ASAM Regional Meeting USA 2023

25 years of ASAM

Armin Rupalla

ASAM e.V.
Chairman Board of Directors

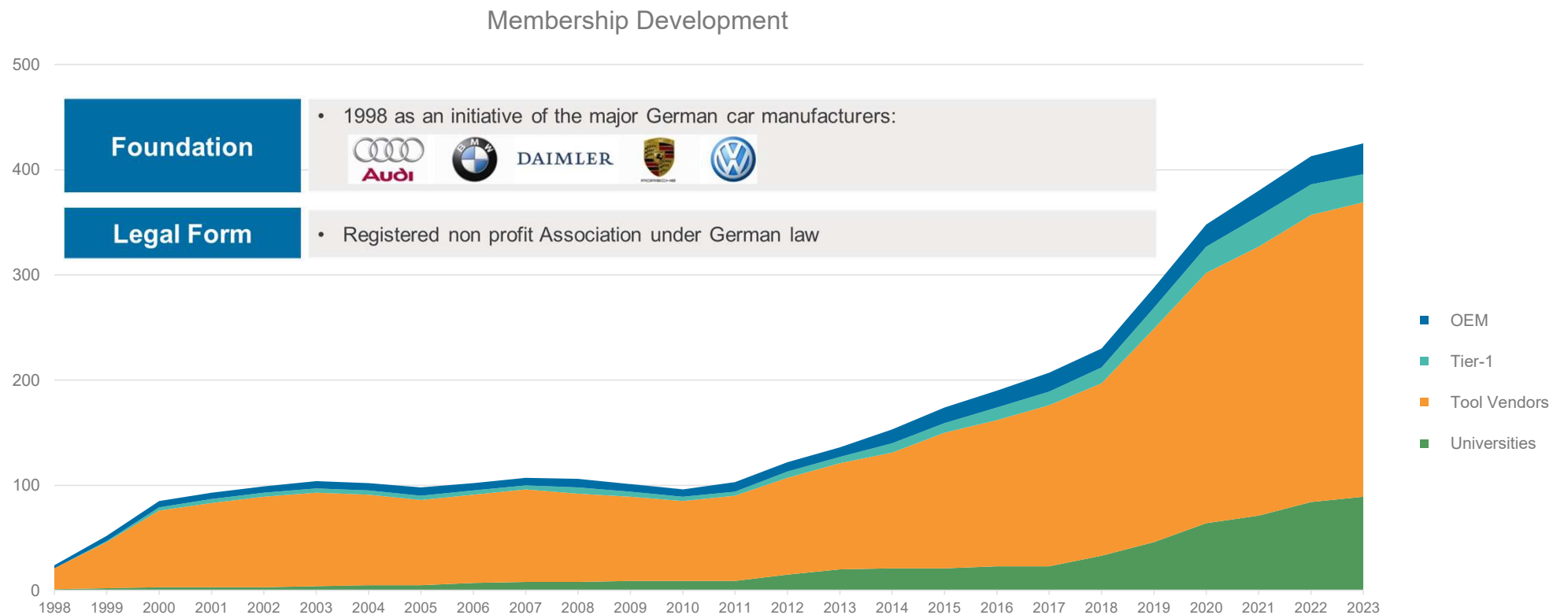19th September 2023
Santa Cruz, USA

ASAM – At a Glance

Driven by the Needs of the Automotive Industry

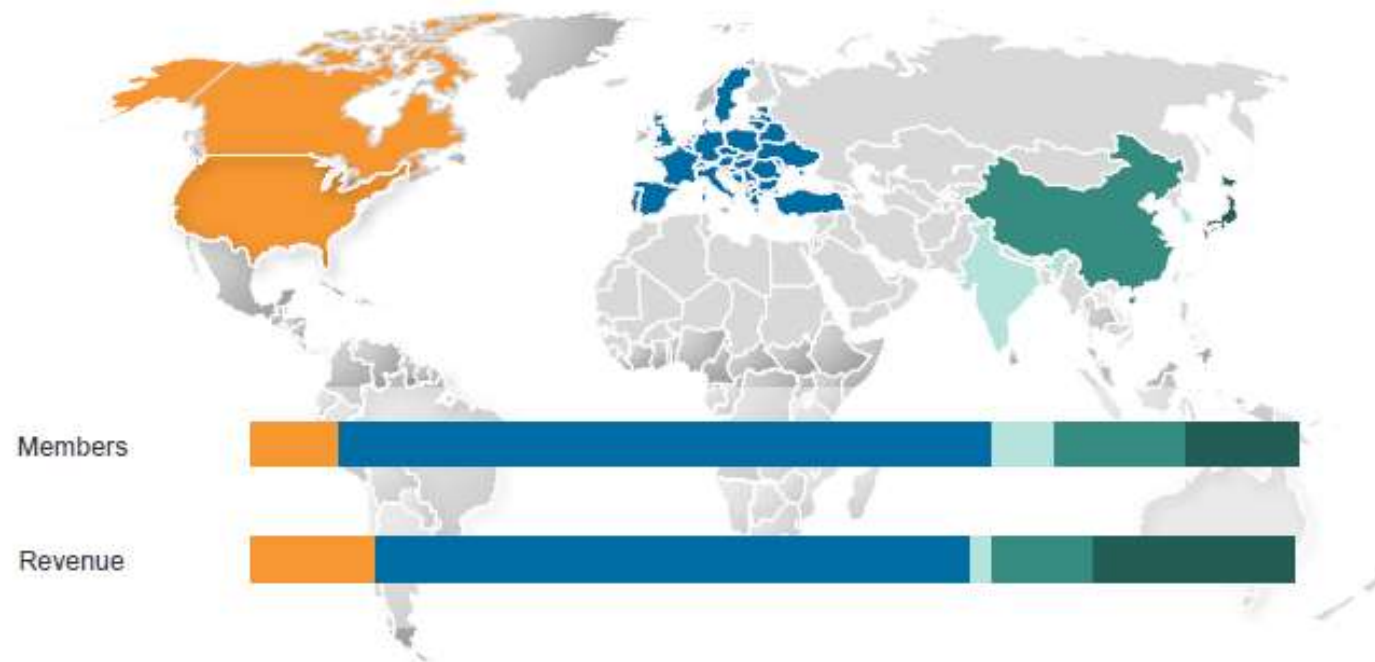| Who is ASAM?	• ASAM is a member driven organization • Members are OEMs, Suppliers, Tool Vendors, and Academia • ASAM entities are the Board, TSC, office and subsidiaries in Japan and C-ASAM
What is our Vision?	• The aim of our activities is to improve the engineering processes and to make the workflow more efficient. • Interoperability of tools and processes in automotive electronics engineering
How we do it?	• Create standards in the domain of Automotive Electronics Engineering like data models, data exchange formats, APIs and Domain Specific Languages • Improve the qualification of engineers by know-how-transfer (working groups, seminars and training)
Member Base	• More than 430 members over 3 continents

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ASAM membership development

Membership development over the past 25 years.

Membership Development

| Foundation | • 1998 as an initiative of the major German car manufacturers: Audi, BMW, DAIMLER, Porsche, VW |
| Legal Form | • Registered non profit Association under German law |

Legend:
- OEM
- Tier-1
- Tool Vendors
- Universities

ASAM

ASAM – a truly international association!

