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imc Meßsysteme GmbH

imc specializes in development distribution and system integration of products for technical/ scientific applications. imc offers hardware and software products for measuring technology based on different ASAM standards and other technical or scientific applications. For all of its products, imc provides competent technical support and services.

imc CRONOS PL

Type	Universal data acquisition system

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Influx Technology Ltd.

Influx Technology make specialist tools for the development of automotive control systems. Vehicle (MCD) data loggers, (OBD) diagnostic and specialist (CDM) tools for development engineers. Formed in 1999 we operate in the UK and Bulgaria with distributors in the US, China, India and Japan.

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INTEMPORA

Intempora develops the RTMaps software and other related tools for real-time multimodal applications. RTMaps is widely used in the automotive and mobile robotics domains, either for facilitating the development, tests and validation of perception functions based on multiple sensors (vision, data fusion, localization…) or for HMI developments and human factors analysis.

Dataloggers

Type	Wide range of data loggers from small ARM-based architecture devices to clusters of distributed high-performance PCs
Functionalities	Timestamped recording of heterogeneous data streams (compressed & uncompressed videos, GPS, lidars, radars, CAN, IMUs, etc.)
ASAM Standards	ASAM AE MCD-1 XCP, ASAM AE MCD-2 MC (ASAP2/A2L)

RTMaps

Type	Software development environment
Functionalities	Multiple & heterogeneous sensors acquisition Data Timestamping, Graphical development, C/C++ SDK, Record / Playback, Multithread, Embedded deployment, Interoperability with many complementary tools (Matlab, Simulink, simulators…)
ASAM Standards	ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L)

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Intrepid Control Systems, Inc.

Intrepid Control Systems is a global provider of innovative tools to engineers in vehicle, test, and embedded engineering. With thousands of customers worldwide, Intrepid provides embedded communication interfaces for protocols such as CAN, LIN, FlexRay, J1850, Keyword 2000, UART, J1939, ISO14229 and GMLAN. Major customers include automotive and commercial vehicle OEMs from a wide variety of countries. Along with a global network of distributors, Intrepid has offices in the USA, China, Japan, Germany, India, and Australia for direct sales and support.

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neoVI FIRE / neoVI RED

Type	Vehicle Interface Adaptor, PC to Vehicle Network Adaptor
Functionalities	Monitor vehicle network, Log vehicle network data, Run real-time scripts, Simulate networks, ECUs, & gateways. Use a stand-alone data logger by logging data to removable SD card. Use for ECU prototyping.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MDX

neoVI PLASMA

Type	Remote Data Logging Tool, Vehicle Fleet Management Tool
Functionalities	Standalone data logger ; Remote data logger with auto-download via WIFI, 3G or Ethernet ; Heads-up display for test vehicles; In-vehicle data acquisition system; Captive test fleet data collection; Fleet management and more. Support for CAN, LIN, FlexRay, MOST, XCP/ CCP, Ethernet, ISO14229, GMLAN, J1939, Analog Inputs, and more.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MDX

ValueCAN

Type	PC to CAN (Controller Area Network) Adaptor/Interface
Functionalities	Dual Channel Isolated Dual Wire CAN to USB interface; Connect PC to a Controller Area Network (CAN) bus
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MDX

Vehicle Spy Professional

Type	Software
Functionalities	Software for performing diagnostics, node/ECU simulation, data acquisition, automated testing, memory edit or calibration, and vehicle network bus monitoring, and more. Supports CAN, LIN FlexRay, MOST, J1939, J1850, K-Line, ISO9141, J1708, ISO14229, UART, Keyword, GMLAN, CCP/ XCP, and more.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MDX

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Operating via its four interrelated divisions: IPEmeasure measurement technology; IPEmotion software; IPEengineering Technical Center; and IPEtec Test Bench Technology, IPETRONIK is uniquely positioned to offer one of the industry's only true customer-specific turnkey data acquisition solutions. Having begun as a hardware-only provider nearly two decades ago, IPETRONIK has now developed into an internationally renowned technology partner to some of the world's most prominent vehicle manufacturers, offering a combination of measurement technologies, software, accessories, and unique in-house testing capabilities and facilities. Consistent with the company mission of PROGRESS IS THE FUTURE, 180 highly trained IPETRONIK staff members and sales partners, headquartered in Baden-Baden, Germany; with additional offices in the United States and India, as well as subsidiaries worldwide, ensure constant growth and innovation in response to market needs. We look forward to providing customers with innovations and improved solutions far into the future.

IPEmotion

Type	DAQ Software
Functionalities	Windows DAQ-Software for configuration, acquisition, visualization, analysis, automation, and control applications.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MDF

M-LOG

Type	Hardware for data acquisition and bus measurement
Functionalities	Acquisition, online calculation and storage
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM GDI, ASAM ODS

M-Series Modules

Type	Measurement modules for analog data acquisition
Functionalities	Acquisition of analog signals, A/D conversion and output to CAN
ASAM Standards	ASAM GDI

Mx-SENS, Sx-STG

Type	Measurement modules for fast analog data acquisition
Functionalities	Acquisition of analog signals, A/D conversion and output to Ethernet
ASAM Standards	ASAM MCD-1 XCP

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IPG Automotive GmbH is a worldwide leading provider of simulation solutions, test systems and engineering services for OEMs and suppliers in the automotive industry. IPG supports its customers in mastering the technological challenges relating to safety, comfort, agility and fuel economy/energy consumption – with forward-thinking solutions for the entire development process. In addition to conventional vehicle dynamics simulation, the CarMaker, TruckMaker and MotorcycleMaker simulation tools open up a wide range of Model-, Software- and Hardware-in-the-Loop simulation. It encompasses the development and testing of chassis control systems, driver assistance systems as well as systems combining chassis, powertrain and steering. Also included are holistic fuel economy/energy consumption analyses, hybrid technology and electric mobility.

