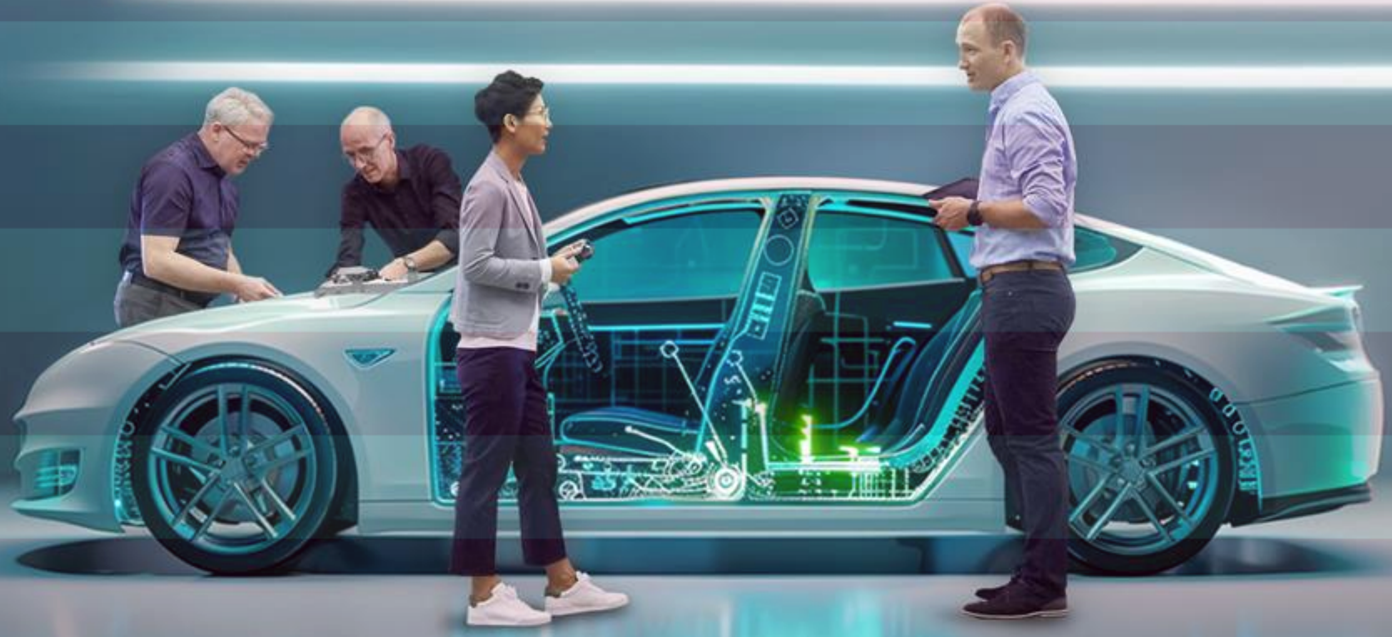
ASAM Regional Meeting North America 2025

