

CANoe .FlexRay

Agenda VectorAcademy

Delivery Format:	This course is offered in Classroom or in Remote Format
Duration:	Classroom: 3 days Remote: 20 hours
Target Group:	FlexRay users and ECU developers.
Prerequisites:	Basic understanding of Serial Data Transmission
Goal:	Knowledge on physical characteristics of the FlexRay protocol and FlexRay network, databases for FlexRay, initiation of a FlexRay network and functionalities for measuring and analyzing in CANoe/CANalyzer.FlexRay. Knowledge about modeling and simulation in CANoe.FlexRay and CAPL for FlexRay

1. Introduction to Flexray

- > Electronification of motor vehicles
- > Motivation for the development of FlexRay
- > FlexRay consortium and specification
- > Differences between CAN and FlexRay

2. Physical Topologies and Signal Transmission

- > > Physical topologies
- > > Signal transmission and voltage levels
- > > Node architecture and termination

3. Synchronization

- > Synchronization mechanism
- > Wake-Up and startup
- > Time hierarchy
- > Re-Synchronization on bit level

4. Communication Structure and Bus Access

- > Communication cycle
- > Static and dynamic segment
- > Frame format
- > Bus access

5. Databases for FlexRay

- > Introduction to ASAM MCD-2 NET (FIBEX)
- > Introduction to AUTOSAR System Configuration Description
- > Description of frames, PDUs and signals
- > Analyzing of network characteristics

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6. Introduction to CANoe/CANalyzer.Flexray

- > Characteristics of CANoe and CANalyzer for FlexRay
- > Available hardware for FlexRay
- > Licensing and registration

7. Initiation of a FlexRay Network

- > Creation of a configuration in CANoe and CANalyzer
- > Configuration of used hardware
- > Wake-Up and startup in CANoe and CANalyzer

8. Measuring and Analyzing in CANoe and CANalyzer

- > Windows for measuring and analyzing in a FlexRay network
- > Logging and offline analysis
- > Interactive sending

9. Introduction

- > CANoe in the development process
- > Signal server concept and FlexRay scheduler
- > OEM-specific packages for FlexRay

10. Modeling and Simulation in CANoe.FlexRay

- > Creation of a configuration for modeling and simulation
- > System panel, node and network panels and signal generators
- > Panels and signal oriented CAPL

11. Creation of Panels

- > Introduction to the Panel Designer
- > Creation of panels
- > Implementing of panels in CANoe.FlexRay

12. Introduction to CAPL

- > Introduction to the CAPL browser
- > Network node and program node
- > Variables, operators, conditions and loops

13. CAPL for FlexRay

- > Event procedures for FlexRay
- > Frame object and PDU object

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- > Functions for FlexRay