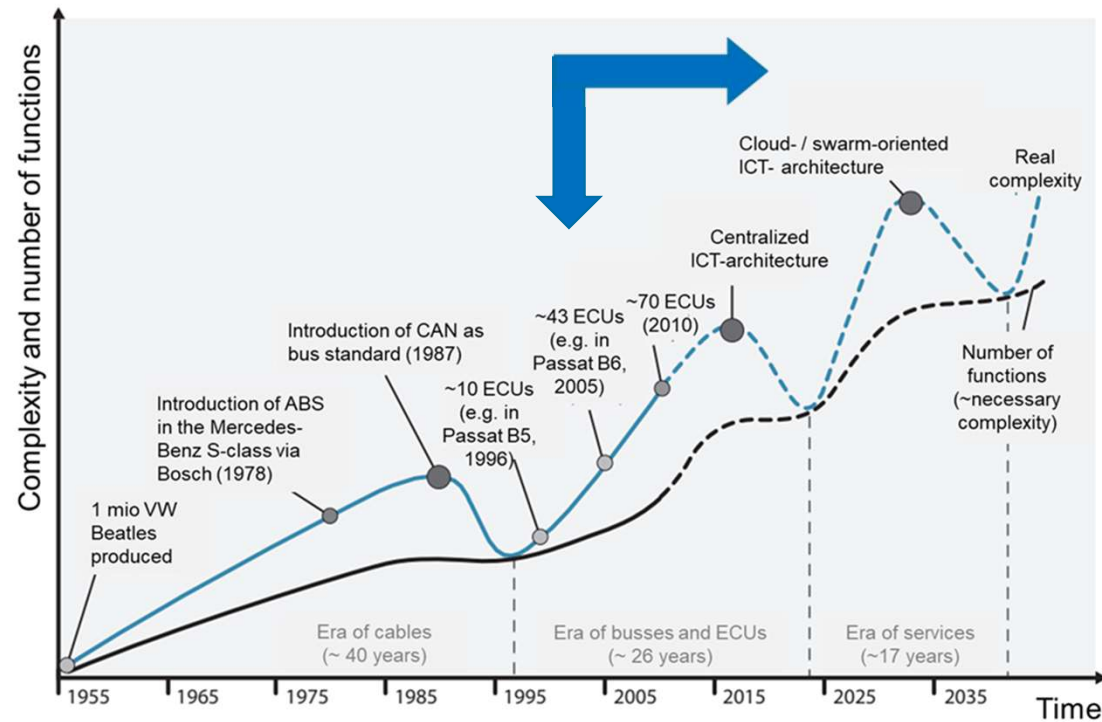Global distribution of members and revenue, March 2023

