Measurement and Calibration with XCP in CANape

Duration: 2 Days

Target group: Controller developers, calibration 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 in XCP (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 in XCP (0.5 h)

Goal: Learn about partitioning memory for calibration

Contents: Partitioning memory into segments and pages, Freeze mechanism, memory page swapping

4 Introduction to CANape (1.0 h)

Goal: Introduce CANape functionality

Contents: System overview, integrating additional measurement hardware

5 Application Concept in CANape (0.5 h)

Goal: Introduce CANape application concept

Contents: Controller memory allocation, mirror memory, flash programming, application procedure

6 Creating a New Project in CANape (1.0 h)

Goal: Procedure for creating a new project

Contents: Adding a new controller to the device list, configuring the driver, exercises

7 Measurement in CANape (2.5 h)

Goal: Fundamentals of measurement data acquisition in CANape

Contents: Data acquisition modes, discussion of the Display windows, exercises

8 Calibration in CANape (1.5 h)

Goal: Calibration with CANape

Contents: Online / Offline calibration, discussion of the Calibration windows, exercises

9 Offline Evaluation in CANape (1.5 h)

Goal: Use CANape as an offline evaluation tool

Contents: Measurement cursor, Difference cursor, Global cursor, analysis of MDF files, Insert virtual file channel, exercises

10 Data Management in CANape (1.0 h)

Goal: Introduce data management functionality

Contents: Loading, saving and comparing parameter set files

11 Functions and Scripts in CANape (0.5 h)

Goal: Overall overview regarding the programming environment

Contents: Allocating and compiling of functions, instantiating functions

12 Questions, Feedback, Suggestions (0.5 h)

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