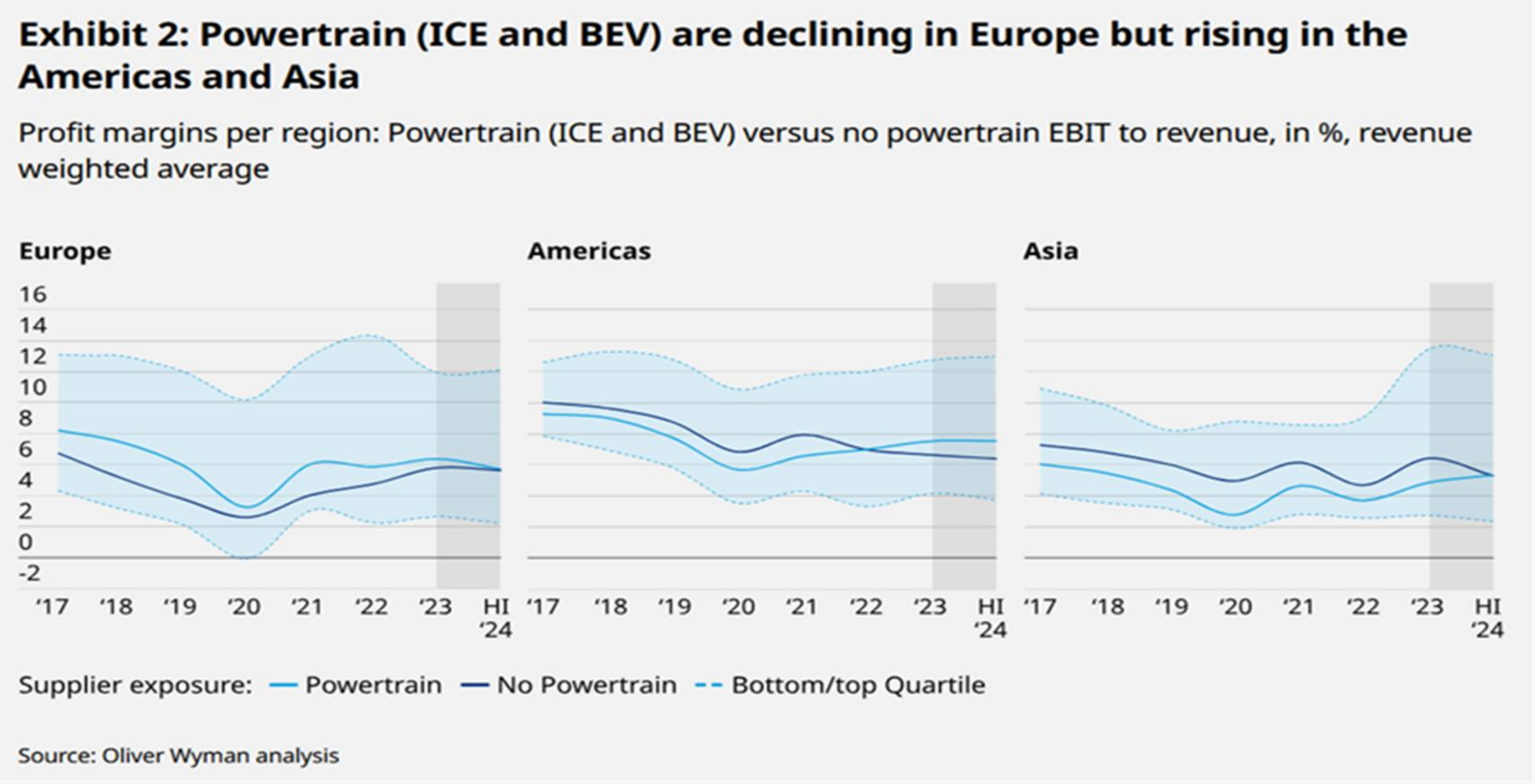
Oct 23, 2025, Nov, MI



Accelerate engineering for mobility

Automotive Market in 2025 – name it massacre

Present Changes – Revival of combustion engines



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Present Legislative Regulations and Initiatives