ASAM

Industry Adoption of Standards

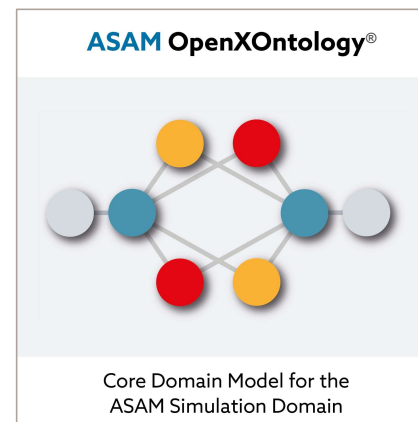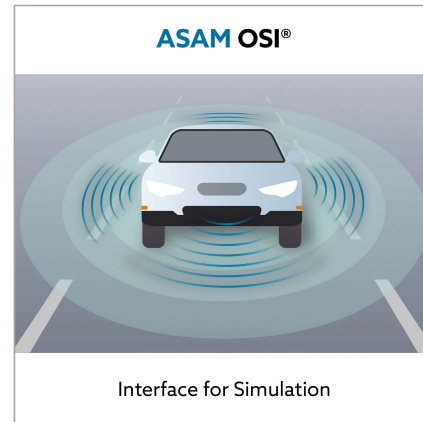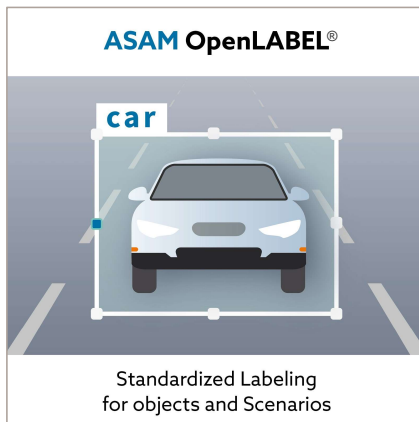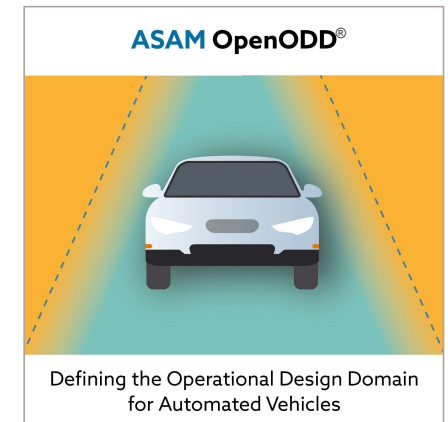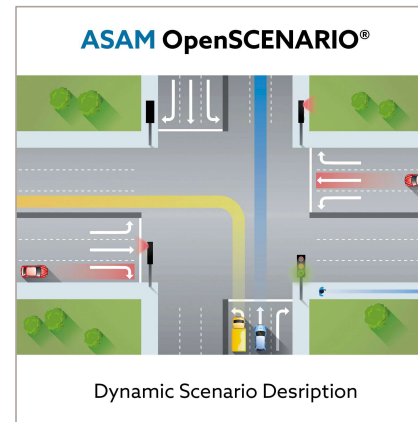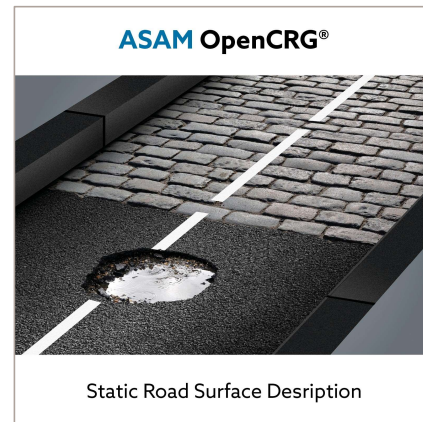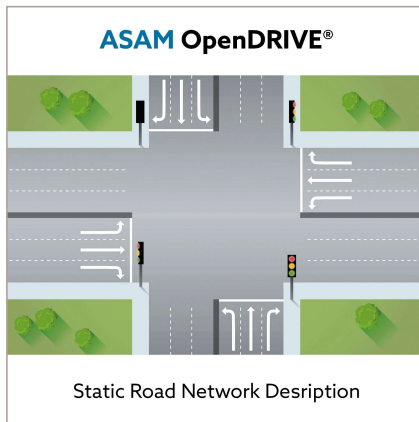|	
The MathWorks	ASAM OpenDRIVE, ASAM OpenSCENARIO, ASAM OpenCRG, ASAM MCD-1 XCP, ASAM XIL, ASAM MDF
Ford Motor Company	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC, ASAM MCD-2 NET, ASAM MDF, ASAM ODS, ASAM ASAP 3, ASAM XIL, ASAM SOVD
Accurate Technologies Inc	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC, ASAM CDF
National Instruments	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC, ASAM MCD-2 NET, ASAM MDF, ASAM ODS, ASAM ASAP 3, ASAM XIL,
General Motors Comp.	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC, ASAM MCD-2 NET, ASAM MDF, ASAM ODS, ASAM ASAP 3, ASAM XIL
Cummins Inc.	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC, ASAM MCD-2 NET, ASAM MDF, ASAM ODS, ASAM ASAP 3, ASAM XIL, ASAM SOVD, ASAM/ISO ODX, ASAM/ISO OTX
Intrepid Control Systems	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D, ASAM MCD-2 MC, ASAM MCD-2 NET, ASAM MDX
Borg Warner	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC, ASAM CC, ASAM MCD-2 D

ASAM Standardization History

Evolution of complexity

With openX standards a new era of ASAM e.V. standards is ahead

Standards are going road-side!

