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# OPINA & TÜV SÜD Türkiye



## Cooperation for Autonomous Vehicles Training

Open Innovation Autonomous Vehicle Development  
and Testing Platform Project

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TESİD

Türk İht. Elektronik  
Yapımcılar Birliği

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# ISO 26262 Functional Safety Standard Basic Level Training

## Training Dates

8-9 January 2024

## Course Description

The aim of the training is to provide participants with knowledge and skills in the general requirements of ISO 26262 functional safety, reliability parameters, and hazard risk analysis for electric and autonomous vehicles.

## Course Structure

The program covers the following topics:

- Functional Safety Concept
- Reliability Concepts and Parameters
- Definitions and Concepts of ISO 26262 and IEC 60508
- Hazard and Risk Analysis According to ISO 26262
- Process Models and Lifecycles
- System Analysis Methods and Safety Analysis According to ISO 26262
- Product Development and Verification at the System and Component Levels
- Functional Safety Audits and Evaluations

## Instructor Information

The training will be organized by instructors with international qualifications in electric vehicles.

## Prerequisites

There is no prerequisite to attend the training.

## Course Requirements

Technical or other requirements for the course, such as specific software or hardware, internet speed or other tools or resources that will be needed.

This course will be given online via MS Teams.

## Course Duration

Course Duration: 2 days (16 hours)

## Assessment and Evaluation / Grading

During the training, necessary technical information will be conveyed in accordance with the determined curriculum and relevant standards; groups formed from participants will discuss sample cases and perform sample applications. Participant performance will be continuously monitored throughout the training and evaluation will be made with the visual recording exam after the training. Participants who achieve a success rate of 70% or higher will receive a **"TÜV SÜD Türkiye Achievement Certificate"** while others will receive a **"TÜV SÜD Türkiye Participation Certificate"** The training will be organized with a minimum of 8 and a maximum of 10 participants.

### Course Price

€360 + VAT / person



# ISO/SAE 21434 Automotive Cybersecurity Training

## Training Dates

10-12 January 2024

## Assessment and Evaluation / Grading

The aim of the training is to provide participants with basic and advanced knowledge about the importance of automotive cybersecurity. During the training, relevant laws, regulations, and requirements will be covered in detail, with a focus on the UNECE WP.29 and ISO/SAE 21434 standards. This will enable manufacturers to become familiar with future legal obligations related to automotive cybersecurity. The information gained from this training will contribute significantly to the protection of vehicles and components against cybersecurity threats, and help ensure mandatory homologation after series production. Participants will be informed in detail about cybersecurity threats and measures aimed at protecting vehicles against them, as well as the connections between threat and risk analysis, security concepts, security specifications, and verification concepts throughout the product lifecycle.

## Course Structure

The program covers the following topics:

- Introduction and transformation of e-mobility
- Challenges in the automotive industry
- Fundamentals of cybersecurity
- Fundamentals of automotive cybersecurity: Legal and standards
- ISO/SAE 21434- Automotive cybersecurity engineering compliant with UNECE R155 and R15



## Instructor Information

The training will be conducted by an internationally qualified expert instructor.

## Prerequisites

There is no prerequisite to attending the training.

## Course Requirements

Technical or other requirements for the course, such as specific software or hardware, internet speed, or other tools or resources that will be needed.

This course will be given online via MS Teams.

## Course Duration

Course Duration: 3 days (24 hours)

## Assessment and Evaluation / Grading

Throughout the training, technical information will be provided based on the designated curriculum and relevant standards. Participants will be grouped and will discuss case studies and perform sample exercises. Participants' performance will be continuously monitored throughout the training, and a visual recording of the exam will be used to evaluate their achievement. Participants who achieve an average score of 70% or higher will receive a **"TÜV SÜD Türkiye Achievement Certificate"** while other participants will receive a **"TÜV SÜD Türkiye Participation Certificate"**. The training will be conducted with a group of at least 8 and up to 13 people.

**Course Price**  
**€420 + VAT / person**



# Basic Level Training for High Voltage Electric and Hybrid Vehicles (Level 1E)

## Training Date

24 October 2023

## Course Description

This training aims to educate participants on the mechanical maintenance of electric and hybrid vehicles for manufacturers and suppliers, as well as inform those working around the vehicle about safety measures and risks.

## Course Structure

The program covers the following topics:

- Importance of occupational health and safety
- Basic knowledge of electricity
- Dangers of electricity and protective measures
- First aid and safety in electrical accidents
- Types of electric and hybrid vehicles and equipment
- Signs and meanings used in electric vehicles
- Locations and markings of high-voltage equipment in electric vehicles
- Safety in mechanical maintenance on the vehicle (isolated from YG system)
- Prohibited work on the vehicle
- Stopping work in uncertain situations and communicating with responsible FHV (2c/2E-3/3E)
- Work performed under the supervision of authorized electrical personnel

Reference standards and regulations:

DGUV 209-093, DGUV 203-002, DGUV 203-034, DGUV 203-077, DGUV 204-022, AHA, ECE Rule 100, ISO 6469-3, DIN EN 61140 (VDE 0140-1), EN 50110



## Instructor Information

The training is provided by internationally competent, expert trainers.

## Prerequisites

There is no prerequisite to attending the training.

## Course Requirements

Technical or other requirements for the course, such as specific software or hardware, internet speed, or other tools or resources that will be needed.

This course will be given online via MS Teams.

## Course Duration

Course Duration: 1 day (8 hours)

## Assessment and Evaluation / Grading

During the training, necessary technical information will be conveyed in accordance with the determined curriculum and relevant standards. Participant performance will be continuously monitored and the training will be recorded visually. At the end of the training, all participants will be given a "TÜV SÜD Türkiye Participation Certificate".

**Course Price**  
**€180 + VAT / person**

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