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CarMaker

Type	Open integration and test platform for virtual test driving. Applications: General Vehicle Dynamics, Control Systems, Advanced Driver Assistance Systems, Fuel Consumption & Emissions
Functionalities	Flexible model integration from multi-domain environments, maneuver- and event-based testing through „CarMaker Operation System“, easy reconstruction of complex real test driving tasks, efficient system validation in the whole vehicle environment, integrated application in all development phases „X-in-the-Loop“, automated test of comprehensive maneuver catalogs and vehicle variants, powerful interface structure for third party tools
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 NET (FIBEX), ASAM MDF

MotorcycleMaker

Type	Open integration and test platform for virtual test driving. Applications: General Vehicle Dynamics, Control Systems, Advanced Driver Assistance Systems, Fuel Consumption & Emissions
Functionalities	Supporting of different front and back wheel carriers like telescopic fork, telelever, upside-down swing arm and paralever, different drive concepts based on driveshaft, on chain or on swing arm mounted engine, the bending and the torsional stiffness of the body frame and the wheel carriers is taking into account, influence of the driving stability with aerodynamic effects, driving behavior analysis on downhill and uphill slopes and banking on three-dimensional tracks
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 NET (FIBEX), ASAM MDF

TruckMaker

Type	Many axles - much more variants - all in real-time. Applications: General Vehicle Dynamics, Control Systems, Advanced Driver Assistance Systems, Fuel Consumption & Emissions
Functionalities	Real-time performance with every truck/trailer configuration, up to 10 axles with configurable single or twin tires, all special suspension types for trucks and trailers, various powertrain versions up to 8x8, all typical trailer hitch systems (ball, trapezoid, fifth wheel etc.), flexible truck and trailer body, fixed or movable loads and suspended cabin, pneumatic tool box for active brake and air suspension systems
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 NET (FIBEX), ASAM MDF

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ISTEC GmbH

Custom software solutions for measurement and testing data management, manufacturing execution systems (MES), for distributing and finance and IT-solutions in heterogeneous system environments.

Development of ODS application models

Type	ODS engineering and ODS consulting
ASAM Standards	ASAM ODS

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Development of ODS-based data management systems (.NET, JAVA)

Type	ODS engineering and software development, system integration, measurement data integration platform (ISTEC-MIP), measurement data search engine (ISTEC-MEDAS)
Functionalities	Order management, data integration, navigation and queries, reporting and analysis
ASAM Standards	ASAM ODS

Operation support

Type	Support ODS-based systems
Functionalities	1st and 2nd level support, incident management, problem analysis and solution
ASAM Standards	ASAM ODS

Software development based on MCD-3D and MCD-2D (ODX)

Type	Software Engineering and Software Development
Functionalities	Building test cases for programming systems testing ECU
ASAM Standards	ASAM MCD-3

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IXXAT is a supplier of data communication solutions for the automotive and the industrial market. IXXAT employs a staff of 80 people and has an ISO 9001 certified quality management. Our core technologies are FlexRay, CAN, LIN, Real-Time Ethernet, IEEE1588 as well as safety relevant solutions (IEC61508). Beside hardware components, the product range includes solutions for test stands, hardware-in-the-loop, vehicle communication test-/analyzing tools, OEM components and protocol software.

EtherCat extension

Type	EtherCat extension of the FRC-EP190
Functionalities	A solution to interface the industrial communication world in test-stands with the automotive communication world in vehicles. By means of the gateway solutions, signals can be mapped between the vehicle and EtherCAT.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX)

FRC-EP190

Type	Automotive communication platform
Functionalities	Powerful automotive communication platform for FlexRay, CAN, LIN, Ethernet and EtherCAT which can be used in many different applications.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX

Gateway

Type	Gateway solution for FlexRay, CAN, LIN, Ethernet or FDX
Functionalities	Universal gateway solution which can be used standalone or on-top of an RBS. It can be used to create signal based mappings from and to several communication busses or protocols like FlexRay, CAN, LIN,

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	Ethernet or FDX. The mappings are done by means of a Windows Explorer like drag&drop tool.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX)

Residual Bus Simulation

Type	Residual Bus Simulation software package for the FRC-EP190 hardware platform
Functionalities	Residual Bus Simulation, a tool to generate a simulation of a single or several ECU's. The RBS is created without coding effort and can be downloaded to the automotive communication platform for autonomous execution.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX)

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Keisokugiken Corporation

Keisokugiken Corporation (KGC) has been established in 1980. We specialize in development distribution and customizing system integration of products for automotive measurement and test automation solution based on LabVIEW. We also have experience in engine control data acquisition solutions with combustion analysis system. We also research technology in hardware- in- the-loop- simulation for hybrid and new energy vehicle.

Connecting to ECU calibration tool via ASAP3

Type	Using ECU calibration tool f. Hardware in the loop system of transmission.
Functionalities	ECU data measurement and calibration.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L), ASAM ASAP3

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Kistler Instrumente AG

Kistler is a strong partner of the automotive industries for measurements of force, torque, pressure and acceleration. A worldwide organization with 1200 employees and 25 group companies supplies the automotive industries with sophisticated high-end system solutions. Instrumented crash test facilities, e.g. crash barriers and crash trolleys with piezo-technology as well as wheel force measuring systems with piezo- and strain gauges technology for almost every application are core competencies in the field of automotive engineering.

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KPIT Technologies GmbH

KPIT is expert for diagnostics and telematics in the automotive industry. Innovative products and a broad range of consulting and engineering services meet the tough demands on flexibility and professionalism. Therefore, since 1999, leading vehicle manufacturers and suppliers rely on our powerful and high-quality software and hardware-solutions. With In2Soft Diagnostic Tools and K-DCP Diagnostic Authoring and Framework solutions KPIT provides a complete tool set for vehicle diagnostics. (KPIT Diagnostic and Connectivity Platform). KPIT, is a fast growing global product engineering and IT consulting partner focused on co-innovating domain intensive technology solutions for automotive & transportation, manufacturing and energy & utilities corporations. KPIT is at the forefront of automotive engineering with solutions in the areas of AUTOSAR & In-Vehicle Networks, Body Electronics, Chassis, Safety & Driver Assistance, Functional Safety, Vehicle Diagnostics, Telematics, Infotainment and Powertrain. Established in 1990, KPIT has its head office in Pune/India and operates globally through 31 offices and 7 development center across America, Europe and Asia.