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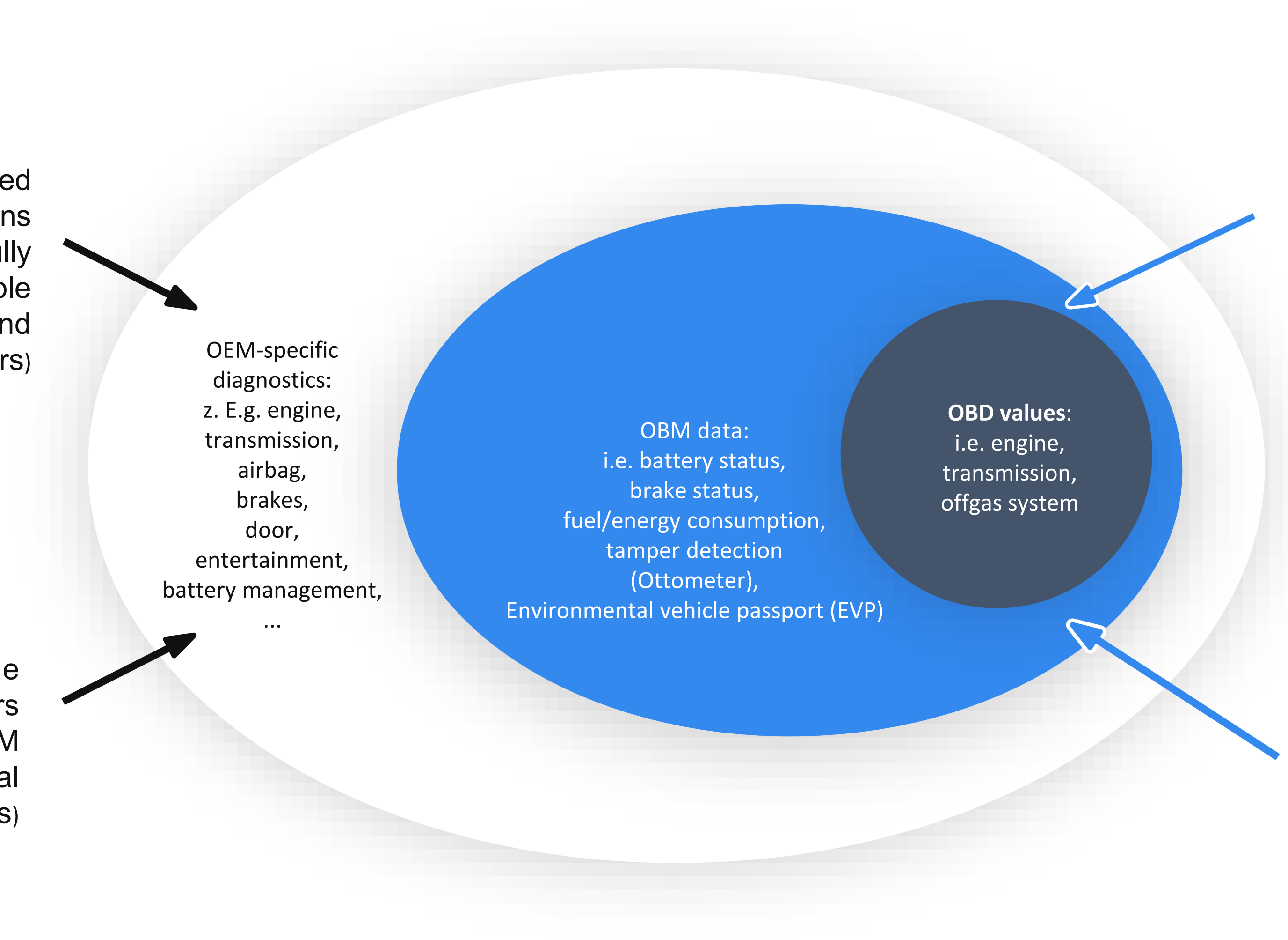
- All implemented diagnostic functions and values are fully or partially available (e.g. for OEMs and suppliers)

Only (partially) accessible with special testers (DiagRA® D, OEM workshop tester, universal workshop testers)



Emission-relevant values defined by the legislator (e.g. by the EU, UN or EPA)

Accessible with any OBD compliant scan tool (e.g. Authorities and organizations technical monitoring organizations)

