

# AUTOSAR Classic Platform Training Classes

Learn about the AUTOSAR Methodology and enhance and deepen your knowledge in special areas of AUTOSAR ECU development

## AUTOSAR Classic Platform (CP) Basic Training

The AUTOSAR Classic Platform Basic Training focuses in the first module on the AUTOSAR CP methodology, the technical concepts as well as the operation of the RTE and the basic software components. Theory and practice are combined in the second module. All important subject areas concerning ECU development are covered in sound theory units. Using a general example you will realize these topics with the help of Vector's configuration and generation tools.

The third module focuses on the specific features of the AUTOSAR CP realization for vehicle manufacturers (OEMs). The respective workflows, specific modules and concepts are introduced and explained. After this training you will be able to realize your projects according to the AUTOSAR standard.

## Module 1: AUTOSAR Classic Fundamentals

Duration: 1 Day

Prerequisites: Knowledge about software development for automotive systems

### Content:

- > Overview and Aims
- > Introduction to AUTOSAR
- > AUTOSAR RTE (Runtime Environment)
- > AUTOSAR BSW (Basic Software)
- > Methodology of AUTOSAR
- > AUTOSAR in Practice
- > Implications and Migration

## Module 2: AUTOSAR Classic in Practice

Duration: 3 Days

Prerequisites: AUTOSAR Classic Fundamentals

### Content:

- > Overview and Introduction
- > Operating System
- > Software Components
- > Input and Output
- > Communication
- > State Management and System Services
- > Bus Systems
- > Nonvolatile Memory Access
- > Diagnostics

## Module 3: Supplier-Specific Content

Duration: 1 Day per Variant

Prerequisites per Variant: AUTOSAR Classic Fundamentals and in Practice or good AUTOSAR Classic knowledge, certification as a supplier for the respective OEM.

### Variant 1: Daimler SLP11

- > Overview and Introduction
- > New Communication Concepts
- > Configuring the SLP11 stack
- > Postbuild Concepts
- > SLP11 Network Management
- > SLP11 Diagnostics
- > SLP11 Security Concepts
- > Time Synchronization

### Variant 2: VAG MSR4

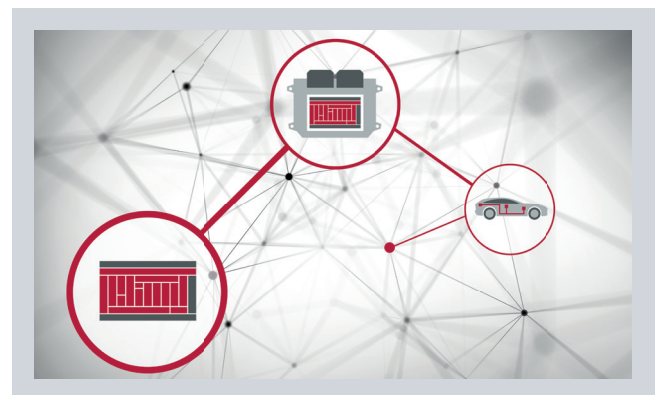
- > Overview and Introduction
- > VAG and MICROSAR
- > VAG extensions (OEM extensions)
- > Diagnostic Concept for VAG
- > Configuring VAG Stack

### Variant 3: BMW BAC 4

- > Overview and Introduction
- > BMW Software Logistic
- > BMW Partial Network (PNC)
- > Configuring the BAC 4 Stack
- > Feedback/Open Discussion

### Variant 4: GM Global B

- > Overview and Introduction
- > GM specific functions
- > Configuring the GM Global B Stack
- > Feedback/Open Discussion



**AUTOSAR Classic Platform (CP) Advanced Training**

You already know the basic tool usage and the general AUTOSAR Classic concepts, and you need to know more in special areas? In this training you learn how to use MICROSAR software and tools in order to satisfy your project requirements.

Each event focuses on one topic. That way you can build your training according to your personal needs. Individual events do not build on one another and can be booked independently. You can only visit those parts relevant for you.

**MICROSAR Ethernet - with hands-on exercises!**

Duration: 2 Days

Prerequisites: Participation in the training program "AUTOSAR Classic in Practice" or a good AUTOSAR Classic knowledge.

**Content:**

- > Overview and Introduction
- > Basics of Ethernet and TCP/IP
- > Ethernet in the AUTOSAR Software Architecture
- > Overview of Automotive Protocols and Use Cases
- > Diagnostics over IP (DoIP)
- > SOME/IP and Service Discovery (SD)
- > Universal Calibration Protocol (XCP)
- > Time-Sensitive Networking (TSN) and AVB Use Cases
- > Exercise: Diagnostics over IP (DoIP)
- > Exercise: SOME/IP - Service Discovery (SD)

**MICROSAR Safe**

Duration: 1 Day

Prerequisites: AUTOSAR Classic Platform Training Class or good knowledge of AUTOSAR Classic and ISO26262

**Content:**

- > Overview of the concepts used in MICROSAR Safe
- > Measures and Mechanisms for Functional Safety at Software Level
- > Memory protection and safe context switch (SafeOS)
- > Flow control of safety-related Software Components (SafWDG)
- > Safe Communication between ECUs (SafeE2E)
- > MICROSAR Safe at Application Level (SafeRTE)

**MICROSAR Memory**

Duration: 1 Day

Prerequisites: Participation in the training program "AUTOSAR Classic in Practice" or a good AUTOSAR Classic knowledge

**Content:**

- > Principles of NV memory
- > Memory Handling
- > NvBlock Software Components
- > MICROSAR MEM FEE concept
- > Error recovery
- > Configuration
- > Debugging and Production Error Reporting

**MICROSAR Multicore**

Duration: 1 Day

Prerequisites: Participation in the training program "AUTOSAR Classic in Practice" or a good AUTOSAR Classic knowledge

**Content:**

- > Introduction into the mathematics of multicore processing
- > Deadlocks and their prevention
- > Use cases for multicore processors
- > AUTOSAR multicore processor concept
- > Design and Optimization

**Benefits**

- > You get detailed class documentation
- > You receive a certificate confirming your participation in our training course
- > Snacks during breaks and lunch are included with the course

**Registration and Information**

You can register online, via E-mail, Fax or regular mail. Registrations are accepted in the order in which they are received. If your reservation has been made successfully, we will return a confirmation of your registration.

If you have any questions or wish to register by phone, please contact us:

- > Phone: +49 711 80670-5770
- > Fax: +49 711 80670-333
- > E-mail: [academy@de.vector.com](mailto:academy@de.vector.com)

AUTOSAR Classic Platform Training Classes are offered on a regular basis. Our website always offers the latest information on workshops, contents and scheduled dates.

[www.vector-academy.com](http://www.vector-academy.com)