In2Soft Diagnostic Tools DatabaseDesigner

Type	ODX Editor incl. Checker, Differ, Formatter & Inspector
Functionalities	Creates and administers ODX data in conformance with the international industry standards ODX 2.0.1 and ODX 2.2.0. Provides options for creating a completely new data structure or selectively adapting the existing data in the desired format (OEM and Tier1 collaboration). Compatible to work with all dialects of the ODX standards. Provides an option to create the right data for UDS control unit with in-built UDS on CAN description of KPIT. Object-based comparison of whole ODX projects or selected layers, resolved inheritance, expert and diagnostic modes, XML/PDF report. Complete project or single layer formatting, output formats: PDF, MSR, DOC/RTF (on demand). XML validation, ASAM rule set check, API for company-specific rules, configurable error descriptions and correction instructions, XML/XLS and PDF export.
ASAM Standards	ASAM MCD-2 D (ODX)

K-DCP Diagnostic Authoring

Type	OTX Editor, Executer and Debugger, UI and Navigation Edit or Multi-User Workflow and Publication management
Functionalities	Graphical visualization and drag ‘n drop of OTX elements. ODX support with Diagnostic Wizard and Diagnostic View incl. auto-generation of sequences to access i.e. measurement-values, identification data or adjustment values. Validation and debugging of sequences on simulation channel or VCI hardware. UI-Editor to create custom specific screens. Navigation editor used to control the workflow in the K-DCP Diagnostic Framework. Data and workflow management for multi-users with different roles. Publication management with K-DCP License & Update Management system. Sequence code generation.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

K-DCP Diagnostic Communicator

Type	Generic Diagnostic Tester for ECU / Vehicle validation
Functionalities	Execution of ODX diagnostic services and OTX sequences. Bus monitoring (CAN / K-Line) with timestamps, filtering and symbolic (CANdb-/ODX-based) offline analysis of bus traces. Simulation channel. Supported hardware: I2S-eCOM (KPIT Interface), DoIP, Vector CANcardX-XL/CANcase, dSpace DCI-CAN/Calibration Hub, others on request.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

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K-DCP Diagnostic Framework

Type	Platform to create customer specific solutions for Engineering / Production and Aftersales Use-Cases
Functionalities	Data driven platform for Engineering, End-of-Line and Aftersales solutions based on ODX and OTX that can be used stand-alone, on cloud servers or telematics hardware and can be extended with customer specific use-cases created with the K-DCP Diagnostic Authoring tool. Supported hardware: I2S-eCOM (In2Soft Interface), DoIP, Vector CANcardX-XL/ CANcase, dSpace DCI-CAN/Calibration Hub, others on request.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

ODX / OTX / MCD-3 D Expert Services

Type	Training, Consultancy and Engineering
Functionalities	Trainings, Support and Consultancy for ASAM MCD-2 D and 3 D, as well as Engineering Services, e.g. ODX Converter, MCD-3 D Kernel integration and implementation of diagnostic tester applications for development, production and after sales.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

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Kratzer Automation AG

KRATZER AUTOMATION provides innovative, turn-key software for testing efficiency covering the entire spectrum from test automation in real time over full corporate data integration up to efficient optimization of your testing results. We also deliver complete and individually configured test benches for the automotive industry.

PAoptimizer

Type	Optimization system
Functionalities	Optimization system supporting the complete design chain from DOE, measurement, modeling, evaluation, optimization, support of ECU calibration tools.
ASAM Standards	ASAM ACI, ASAM MCD-3

PAtools®

Type	Open test system
Functionalities	Open test system functionalities: Free configurable test bench automation system for all types of test benches in research and development and quality assurance.
ASAM Standards	ASAM MCD-3

testXplorer

Type	Test data management system
Functionalities	Free configurable functions for central data storage and archiving, data integrity check, web-based retrieval, process support in the test center with functions for order management, test bench planning, SAP-interface and traceability.
Supported ASAM Standards	ASAM CEA, ASAM ODS

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Kristl, Seibt & Co GmbH

Kristl, Seibt & Co GmbH (KS Engineers) has been delivering solutions in the business fields of automotive engineering, industrial automation and building facilities for the past 30 years: some 240 employees manage projects in these fields worldwide.
Making optimum use of the synergies created between the technological fields of mechanics, control engineering, data engineering and building facilities, KS Engineers are extremely competent partners and have the experience to handle comprehensive turnkey projects highly efficiently

Tornado

Type	Test bed automation system
Functionalities	The KS Tornado software package provides measurement, control and report functions for test benches and is optimized for engine and chassis dynamometer test stands, power train test benches and vehicle component test rigs.
ASAM Standards	ASAM ACI, ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-3, ASAM ODS

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M&K Mess- und Kommunikationstechnik GmbH

M&K is a software house that offers systems for analysis and diagnosis of communication software and interfaces. We specialize in the development of software for the areas of device integration and connection of physical interfaces. This also includes software development for embedded systems and middleware for embedded device integration. Our focus is to provide development services for ASAM solutions to seamlessly connect tools from application level down to individual devices. M&K offers development and diagnostic tools for the creation, interactive testing and analysis of ASAM interfaces and products. Furthermore, we are conducting trainings and offer consulting services for ASAM solutions. For ASAM GDI, we offer a complete tool chain including development tools and a middleware solution as runtime environment. M&K develops test cases and realizes the frameworks for testing.