How ASAM support the fullfillment of regulations

<table>
<tr><th>OnBoard</th><th>OSI Schicht</th><th>Name</th><th colspan="7">Anwendung im Fahrzeug</th></tr>
<tr><td colspan="10">ASAM SOVD Client, SOVD API/ISO ISO/DIS 17978-3: Road vehicles — Service-oriented vehicle diagnostics (SOVD) — Part 3: Application programming interface (API), ASAM MVCI/ISO 22900-3: Road vehicles — Modular vehicle communication interface (MVCI) — Part 3: Diagnostic server application programming interface (D-Server API), ASAM ODX/ISO 22901-1:2008, Road vehicles — Open diagnostic data exchange (ODX) — Part 1: Data model specification, ISO 22901-2: Road vehicles — Open diagnostic data exchange (ODX) — Part 2: Emissions-related diagnostic data</td></tr>
<tr><td rowspan="3">Anwendungs-bezogene Schichten</td><td>7</td><td>Anwendung (Application)</td><td>Anwendungssoftware auf einzelnen abgeschlossenen Services basiert</td><td colspan="3">ISO 27145-3: Road vehicles - Implementation of Wide Harmonized On-Board Diagnostics (WWH OBD) communication requirements — Part 3: Common message dictionary</td><td>ISO 15031-5: E/E Diagnostic Test Modes - OBDonEDS</td><td>SAE J1979: E/E Diagnostic Test Modes - OBDonEDS</td><td>SAE J1939-73</td></tr>
<tr><td>6</td><td>Darstellung (Presentation)</td><td>Darstellungsmöglichkeiten in unterschiedlichen Formen</td><td colspan="3">ISO 27145-2, SAE J1930-DA, SAE J1979-DA, SAE J2012-DA</td><td>ISO 15031-2, ISO 15031-5, ISO 15031-6</td><td>SAE J1930 DA, SAE J1979 DA, SAE J2012 DA</td><td></td></tr>
<tr><td>5</td><td>Sitzung (Session)</td><td>Kontrolle der Kommunikationsprozesse, wie z.B. Authentification und Synchronisation</td><td colspan="5">ISO 14229-2: Road vehicles - Unified diagnostic services (UDS) - Part 2: Session layer services</td><td></td></tr>
<tr><td colspan="10">ASAM D-PDU-API/ISO 22900-2-2022: Road vehicles — Modular vehicle communication interface (MVCI) — Part 2: Diagnostic protocol data unit (D-PDU API), SAE J2534 Recommended Practice for Pass-Thru Vehicle Programming,</td></tr>
<tr><td rowspan="4">Netzwerk-bezogene Schichten</td><td>4</td><td>Transport (Transport)</td><td>Segmentierung von Botschaften</td><td rowspan="2">ISO 13400-2-2012: Road vehicles - Road vehicles — Diagnostic communication over Internet Protocol (DoIP)</td><td rowspan="4">ISO 15765-4: Road vehicles — Diagnostic communication over Controller Area Network (DoCAN) — Part 4: Requirements for emissions-related systems</td><td colspan="3" rowspan="2">ISO 15765-2: Road vehicles — Diagnostic communication over Controller Area Network (DoCAN) —
Part 2: Transport protocol and network layer services</td><td rowspan="2">SAE J1939-21</td></tr>
<tr><td>3</td><td>Vermittlungs-paket (Network)</td><td>Routing, Adressierung, Nutzererkennung und Überwachung</td></tr>
<tr><td>2</td><td>Sicherung (Data Link)</td><td>Erstellung von Botschaften, Buszugriff, Fehlererkennung, Ablaufkontrolle</td><td rowspan="2">ISO 13400-3: Road vehicles — Diagnostic communication over Internet Protocol (DoIP) — Part 3: Wired vehicle interface based on IEEE 802.3</td><td colspan="4" rowspan="2">ISO 11898-1: Road vehicles - Controller area network (CAN) - CAN Data link and pysical signaling; ISO 11898-2: Road vehicles - Controller area network (CAN) - CAN High-speed medium access unit</td></tr>
<tr><td>1</td><td>Bitübertragung (Physical)</td><td>Signale, Bit Kodierung</td></tr>
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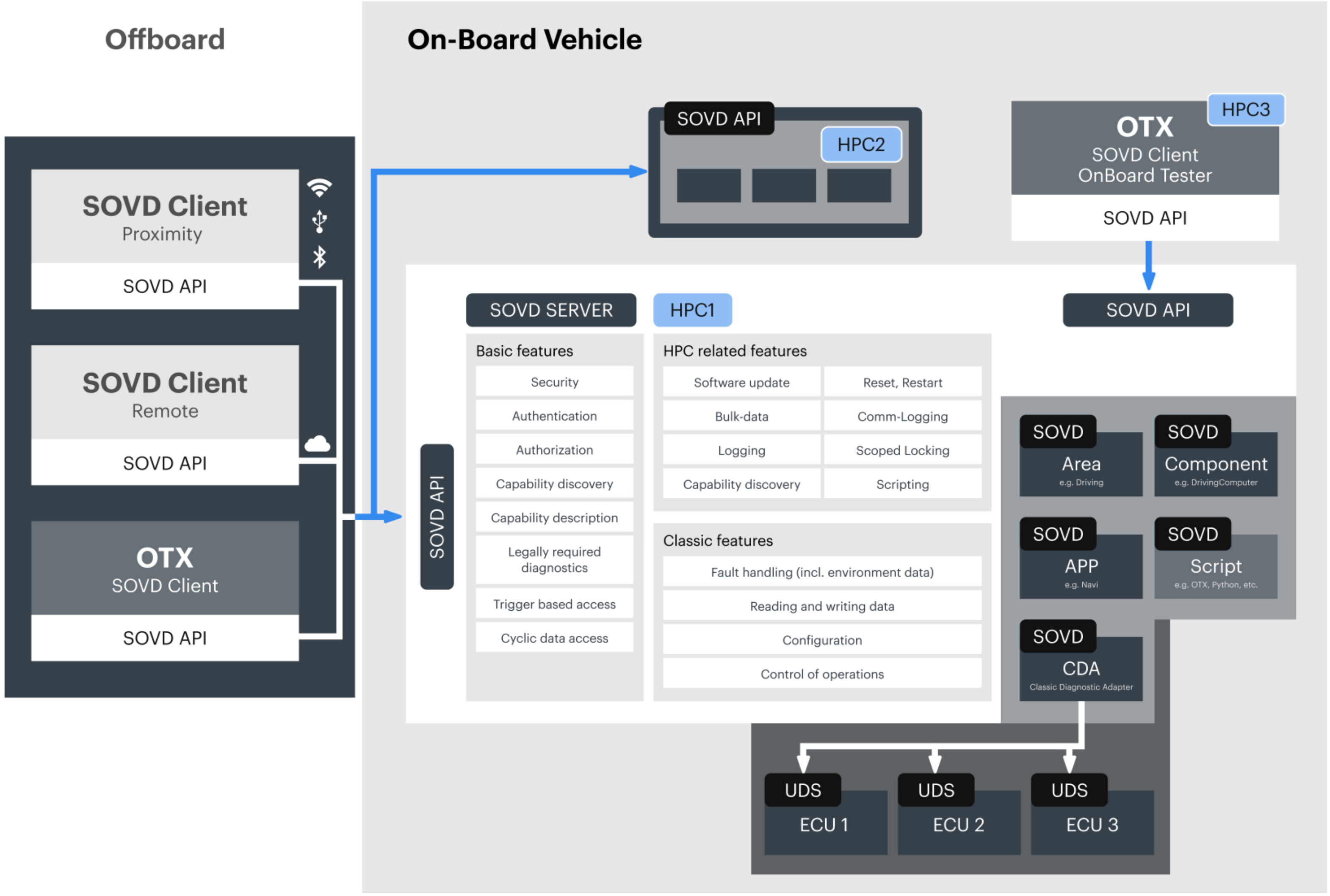
How ASAM support the fullfillment of regulations SOVD-UDS Mapping

