

# Fundamentals of XCP Seminar

**Duration:** 1 day  
**Target group:** ECU developers, application engineers  
**Prerequisites:** None

## 1 Introduction to Fundamentals of the XCP Protocol (1.0 h)

**Goal:** Acquire general understanding of sequential flow of the XCP protocol  
**Contents:** Topology, communication forms, layout of a XCP frame

## 2 Models for Synchronous Data Transfer (2.5 h)

**Goal:** Introduction of sequences for synchronous data acquisition and stimulation  
**Contents:** Static and dynamic DAQ lists, organization of the ODT: Lists, cold start measurement, acquisition of measurement data with time stamp

## 3 Models for Calibration (0.5 h)

**Goal:** Learn about partitioning memory for calibration  
**Contents:** Partitioning memory into segments and pages, Freeze mechanism, memory page swapping

## 4 Models for Flashing (0.5 h)

**Goal:** Learn about flash procedure from XCP perspective  
**Contents:** 3 phases model, addressing methods, flash procedure concept

## 5 Interface Specifications (0.5 h)

**Goal:** Introduce the interfaces  
**Contents:** Structure of a A2L file (ECU description file), Seed&Key.DLL, Checksum.DLL

## 6 Special Aspects of the XCP Transport Layer (1.0 h)

**Goal:** Introduce XCP layer structure and interfaces  
**Contents:** Transport Layers, XCP on Ethernet, XCP on Sxl, XCP on CAN

## 7 Sample Sequences (0.5 h)

**Goal:** Demonstration of sample sequences  
**Contents:** Establishing communication, initialization of DAQ mechanisms, calibration processes

## 8 Questions, Suggestions, Requests (0.5 h)

**Goal:** Clarification of open issues and open discussion as feedback for Vector