an@coord

Type	GDI Warehouse - Runtime Environment; Platform Windows and Linux, available as source code or run time licence
Functionalities	Individual adapted Coordinator with specific optimization features (performance, memory, security, ...) and C++ Technology Reference; string overloaded data type interface for shortcut service based configuration (description of DCD\'s by application); PID support; device drivers of any alignment useable.
ASAM Standards	ASAM GDI

an@dapt

Type	GDI Warehouse - Runtime Environment; Platform Windows and Linux, available as source code or run time licence
Functionalities	Platform adapter for operating system independent Device drivers
ASAM Standards	ASAM GDI

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an@mod

Type	Warehouse Development Tools; Development and diagnostic tools for creation, interactive testing and analysis of ASAM interfaces and products
Functionalities	graphical UML GDI Device model generator and generation of the accomplishing DCD / DIT / Dll files. Released GDI Companion DCD of MCD3 OO model was generated by an@mod.
ASAM Standards	ASAM GDI

an@pact

Type	GDI Warehouse - Runtime Environment; Platform Windows and Linux, available as source code or run time licence
Functionalities	Communication Types GDI_IP (TCP/IP, UDP/IP) and GDI_COM
ASAM Standards	ASAM GDI

an@pars

Type	Warehouse Development Tools; Development and diagnostic tools for creation, interactive testing and analysis of ASAM interfaces and products
Functionalities	GDI and MCD parser and semantic checker with data access
ASAM Standards	ASAM GDI, ASAM MCD-2 MC (ASAP2/A2L)

an@skel

Type	Warehouse Development Tools; Development and diagnostic tools for creation, interactive testing and analysis of ASAM interfaces and products
Functionalities	C++ Skeleton generator for GDI Device Driver; automatic user code integration through directed programming and reengineering
ASAM Standards	ASAM GDI

an@stub

Type	Warehouse Development Tools; Development and diagnostic tools for creation, interactive testing and analysis of ASAM interfaces and products
Functionalities	Object oriented application generation based on DCD classes ;Efficient application generation for testing of application sequences and effective usage of devices drivers; available for C++ and Python; Stub classes encapsulate GDI specific Coordinator access (Coordinator API version independent); Profile independent usage of GDI device drivers; automatically serialization of data types described by DCD for stream oriented data exchange
ASAM Standards	ASAM GDI

an@test

Type	Warehouse Development Tools; Development and diagnostic tools for creation, interactive testing and analysis of ASAM interfaces and products
Functionalities	The goal of the test application is the development and verification of ACI server solutions. Execution of defined test cases based on ACI test catalogue and evaluation of result. Initial (re-entry), repetition and acceptance test are possible. In case of error, faults are analyzed and a diagnosis is made. Additional test cases can be modified for application specific procedures. Results of the test application are comparable and reproducible.
ASAM Standards	ASAM ACI

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an@vis

Type	Warehouse Development Tools; Development and diagnostic tools for creation, interactive testing and analysis of ASAM interfaces and products
Functionalities	Interactive online testing of device drivers with analysis and visualization
ASAM Standards	ASAM GDI

iMCa

Type	MATLAB High Performance connector between AUSY, MATLAB and MC-System
Functionalities	The iMCa (intelligent multi-client adapter) allows the access from different clients to ECU via a MC-System for high speed data measurement and calibration of characteristics. A sample time from 4 ms is guaranteed. The solution allows an easy integration in existing test benches or alternatively the realization of automation tasks via MATLAB applications. Transient and dynamic system state illustration allows closed loops. Additionally a bidirectional process value exchange between MATLAB and AUSY is possible. Different MATLAB instances can run in parallel. MATLAB in connection with iMCa can be used as standalone automation system. With iMCa it is possible to extend an existing test bench environment with a MATLAB access. The MCA MATLAB user is independent from the knowledge of communication protocols. The MCA .NET interface can be used in C#, C++ and IronPython additionally.
ASAM Standards	ASAM ASAP3

Training

Type	Consulting and coaching (also inhouse available)
Functionalities	Support from modeling up to running GDI device drivers; Usage and work principle of GDI Coordinators; Capabilities of MCD-3 OO model; Integration and migration is considered.
ASAM Standards	ASAM MCD-3 D, ASAM MCD-3 MC, ASAM GDI

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MAHA-AIP (Automotive Industry Products), located in South-Germany, designs and manufactures various test stands for light-, medium- and heavy-duty vehicles, motorcycles and ATVs for vehicle manufacturers, their sub-suppliers and certification labs (EPA, NIER, JRC, CARB etc.). Test drives can be simulated indoors with reproducible results on roller test stands (rolling roads) to improve product quality and optimize costs.

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LAG-VW00002444

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The MathWorks is the world's leading developer of technical computing software for engineers and scientists. With an extensive product set based on MATLAB and Simulink®, The MathWorks provides software and services to solve challenging problems and accelerate innovation in automotive, aerospace, communications, electronics, instrumentation, process and other industries.

MATLAB

Type	Technical computing environment
Functionalities	High-level programming language for numeric computation, data analysis and visualization, system design and other technical applications. MCD-2 data can be imported into MATLAB using various third-party add-ons.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L)

Real-Time Workshop Embedded Coder

Type	ECU production code generation
Functionalities	Real-Time Workshop Embedded Coder provides production code generation for Simulink models, designed for embedded systems development. Real-Time Workshop Embedded Coder generates optimized ANSI-C code for fixed-point and floating-point microprocessors, plus automatic generation of MCD-2 data definition file.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L)

Simulink

Type	Model-based Design environment for modeling and simulation
Functionalities	Block-diagram environment for modeling, simulating, analyzing and generating code for prototyping, hardware-in-the-loop and production code generation. MCD-2 data can be imported for use with Simulink models using MATLAB programming.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L)

Target Support Package

Type	Target-specific extension for Real-Time Workshop Embedded Coder to support multiple embedded targets
Functionalities	Includes blocks for use with Simulink and Real-Time Workshop Embedded Coder, providing support for CCP (CAN Calibration Protocol) and creates a MCD-2 data definition file for the generated C code and automatically inserts memory address attributes for variables and parameters (dependent on selected target).
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-2 MC (ASAP2/A2L)

xPC Target

Type	Rapid control prototyping and HIL system
Functionalities	xPC Target is a solution for prototyping, testing and deploying real-time systems using standard PC hardware. It is an environment that uses a target PC, separate from a host PC, for running real-time applications. It can connect to CAN calibration tools, such as Vector CANape, using an XCP interface.
ASAM Standards	ASAM MCD-1 XCP

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measX GmbH & Co. KG

MeasX offers complete test and data management systems for component and electronics testing in the automotive industry. This includes test rig automation, data acquisition, data analysis and storage. Based on standard hardware and software tools, measX systems are efficient, flexible and cost effective.

