

## Agenda „CANdela / Diagnostics Workshop“

<b>Duration:</b>	2 Days
<b>Target Group:</b>	Users of Diagnostics, Users of CANdelaStudio, CANoe /CANalyzer or CANape
<b>Prerequisites:</b>	None

### 1 Introduction to Diagnostics (1,0 h)

Objective: Understanding of diagnostics

Contents: Motivation and necessity of diagnostics, surveillance and diagnostics of systems, legal general conditions (OBD requests)

### 2 Diagnostics within a Network (1,0 h)

Objective: Overview of the basic information of diagnostics

Contents: Diagnostics within the OSI layer model, off board / on board diagnostics, diagnostics connectors, address types, address schemes, request / response behaviour

### 3 Diagnostics Protocols (0,5 h)

Objective: Overview of the standard protocols for Diagnostics and their differences

Contents: KWP2000 (ISO 14230/3), Diagnostics on CAN (ISO 15765/3), Unified Diagnostic Services (UDS)

### 4 Introduction to the ISO Transport Protocol ISO/TF2 (OSEK-TP) (2,0 h)

Objective: Overview of the ISO transport protocol ISO/TF2 (ISO/DIS 15765-2 (2001-11-01)) (OSEK-TP)

Contents: Overview of the areas of employment, functions and scheme of the ISO-TP, exercises

### 5 Including ISO-TP within CANoe-Modells (2,5 h)

Objective: Creation of CAPL programs for data transfer according to ISO/TF2 (ISO/DIS 15765-2 (2001-11-01))

Contents: Overview of the functions within the OSEK-TP Nodelayer-DLL, exercises

## **CANdela General Concept (0,5 h)**

Objective: Get an understanding for the employment of CANdela in diagnostics during the development process

Contents: Customary development process of diagnostics and its resulting optimization potential, overall idea of CANdela and CANdelaStudio, templates

## **6 Introduction to CANdelaStudio (3,5 h)**

Objective: Creating and editing a data base to diagnose a ECU

Contents: Overview of the tool CANdelaStudio, editing and supplementing a given data base for diagnostics, terminology like diagnostics class, diagnostic entity, data objects and their data elements, exercises

## **7 Working with CANdelaStudio (1,5 h)**

Objective: Getting to know more features of the tool

Contents: Make a change history, create and use variants, create a product brief, give access rights, define target groups, use attributes, multi lingual support (CANdelaStudio Pro), exercises

## **8 Integrating Diagnosis Data into the Vector Tool Chain (1,5 h)**

Objective: Diagnose ECUs

Contents: Integrating data bases for diagnostics in CANoe/CANalyzer or CANape, Diagnostics console, error memory console, exercises

## **9 Questions, Feedback, Suggestions**

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