Functional Group	UDS SID	UDS Service	Description	SOVD 1.1.0 resource	Remark
Diagnostic and Communications Management	0x10	Diagnostic Session Control	Enable various diagnostics sessions within ECU	<entity>/modes/**session**	Mapping of SessionControl Subfunctions to SOVD Modes
	0x11	ECU Reset	Resetting the ECU to be back in the default session	<entity>/operations/**restart**	Mapping of EcuReset Service to Operation Resources
	0x27	Security Access	Limit access to data and services to prevent unauthorized access	<entity>/modes/**security**	Mapping of SecurityAccess
	0x28	Communication Control	Manage the exchange of messages in the ECUs	<entity>/modes/**commctrl**	Mapping of Communication Control Subfunctions to SOVD Modes
	0x29	Authentication		<entity>/modes/**security**	Mapping ofAuthentication to SOVD Modes (Informative)
	0x3E	Tester Present	Alert the ECU(s) that client is still connected so that diagnostic sessions remain active.	Is taken over by the Classic Diagnostic Adapter	
	0x85	Control DTC Settings	Enable/disable updating of DTC settings in ECU	<entity>/modes/**dtcsetting**	Mapping of Control DTC Settings Subfunctions to SOVD Modes
Data Transmission	0x22	Read Data By Identifier	Request data from ECU(s)	<entity>/data/	Mapping of UDS Services to Data Resources
	0x2E	Write Data By Identifier	Write data onto ECU(s)	<entity>/configurations/	Mapping of UDS Services to Data Resources
Stored Data Transmission	0x14	Clear Diagnostic Information	Clear diagnostic trouble codes (DTC) stored in the ECU	<entity>/faults/	Mapping of UDS Services to Fault Resources
	0x19	Read DTC Information	Read DTC from the ECU	<entity>/faults/	Mapping of UDS Services to Fault Resources
Input/Output Control	0x2F	Input Output Control By Identifier	Control the input/output signals through the diagnostic interface	<entity>/operations/	Mapping of Routine and IOControl Services to Operation Resources
Remote Activation of Routine	0x31	Routine Control	Control all the routine services (erasing memory, testing routines etc.)	<entity>/operations/	Mapping of Routine and IOControl Services to Operation Resources