MVA-PC

Type	Engine test data evaluation and reporting
Functionalities	DIAdem(R) based solution optimized for the requirements of engine test data analysis. Automatic generation of standard reports including data evaluation via formulas and scripts. Management of evaluation methods, formulas, layouts on different levels (user related, company standards). Batch processing of evaluations and report generation.
ASAM Standards	ASAM ODS

X-Frame

Type	Data evaluation and data management system
Functionalities	Ready to use solution and development platform for DIAdem(R) based data evaluation applications. Covers data management, evaluation, management of evaluation methods and formulas, reporting, user management, parameter and layout management. Open interface for customizing. Implemented applications include: Data management and analysis of long-term drive and handling tests; Link of individual component test rigs into the ODS environment; Management of tests, test samples and results in a companywide ASAM ODS environment.
ASAM Standards	ASAM ODS

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Meidensha Corporation

The quality and reliability of the Meiden Dynamometer has been established on a worldwide basis and the company continues to expand its reputation in all areas of dynamometer systems, i.e. drive simulation and analysis, test rigs, data acquisition and analysis, computer systems.

MEIDACS-DY6000P

Type	Data acquisition and control
Functionalities	Data acquisition and test automation for engine, vehicle and vehicle components
ASAM Standards	ASAM ACI, ASAM MCD-3

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MFP GmbH

MFP creates tailored solutions for Test Automation and Manufacturing Execution. Our recent development is an application for optimising the material flow in production, based on the interaction of several software agents with ASAM GDI interface. The execution system controls a just-in-time production in real-time, based on RFID-measurements and adapting to unforeseen events.

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Aptovia

Type	Application for adaptive material flow control
Functionalities	Report current material position; Control any transport system; Integrate express orders
ASAM Standards	ASAM GDI

MAGUS

Type	Software for supplier independent device configuration
Functionalities	Device independent planning of automation and measurement applications; Automated device configuration from application parameters
ASAM Standards	ASAM GDI, ASAM ODS

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Müller-BBM VibroAkustik Systeme GmbH

Müller-BBM VibroAkustik Systeme is one of the leading suppliers of vibroacoustic measurement technology for the interpretation of dynamic data, particularly in the fields of acoustics, vibration and strength. Our engineering expertise and competence for the measurement tasks at hand results in innovative solutions that seamlessly integrate into existing system environments. As one of the ASAM foundation members, we demonstrate enduring ASAM ODS expertise. This is reflected in our involvement in the definition of standards including the definition of the format for digital bus data, NVH or geometry.

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Edp

Type	Web-based engineering data portal
Functionalities	Interactively browse, query and analyze ASAM ODS data in the internet browser. Access to ASAM ODS data - especially NVH data (ODS-relational database, OO-API, ATF/XML). Data processing (depiction of sum levels, nth octaves and orders, statistical calculation, data mining, audio). Export of stored data and processing results. Presentation of interactive graphics (SVG - scalable vector graphics). Creation of high quality VAS Graphics2Go® packages for interactive Microsoft® Office integration. Supported ASAM standards: ASAM ODS V5.1, V5.2, V5.3; NVH and Geometry data model; ASAM ODS data access with OO-API; exchange format ATF/XML.
ASAM Standards	ASAM ODS

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MÜLLER-BBM
VibroAkustik Systeme

PAK

Type	Dynamic Data Measurement and Analysis System
Functionalities	Data acquisition: fast, static, digital (CAN, FlexRay™, EtherCAT®) channels; limitless channel counts. Data analysis: real-time analysis; selectable track parameters; configurable measurement descriptions; ASAM ODS based; user-configurable quantity catalog; system-independent data viewing based on ATF/XML; interactive graphics; creation of high quality VAS Graphics2Go® packages for interactive Microsoft® Office integration. Supported ASAM standards: ASAM ODS V5.1, V5.2, V5.3; NVH, Geometry and Bus data model; database; exchange format ATF/XML.
ASAM Standards	ASAM ODS

PAK capture suite

Type	Data acquisition system
Functionalities	Data acquisition: fast, static, digital (CAN) channels; Interactive operation via smart devices or as standalone unit; Time recordings – manually or triggered; Supported ASAM standards: ASAM ODS V5.2, V5.3; NVH; Native writing of ATF/XML format.
ASAM Standards	ASAM ODS

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Offices
National Instruments is a worldwide organization with direct operations in more than 40 countries and a presence in almost every region of the world.

National Instruments Corporation

National Instruments is the leader in Graphical System Design and offers sophisticated hardware and software products. Found at nearly every automotive OEM and Tier 1 supplier, our tools save time and money across all stages of the automotive engineering process by providing a common platform. NI's revolutionary concept has changed the way engineers and scientists approach measurement and automation, through industry-leading I/O, flexible off-the-shelf hardware and the powerful software development environments, to create user-defined solutions for applications ranging from End-of-Line and infotainment test to in-vehicle data logging and embedded software validation.

