

# ASAM Regional Meeting South Korea 2023

Welcome – day 2



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Association for Standardization of  
Automation and Measuring Systems

# ASAM standards portfolio

ASAM is currently active in 7 domains

## Simulation

OpenCRG   OpenDRIVE   OpenLABEL  
OpenSCENARIO   OSI

## Data Management & Analysis

CEA   ODS

## Test Automation

ACI   ASAP 3   ATX   GDI   iLinkRT  
MCD-3 MC   OTX Extensions   XIL

## Measurement & Calibration

ARTI   CDF   CMP   CPX   HMS  
MCD-1 CCP / XCP   MCD-1 POD  
MCD-2 MC   MCD-2 CERP   MDF

## Diagnostics

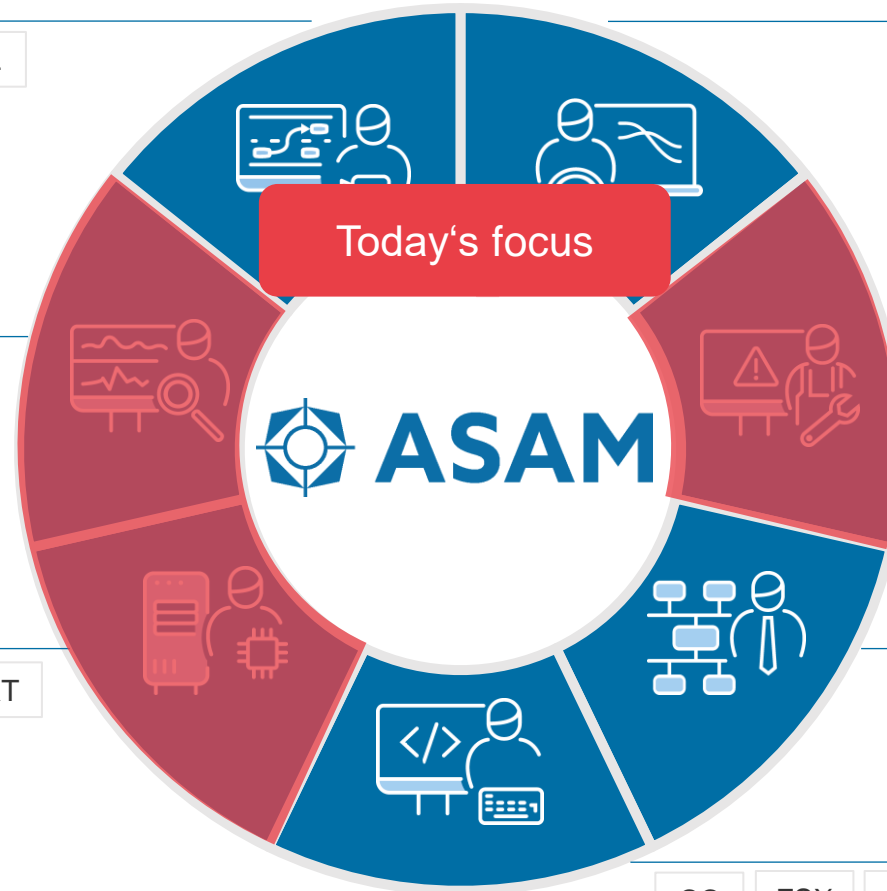
MCD-2 D   MCD-3 D   SOVD

## ECU Networks

MCD-2 NET

## Software Development

CC   FSX   ISSUE   LXF   MBFS   MDX   SCDL



# ASAM e.V. standards shape the industry

A selection of widely spread and internationally implemented standards

## **ASAM MCD-2 MC** (fka ASAP2, since 1999)

Description format of the internal ECU variables used in measurement and calibration.