Related activities of ASAM



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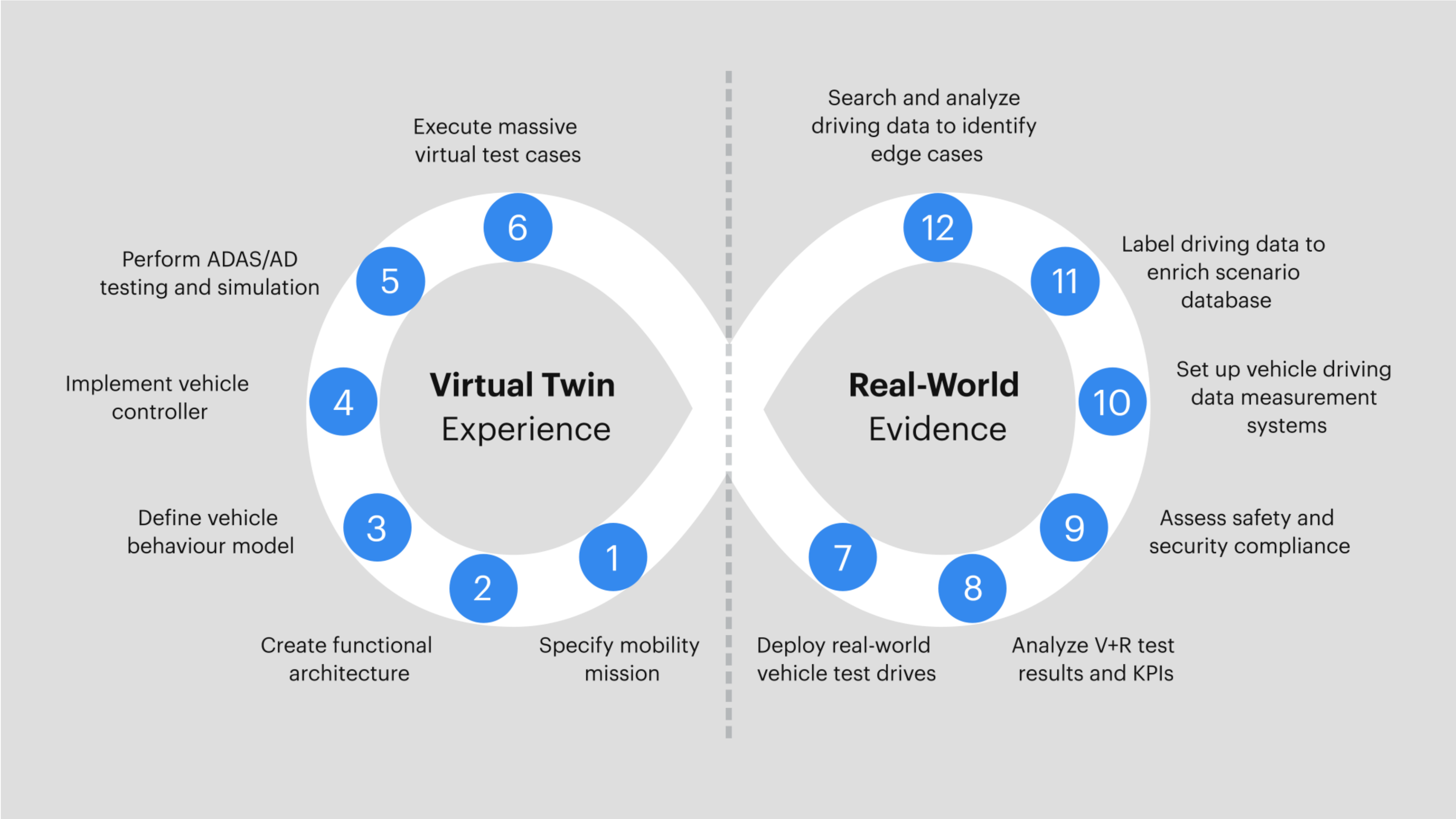
SDV related activities of ASAM