ECU Measurement and Calibration Toolkit

Type	Add-on for ECU measurement and calibration.
Functionalities	The NI ECU Measurement and Calibration Toolkit extends the NI LabVIEW, NI LabWindows™/CVI, and Microsoft C/C++ development environments to support measurement and calibration applications for the design and validation of electronic control units (ECUs).
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L)

NI DataFinder Server Edition

Type	Centralized ASAM ODS compliant data management software
Functionalities	NI DataFinder Server Edition is an ASAM ODS server which works out-of-the-box by indexing test files with no need for IT support or database knowledge. NI DataFinder Server Edition integrates easily into existing systems and offers the indexed data through an ASAM ODS CORBA interface.
ASAM Standards	ASAM ODS

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PAK

MÜLLER-BBM
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NATIONAL INSTRUMENTS

NI DIAdem

Type	Data management, analysis, report generation a. script based automation.
Functionalities	NI DIAdem is a single software tool that can be used to quickly locate, load, visualize, acquire, analyze, and report measurement data collected during data acquisition and/or generated during simulations.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM ODS

NI LabVIEW

Type	Graphical System Design based application development environment (ADE).
Functionalities	Graphical System Design software that provides engineers and scientists with the tools needed to create and deploy measurement and control systems through unprecedented hardware integration.
ASAM Standards	ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM ASAP3

NI LabWindows™/CVI

Type	ANSI C based application development environment (ADE)
Functionalities	LabWindows™/CVI is a proven ANSI C development environment for engineers and scientists which increases productivity when creating test and measurement applications.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX)

NI TestStand

Type	Test Automation
Functionalities	NI TestStand is a ready-to-run test management software used for developing, executing, and deploying test and validation systems. Users can develop test sequences that integrate code modules written in any test programming language. Sequences also specify execution flow, reporting, database logging, and connectivity to other enterprise systems.
ASAM Standards	ASAM XIL

NI VeriStand

Type	Application development environment (ADE) for real-time testing applications.
Functionalities	NI VeriStand is a powerful out-of-the-box software environment for configuring and performing real-time testing applications, such as HIL, MIL, SIL and test cells more efficiently.
ASAM Standards	ASAM XIL, ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM ASAP3

NI-XNET

Type	Hardware Driver
Functionalities	High-performance driver software technology behind NI's CAN, LIN, and FlexRay interfaces for PCI, PXI and NI C Series, which provides a set of driver software and APIs for NI LabVIEW, NI LabWindows/CVI, and C/C++ on Windows and LabVIEW Real-Time OSs.
ASAM Standards	ASAM MCD-2 NET (FIBEX)

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OnoSokki Co., Ltd.

We, Ono Sokki Co., Ltd., are designing and manufacturing the measurement and control system for automobile testing and development. Also the instruments for analyzing the noise and vibration are available on our production line.

Engine Test Bed

Type	FAMS8000
ASAM Standards	ASAM ACI, ASAM MCD-3 MC

ORANGE

Type	OP-3000
Functionalities	ECU Calibration
ASAM Standards	ASAM MCD-3 MC

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ORME

ORME is a French company located in Toulouse, specializing in signal and image processing. ORME has based its activities on its know-how and on a close relationship with its customers to fit their needs. ORME realizes specific algorithm studies and software developments as well as training. ORME also develops and commercializes its own software for data analysis: TrackImage (image sequence analysis) and TrackReport (test analysis and reporting).

TrackReport

Type	Software
Functionalities	Automatic test analysis and reporting
ASAM Standards	ASAM ODS

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Parametric Technology Corporation

PTC unterstützt mit seiner Integrity-Business Unit Unternehmen dabei, ihre Softwareentwicklung zu optimieren und für kontinuierliche Innovationen zu sorgen. Gleichzeitig werden die Komplexität der Software reduziert, Zykluszeiten verkürzt und in allen Entwicklungsstufen Risiken minimiert. Unsere Softwareentwicklungsplattform Integrity ist die einzige einheitliche Plattform, die alle Funktionalitäten für die Zusammenarbeit und Kontrolle von Entwicklungskomponenten und -aktivitäten umfasst. Unsere schnell anpassbaren Lösungen sind für 10 bis 10.000 Benutzer in unterschiedlichen Funktionen geeignet. Sie lassen sich problemlos mit ähnlichen Systemen integrieren und haben sich in den Umgebungen anspruchsvoller globaler Unternehmen vielfach bewährt.

Integrity, a PTC product

Type	Application Lifecycle Management System
Functionalities	Requirements Management, Architecture Management, Change Management, Test Management, Traceability
ASAM Standards	ASAM Issue

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PTC®

Source, a PTC product

Type	Software Configuration Management
Functionalities	Integrated Configuration and Change Management. Full traceability to Requirements and Models. Integration in Test Management.
ASAM Standards	ASAM CC

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Peak Solution is focused on the design and implementation of software applications for the planning, description, evaluation and documentation of tests. The solutions are based on standardized, flexibly adjustable software components which, thanks to their open interfaces, can be integrated smoothly into existing application and system landscapes. Special focus is placed on the use of applicable standards like ASAM ODS.

openMDM based systems

Type	An open and manufacturer independent open source software platform for the implementation of company-wide test and measurement data management solutions
Functionalities	Proven software modules for test definition and order placement as well as storage, search and exchange of measurement data, customizable application model, interfaces to many measurement systems and data formats, like e.g. DIADEM, FAMOS, Excel, etc.
ASAM Standards	ASAM ODS

Peak ODS Server

Type	Peak ODS Server offers standardized methods and interfaces for saving and reading test data on the basis of ODS
Functionalities	Peak ODS Server supports the ASAM standards ODS 5.3, ODS Mixed Mode and ODS Extended Query. It is optimized for use in connection with the measurement data management framework openMDM. But also other data acquisition, automation and analysis systems can be expanded fast and cost-effectively to access ODS databases using the Peak ODS server. Providers who would like to use the Peak ODS Server in their own OEM solutions or customer projects will find that Peak Solution has a fair partner concept with interesting conditions. The Peak ODS server works with Oracle and MS-SQL data bases.
ASAM Standards	ASAM ODS

