# Training Structure (1st part)

**ALTRAN**

## 1– The AUTOSAR Partnership

- Goals of the partnership
- Partnership organization

## 2– AUTOSAR Development Status

- Current Development Status
- AUTOSAR Aspects

## 3 – AUTOSAR Architecture

- Software Components
- Runtime Environment
- Basic Software

## 4 – AUTOSAR Methodology

- Meta-Model
- From model to process
- Software development process

## 5 – AUTOSAR Software Components

- Software Components' types
- Communication, Runnable Entity
- Connection to the Basic Software

## 6 – AUTOSAR Basic Software

- Details of Layers
- Details of Stacks
- BSW Configuration

## 7 – AUTOSAR Tools

- AUTOSAR Authoring Tools
- Example Toolchain

## 8 – AUTOSAR Migration

- Basic Questions
- Important Aspects
- Migration Scenarios

## 9 – AUTOSAR for the client

- Specific topics about AUTOSAR tailored to the audience´s needs (optional)

# Training Structure (2nd part)

## 10 – Workshops

Configure System Part I: Software

- DataTypes, Software Components
- Interfaces, Connections
- Data Elements / Operations
- Events, Runnables

Functional Development

- AUTOSAR Blocks
- Simulation
- Code Generation

Configure System Part II: Hardware and Communication

- ECUs / Busses / Network Communication
- Mapping HW / SW / Network
- RTE Generation

Configure System Part III: Software

- Same contents as Part I but different tool

Integration of AUTOSAR Software onto an MPC5567

- ECU Configuration aspects
- Build Environment
- Testing Input/Output
- Testing CAN communication

## Duration of Trainings

- **2 days:** intensive training*
- **3 days:** normal training*
- (more time for practical exercises compared to intensive training)

\* Prices on request

Your Partner to bring
**AUTOSAR**
on the road

## Contact

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If you have any questions,
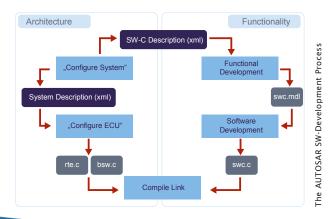please contact this e-mail address.

altran.de

# AUTOSAR Competence    –    inside Altran

## Altran – leading consultancy for innovation and engineering

Altran stands for single-source, customer-oriented consultancy services in the industries: Automotive, Infrastructure & Transports, Aerospace, Defence & Railway, Energy, Industry & Life Sciences, Financial Services & Government and Telecom & Media.

Mobility, connectivity, resource-saving production, affordable health and the need to reinvent energy are only a few of the global megatrends which our customers are faced with. Through its access to the Group's extensive technology expertise, Altran supports its clients for over thirty years from strategic planning to readiness for serial production in order to adapt to those challenges. Intelligent Systems, Lifecycle Experience, Information Systems und Mechanical Engineering provide the suitable portfolio of competences to be prepared for the megatrends. At present Altran has more than 20,000 employees, including 15,000 consultants, in over 20 countries worldwide and advises more than 500 customers, generating a Group turnover of 1.45 bn euros in 2012. In Germany, Altran employs over 3,000 staff at 31 locations.

### Architecture
- SW-C Description (xml)
- „Configure System"
- System Description (xml)
- „Configure ECU"
- rte.c
- bsw.c
- Compile Link

### Functionality
- Functional Development
- swc.mdl
- Software Development
- swc.c

The AUTOSAR SW-Development Process

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Altran offers to support the migration to AUTOSAR compliant software development covering the whole range of upcoming challenges. From process-migration to AUTOSAR compliant software implementation, Altran provides consulting services targeting the management goals, the how-to, and also the realization:

### Consulting

**Migration Consulting**
Altran provides consultancy and strategic advice to help clients migrate to AUTOSAR

**Business & Technical Consulting**
Altran can provide a business case and technical strategy for AUTOSAR

### How to...

**Training**
Altran provides AUTOSAR training for software developers and managers

**Tool Knowledge**
Altran has experience with many AUTOSAR tools, and is independent of tool manufacturers

### Realization

**Architecture**
Altran has experts in defining the architecture of AUTOSAR-compliant ECUs

**Implementation**
Altran can implement and verify application and basic software components

**Configuration**
Altran has expertise in the configuration of the AUTOSAR basic software

**ECU Development**
Altran can develop AUTOSAR-compliant ECUs from concept through to production standard

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## Altran – a Premium Partner of AUTOSAR

Altran participates in the development of architecture, operating system (WP-A), runtime environment (WP-A1) and functional safety (WP-A3) of the AUTOSAR standard

## Support of OEMs and Suppliers in their Membership

Altran consultants build a bridge between the work inside the AUTOSAR Partnership work packages and the application of the AUTOSAR technology in the ECU development at our customer

Altran is active in the Communication and Application Interfaces work packages in support of OEMs or suppliers

## Providing Support Functions for the AUTOSAR Partnership

Altran is responsible for the complete administration of the AUTOSAR partnership and has provided also the Technical Management, Quality Management and Release Management of AUTOSAR