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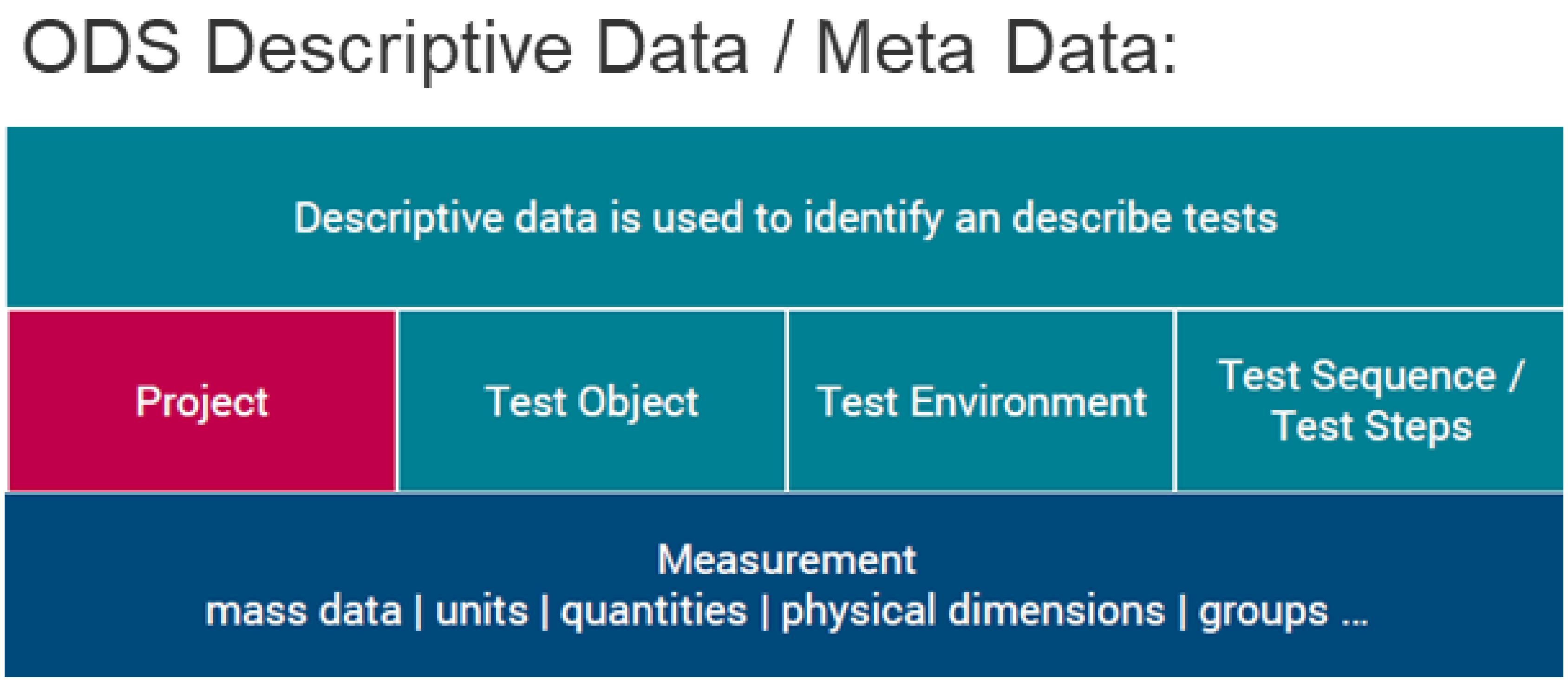
Related activities of ASAM - ODS