Professional services for openMDM

Type	Professional services for the implementation of company-wide test and measurement data management solutions
Functionalities	Consulting, system set-up, customizing, software development, system integration, support and maintenance for the open MDM framework
ASAM Standards	ASAM ODS

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PEAK-System Technik GmbH

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Founded in 1999, PEAK-System Technik is a leading provider of hardware, software, and services for the industrial communication with emphasis on the field busses CAN and LIN. The product range includes:

- CAN/LIN interface modules for common PC hardware interfaces (PCI, cPCI, Mini PCI, PCI Express Mini, PCIe, PC/104, USB, PC Card, and ExpressCard)
- Configurable and programmable microcontroller hardware with CAN interfaces for individual developments, measurement data acquisition, and control applications
- Various software products for Windows® 7, Vista, and XP, used for diagnosis, monitoring, and influencing CAN and LIN networks

In addition to development as well as distribution and trade of hardware and software products, PEAK-System Technik provides know-how in form of different services:

- Custom-designed hardware and software development as well as hardware adjustments

Production of PCB layout, including board fabrication and equipment if desired - from prototype to series

- Creation of user manuals, maintenance instructions, as well as any kind of technical documentation

PEAK-System Technik belongs to the PEAK group (www.peak-international.com).

PCAN-CCP API

Type	API / Programming Interface
Functionalities	Free CCP programming interface. Uses the programming interface PCAN-Basic (also free of charge) for accessing the CAN hardware in the computer. Physical communication via CAN using a CAN interface of the PCAN series by PEAK-System. One API function for each command on the CCP standard. Additional commands for communication management.
ASAM Standards	ASAM AE MCD-1 CCP

PCAN-XCP API

Type	API / Programming Interface
Functionalities	Free XCP programming interface. Uses the programming interface PCAN-Basic (also free of charge) for accessing the CAN hardware in the computer. Physical communication via CAN using a CAN interface of the PCAN series by PEAK-System. One API function for each command on the XCP standard. Additional commands for communication management.
ASAM Standards	ASAM AE MCD-1 XCP

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PikeTec is a software company specialized in functional testing and verification of ECU software. For this, PikeTec created the tool TPT which supports systematic automated test of control software. Testing Simulink-models works as well as testing ASCET-models or C-Code. TPT supports MiL, SiL or even PiL and HiL testing procedures.

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Test Consulting

Type	Consulting
Functionalities	We provide support for designing test processes and test methodologies.

Test Engineering

Type	Engineering
Functionalities	We do testing of all kind of automotive control software like powertrain controller, body controller, drive dynamics controller etc.

TPT

Type	Testing tool
Functionalities	TPT is a model based testing and verification tool for control systems. TPT supports modeling of reactive testing, real-time testing, automatic test execution on e.g. Simulink or ASCET models, C-Code, PiL or HiL. Tests are evaluated and reported automatically. Requirements tracing and testing according to ISO26262 is possible.
ASAM Standards	ASAM MCD-3 MC

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Polytec is a global corporation with facilities in Europe, North America and Asia. It is the worldwide leading supplier for non-contact laser Doppler vibration measurement systems. Polytec's innovative measurement solutions allow our customers to maintain their own technical leadership in markets from automotive and aerospace to micro technology.

PSV-500 Scanning vibrometer

Type	Scanning Vibrometer
Functionalities	Full-field vibration measurement for testing of acoustic materials
ASAM Standards	ASAM ODS

PSV-500-3D-H 3D Scanning Vibrometer

Type	3D Scanning Vibrometer
Functionalities	Full-field vibration measurement for NVH and structural dynamic testing
ASAM Standards	ASAM ODS

RoboVib Structural Test Station

Type	Automated Modal Testing
Functionalities	RoboVib is a robotic experimental modal test station utilizing non-contact Laser Doppler Vibrometry for sample probing. The main purpose is the validation of structural dynamic models on component level up to for full car bodies. RoboVib is offered as solution for NVH labs or as a measurement service by Polytec GmbH for Europe or Polytec Inc. for the United States
ASAM Standards	ASAM ODS

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QTronic provides tools and services for model-based development. Our outstanding software tools are used by developers at Mercedes-Benz, AMG, BOSCH, ZF, IAV, Continental, Toyota, Honda, SAIC and others. Silver and TestWeaver support highly automated validation and test of virtual ECUs on Windows PCs. This helps to identify design problems much earlier and faster with much lower costs than ever possible.

Silver

Type	Virtual ECU on Windows PC
Functionalities	Silver is a tool used by automotive development engineers to simulate ECUs in closed loop with a vehicle model on Windows PC. This way, work on control development, test, and calibration can be selectively shifted from road, test rigs, and HiL to Windows PC where it can be performed faster, cheaper and without blocking limited resources. Silver provides built-in support for automotive standards such as ASAP2/A2L, MDF, CAN, and XCP to perform co-execution of control software and of vehicle simulation models. Silver also supports the FMI (Functional Mockup Interface), which greatly simplifies the import of models from simulation tools such as Dymola, SimulationX, MapleSim, AMESim, SIMPACK or JModelica into the Silver environment. Silver is a product partner of The MathWorks, which translates into seamless integration of Silver into the MATLAB®/Simulink tool chain. Silver can be connected to CANape or INCA for measurement and calibration, or can be used for rapid-control prototyping via CAN. Silver provides interfaces for test automation with Python, TestWeaver, ECU-TEST, TPT and others. Advanced testing support: range check for all measurements and characteristics, detection of common software bugs, measurement of speed and stack consumption for ECU tasks, back-to-back tests, code coverage and other criteria recommended by ISO26262. Silver is in use for control development at Mercedes-Benz, BMW, AMG, IAV, Continental and others.
ASAM Standards	ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L), ASAM MDF

TestWeaver

Type	Automated System Validation
Functionalities	TestWeaver (testing without test scripts) is a tool that autonomously searches for weak points and bugs in control software and calibration data. Users have to supply a simulation model (implemented e.g. using MATLAB®/Simulink, Silver or HiL) and to specify computable quality indicators. TestWeaver constructs automatically driving scenarios that minimize these indicators. This helps to find bugs early and with much less effort than otherwise possible. A typical ECU(software + calibration data) is checked within 24 hours on a standard PC. The automatic test case generation of TestWeaver can run with MiL, SiL, or HiL setups and allows to achieve a much higher test coverage with less effort than otherwise possible. TestWeaver is in use for software development at Mercedes-Benz, AMG, Bosch, ZF, SAIC and others.
ASAM Standards	ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L), ASAM MDF

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RA Consulting GmbH

RA Consulting offers software tools, programming for embedded systems as well as classic IT and consulting services for the automotive and other industries. RAC is ORACLE Gold Partner.