ASAM OpenDRIVE®
Static Road Network Desription

ASAM OpenCRG®
Static Road Surface Desription

ASAM OpenSCENARIO®
Dynamic Scenario Desription

ASAM OpenODD®
Defining the Operational Design Domain
for Automated Vehicles

ASAM OpenLABEL®
Standardized Labeling
for objects and Scenarios

ASAM OSI®
Interface for Simulation

ASAM OpenXOntology®
Core Domain Model for the
ASAM Simulation Domain
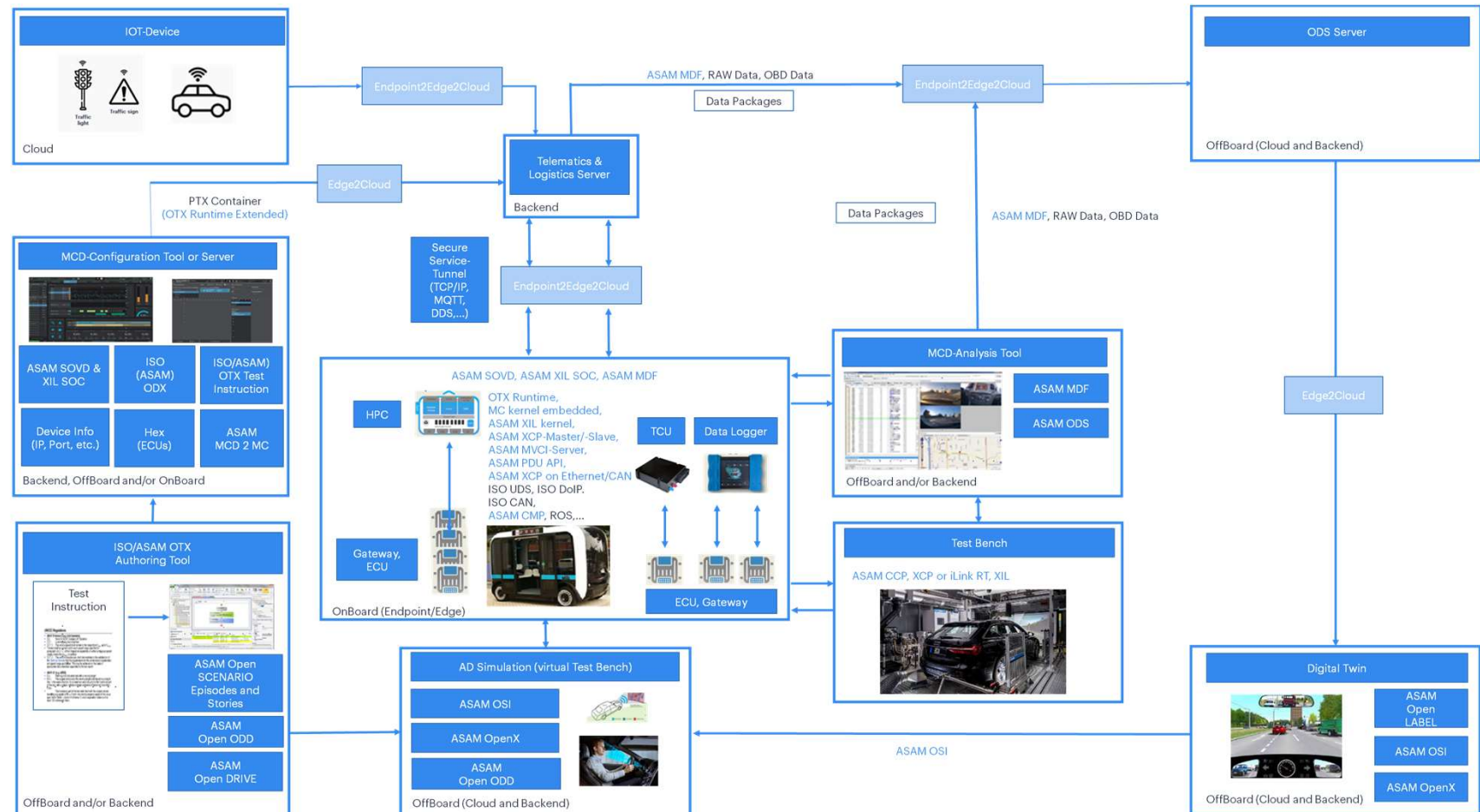
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25 Years plus - Next Steps for ASAM