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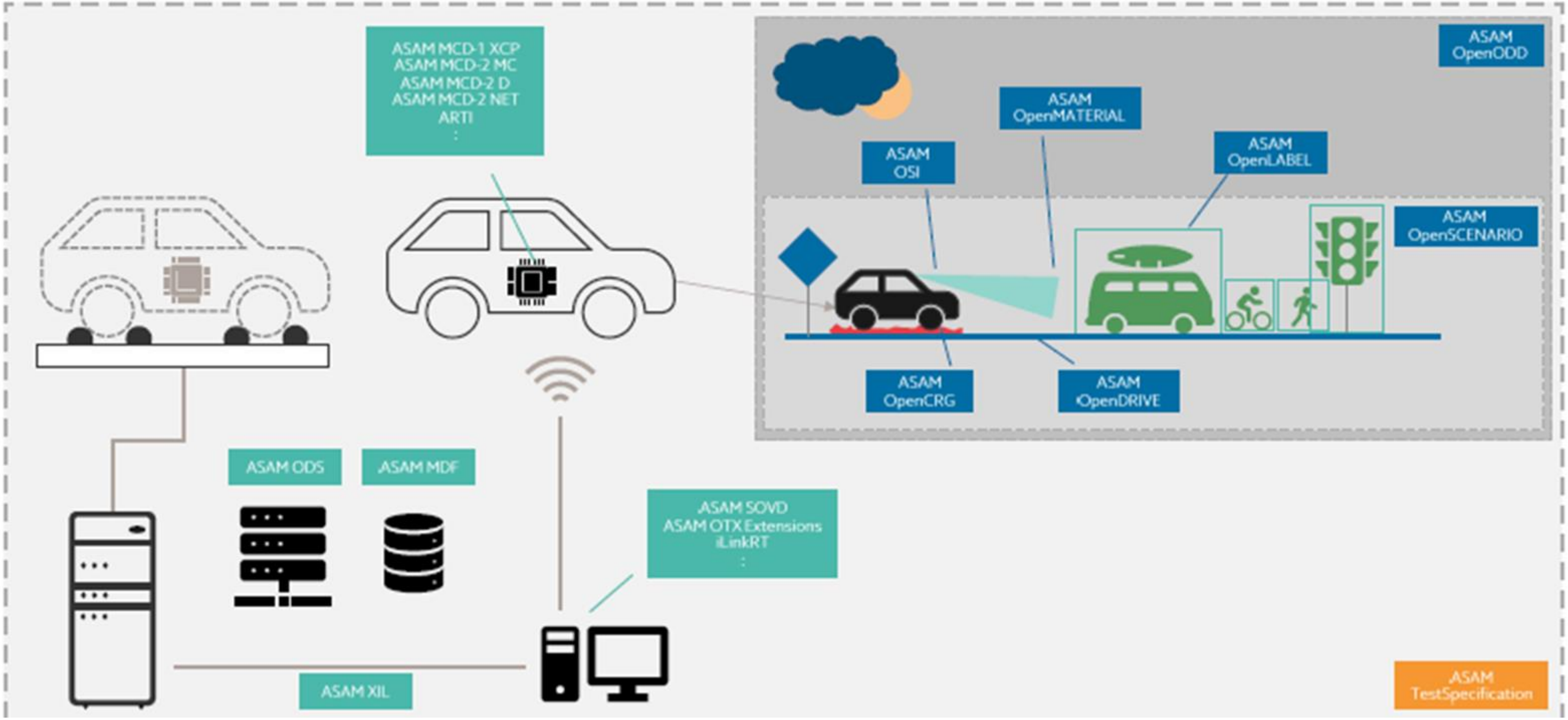
Related activities of ASAM MCD



ASAM based Test Management Tooling

Test Specification and Configuration	Test Execution	Test Documentation and Archiving	Test Evaluation and Data Analytics

Software Tools, Components and embedded solutions
ASAM MCD (ODX, A2L, XCP, MDF, XIL…..), ARTI, CMP, iLink RT & ISO/ASAM SOVD

Test logic
ISO/ASAM OTX, SOVD

Access, management and analysis of test data
ASAM MDF, ATX, ODS

Software Tools for vehicle networks analysis, simulation & data acquisition
ASAM MCD (ODX, A2L, XCP, MDF, XIL,…..), ARTI, CMP, iLink RT,…