



# Agenda VectorAcademy

## SAE J1939 FUNDAMENTALS

<b>Duration:</b>	1 Day
<b>Target Group:</b>	Users and Developers
<b>Prerequisites:</b>	Fundamentals of CAN protocol
<b>Goal:</b>	Learning the fundamental principles of the SAE J1939 protocol

### 1 | J1939 DOCUMENTS, TOPOLOGY, BAUD RATES, TERMS AND DEFINITIONS | 0.5 H

- ▶ Structure of the J1939 specification documents
- ▶ Typical baud rates and net topologies

### 2 | J1939 NETWORK MANAGEMENT | 1.5 H

- ▶ Terms: NAME and addresses in the J1939 protocol
- ▶ Boot-Up behavior “Address Claiming” of ECUs
- ▶ Conflict handling at network access

### 3 | THE PARAMETER GROUP AS A STANDARDIZED DATA INTERFACE | 1.5 H

- ▶ Characteristics of a J1939 Parameter Group
- ▶ Differences to a CAN identifier

### 4 | COMMUNICATION PRINCIPLES AND ADDRESSING | 0.5 H

- ▶ Interpretation of the 29bit CAN identifier
- ▶ Mechanisms of realizing peer-to-peer and global communication of J1939 ECUs

### 5 | SIGNAL DESCRIPTION AND J1939 SLOT DEFINITIONS | 1.0 H

- ▶ The J1939 SPN and SLOT definition
- ▶ Scaling and timing of signals
- ▶ Potential requirements for switching from proprietary network to J1939

### 6 | TRANSPORT PROTOCOLS | 1.5 H

- ▶ Broadcast Announce Message (BAM)
- ▶ Connection Mode Data Transfer



# Agenda VectorAcademy

## 7 | OVERVIEW OF THE J1939 DIAGNOSTIC INTERFACE | 1.0 H

- ▶ ODB II
- ▶ Interpretation of the Diagnostic Trouble Code (DTC)
- ▶ Overview: Common J1939 Diagnostic Messages

## 8 | REVIEW OF THE DAY

- ▶ Questions
- ▶ Discussion and prospect