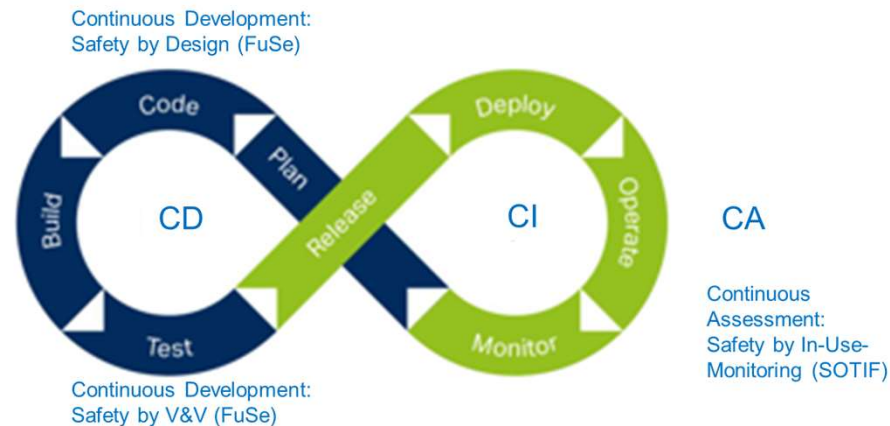Interoperability between different standard domains

