicable tax of the recipient of the service) |
| 1. Early bird (20%): | € 660 (plus the legally applicable tax of the recipient of the service) <u>register before 30-Apr-2022</u> |
| 2. Early bird (10%): | € 742,50 (plus the legally applicable tax of the recipient of the service) <u>register before 5-Oct-2022</u> |

Testimonials:

"A great wealth of experience, very good explanations."

"Understandable and helpful examples! Very competent speaker!"

"Excellent, expectations fully met!"

Benefits

In this one-day seminar you get to know the principles and rules that Autosar C++14 offers for failure prevention in C++ projects.

Target group

- ✓ Software developer
- ✓ Technical project manager

Prerequisites

- ✓ Any C++14 compatible compiler can be adopted for this purpose. The recommended platforms are Windows, MacOSX, UNIX or Linux systems.
- ✓ The only important thing is that course participants master the C++ programming language and simple data operations on the system they use. A few rules are run through with real program examples.

Handouts

- ✓ Autosar C++14 Guidelines (PDF)
- ✓ MISRA C++:2008 Guidelines (PDF) licensed for each participant

Overview

This seminar handles the development of critical software with ISO C++14 in embedded systems within the automotive field. For this purpose, the failure possibilities in a software project are analysed and discussed with C++14. The basic rules from the rule catalogue are also examined. Backgrounds are explained and special features of the C++ language discussed. In addition to theory, practical examples are performed in order to understand the meaning of the rules.

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Topics Outline

- ✓ The Error in Software
- ✓ The Error in Coding (Implementation)
- ✓ Thoughts on Development of Embedded Systems
- ✓ Safety-relevant and Safety-critical Software
- ✓ Typical Sources of Error in C++
- ✓ Special Sources of Error in C++
- ✓ Undefined Behaviour of C++
- ✓ Implementation-dependent Behaviour of C++
- ✓ Legibility and Clearness of C++ Code
- ✓ The Autosar C++14 Rule Catalogue
- ✓ Required and Recommended Rules
- ✓ Static Code Analysis
- ✓ Programming Guidelines and Coding Styles
- ✓ Development Process.

About the speaker Ralf Schneeweiß



In several projects, before and during his freelance work, Ralf Schneeweiß acquired profound knowledge in the practical use of C and C++ on several operating systems. In addition to the practical knowledge, he has also mastered the theoretical basics of these programming languages. In 1989 he learned C and developed in the university area. With C++, Mr. Schneeweiß came into contact with object-oriented programming for the first time in 1990 and has followed the development of this technique ever since. The first contact with Java took place in 1997 and at the same time the internalisation of pattern-oriented software development.

Since 1990 his professional career took place across many IT projects besides his studies. He first delivered professional training in 1995 for C, C++, some older programming languages, application programs and Lotus Notes. Mr. Schneeweiß has undertaken many freelance projects since 1995, becoming a full-time freelance consultant in 1998.

Registration for the seminar: Autosar C++14

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