## **ASAM MDF** (since 2009 under ASAM)

Write data from data acquisition system

## **ASAM ODS** (since 2000 under ASAM)

Store and retrieve measured data

## **ASAM OTX Extensions** (since 2015)

Language and exchange format for the specification of executable test sequences

## **ASAM MCD-1 XCP** (since 2003)

A bus-independent communication protocol to connect ECUs with calibration systems

## **ASAM XIL** (since 2009)

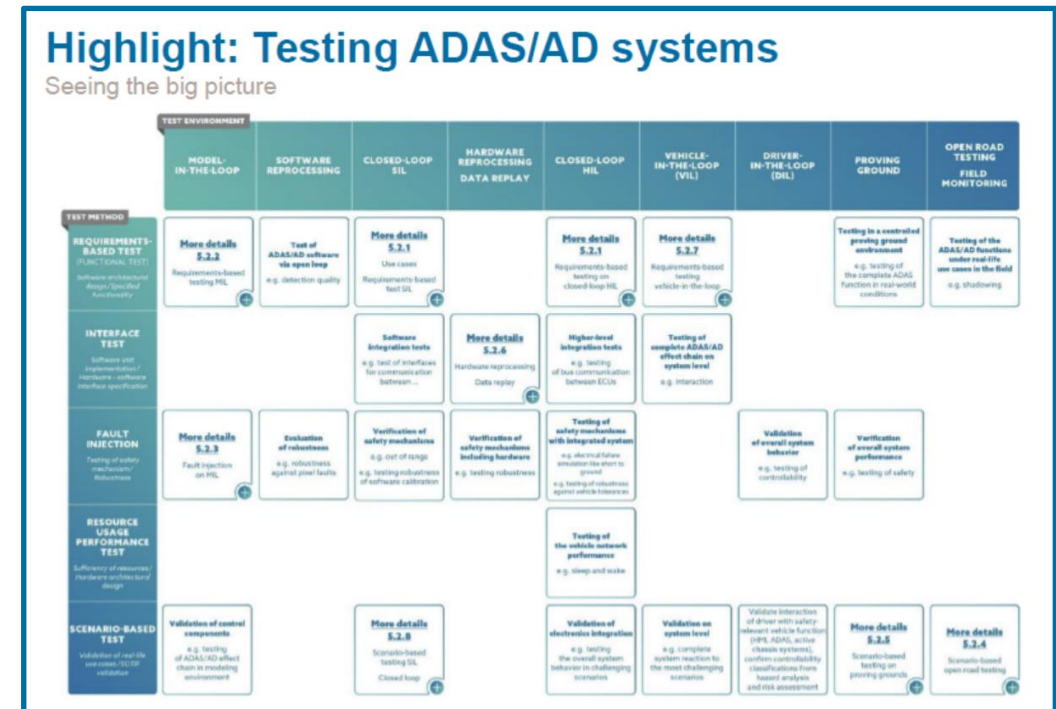
An API for the communication between test automation tools and test benches



# The future

## Our way forward

- Working Group of **ASAM OpenTestSpecification** as a consolidation effort for use-cases and standards across the domains, for example
  - ASAM OpenLabel/OpenScenario and ASAM ODS
  - ASAM MDF and ADAS raw data
- Multi-modal mobility with an emphasis on simulation
  - Environment models
  - Data formats for sensors
  - Domains outside automotive
    - Offroad
    - Railroad
    - Motorbikes
    - Mobility networks and infrastructure
  - Focus on “SDV and data pools”



# Software-defined vehicle & diagnostics

Session introduction

# The software-defined vehicle

From buzzword to reality

## Characteristics

- Decoupling software from hardware
- Evolving functionality (onboard and offboard)
- Over-the-air updates
- New consumer expectations (car = smartphone on wheels)

## Challenges

- Mixed understanding of SDV concepts
- Massive data generation and high-bandwidth data transfer
- Shifting integration and abstraction layers (OS vs. middleware vs. application)
- Heterogenous layouts
- Robustness of functions
- Cyber security
- New regulatory requirements
- Continuous homologation
- Value shift: More importance on software while hardware likely to become commodity

## ASAM's answer

- Support of virtual homologation
- REST-based vehicle diagnostics (ASAM SOVD)
- From diagnostics concepts to communication concepts
- Partnerships with relevant organizations (e.g., AUTOSAR)

**Thank you for your attention.**

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