Quelle: RAC, ASAM

25 Years plus - Next Steps for ASAM

New Homologation procedure and Software defines Vehicle
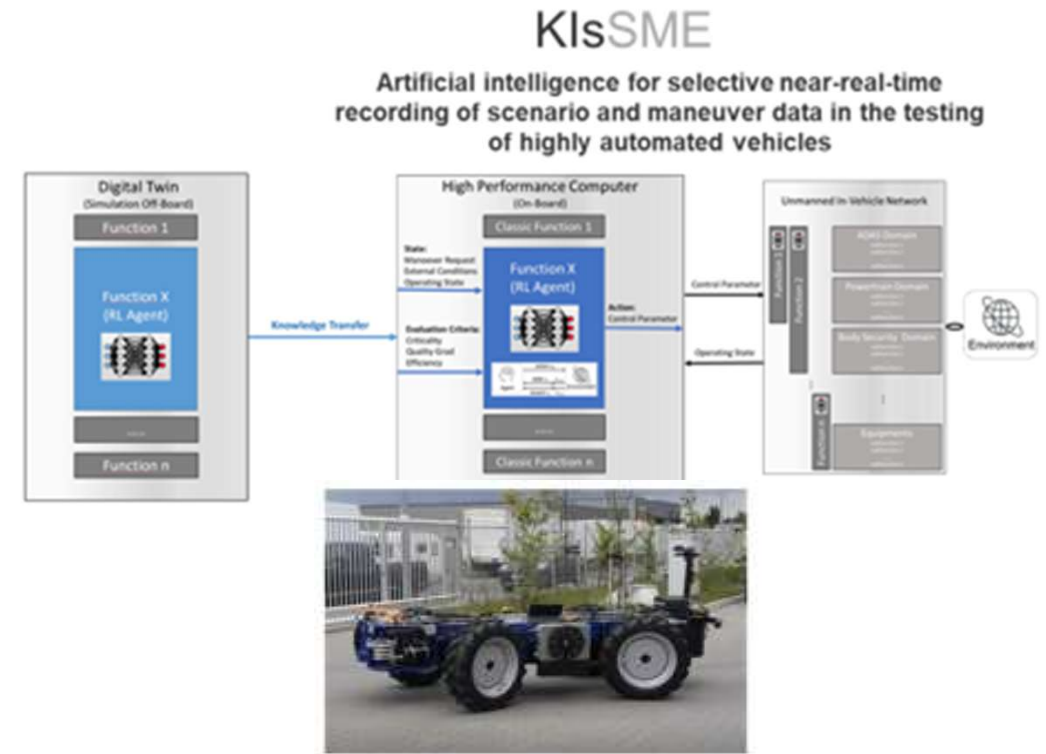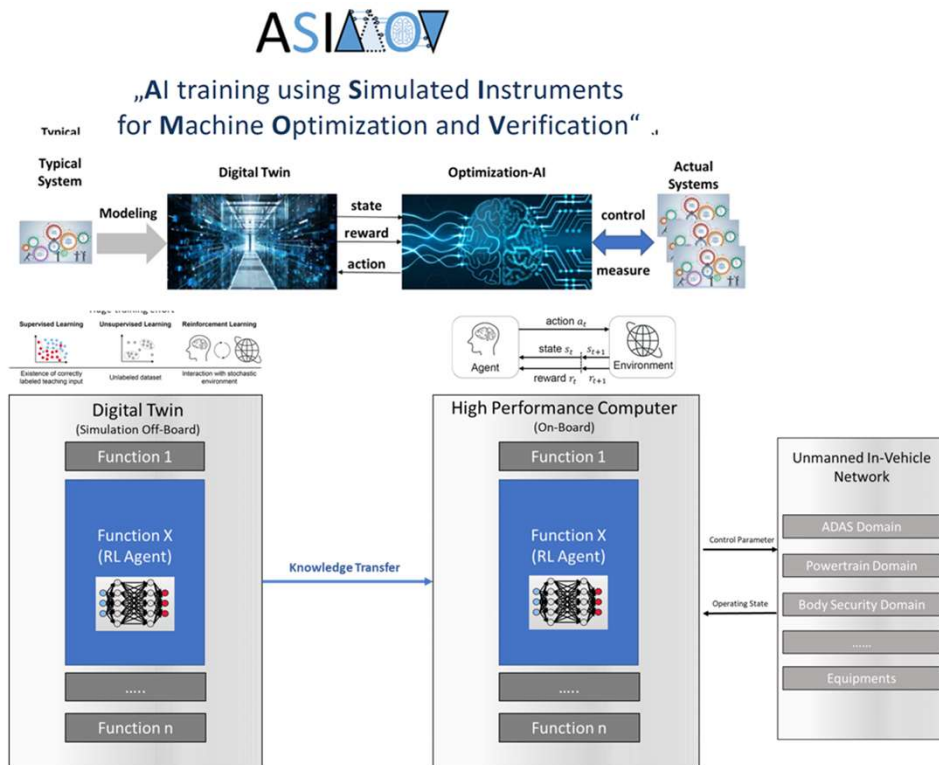

Focus "raw data sensor formats"
- Engage in standardizing the transfer of "raw data" and "preprocessed data" along certain sensor technologies
- Enable the development of early sensor fusion by standardizing the data formats / communication protocols

Focus "SDV and data pools"
- Expand scope from scenario data to the collection of data about mobility behavior prerequisite for data pools (GAIA-X)
- Mobility networks and infrastructure (control systems of public transportation and traffic, mobility services portals,..)
- Identify domain-specific data formats
- Complement the OpenX portfolio

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ASAM Research Activities

European Research Projects

ASAM strategy

The world of ASAM