CalveRA

Type	Expert system for project independent processing of application data
Functionalities	CalveRA is a standard server-oriented software for the knowledge-based validation of parameter data sets in ECU software. The special knowledge is entered into CalveRA by experts into special, restricted parameter data sets. Development engineers in different projects can resort to this knowledge. From the parameter data inside CalveRA, reference parameter sets can be created which are then used to validate the results of the development engineers. By these means the experience from historical projects can be reused. Furthermore the reference data set can be used as suggestion for the application data, allowing new, manifold projects to be dealt with. Label list are imported out of A2L description files. DCM calibration data files are used to import the specific data sets that have to be validated against the expert data in CalveRA and to export the reference data sets as basic data for new application projects.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L)

DiagRA D

Type	Diagnostic tool
Functionalities	Diagnostics tool DiagRA D with support for ISO9141, ISO 14230, ISO 15765, ISO 14229 (UDS). Specific workshop tester functions for several OEM. Complete OBDII / EOBD / HD-OBD (SAE J1979/SAE J1939) scantool with WWH-OBD (World Wide Harmonized – Onboard Diagnostics). Support for the Open Source SAE J1699-3 OBDII Compliance Test Cases tool. SAE J1699-3 tool log-file formatter with outputs as XML or PDF files. Own implementation of the SAE J1939-84 OBD Communications Compliance Test Cases for Heavy Duty Components and Vehicles. These OBDII / EOBD / HD-OBD / WWHOBD functionalities are also available as single tool Silver Scan-Tool. Advanced functions for developers work with MCD-2 MC (ASAP2) and CANdb files. These functions permit to read out and display the internal fault code memory of ECUs in full, display the status of the diagnostics functions, read out RAM cells, adaptation ID fields etc. Remote control via Windows DDE, ASAP3 and WebServices after ASAM HIL-API. MCD-2 D (ODX) description set import for parameterization of UDS on ISO-CAN diagnosis. Flash programming and script execution plug-ins available. Diagnostics and flash programming on FlexRay supported.
ASAM Standards	ASAM HIL, ASAM MCD-1 CCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MCD-3 D, ASAM XIL

DiagRA MC

Type	Measurement and calibration tool
Functionalities	Measurement tool DiagRA M with support for MCD-1 (CCP/XCP), CANdb, SMB (serial management bus) and for measurement data accessed by DiagRA D. Calibration tool DiagRA C for adjustment (CCP/XCP) of parameters as well as characteristic curves and fields with

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RA Consulting GmbH is a German based software engineering company. The RA® software products primarily support development departments of worldwide more than 200 prominent international car manufacturers and their 1-tier suppliers in the diagnostics, measurement and calibration field.

RA® Automotive Products

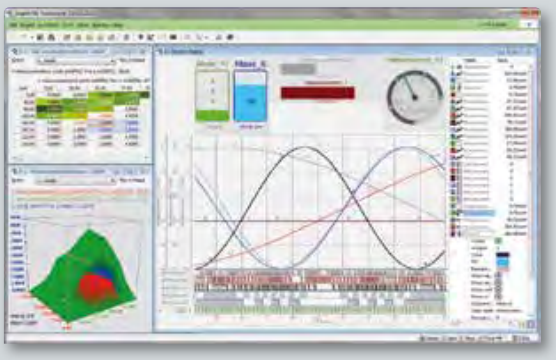
DiaGRA® MCD

Features:

- Superior tools in an integrated package:
  - DiagRA M – Measurement
  - DiagRA C – Calibration
  - DiagRA D – Diagnostics
- Support of CAN, K-Line, FlexRay, SMB and Ethernet
- Minimal hardware requirements
- Optional plugins for flash programming, remote control and scripting

Protocols and file formats:

CCP, XCP, KWP2000, UDS, MCD-2 MC ASAP2/A2L, MCD-2 D ODX, MCD-2 FIBEX, CANdb, MDF, DCM and many more



RA® ODX VIEWER Next Generation

To display and filter diagnostic data from ODX containers and to export them to various target data formats.

Functions:

- support of the ODX standards 2.0.1, 2.1.0 and 2.2.0
- manufacturer-specific configurations
- import of PDX containers
- display of the parameters and their calculations in a detail window
- freely definable, storable filters and views
- export of data to various output formats CSV, XML, PDF
- integrated structural view through ODX Explorer

Standards:

ASAM MCD-2D (ODX), ISO 22901-1

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RA Consulting is active in these ASAM projects:

ASAM POD Access • Extension of OTX (ISO 13209) • ASAM CSL (Calibration Sequence Language) with emotive GmbH • ASAM MCD-2 CERP: Data Description for Calibration Expert Systems (FVD) • ASAM MCD-1 XCP (FVD)

www.rac.de

ASAM Member

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etr Member of Equipment & Tool Institute

automotive engineering tool alliance AETA Member

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	graphical and numerical display. Adjustment on-line and off-line. XCP on CAN, FlexRay and Ethernet. Integrated functionality for parameterization of DEPM (Diagnostics Error Path Manager). Data included in ODX can be compared with calibrated values in the A2L/HEX projects. ASAP3 interface for remote controlled measuring implemented.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MCD-3 MC, ASAM ASAP3

DiagRA MCD Toolset

Type	Integrated toolset for measurement, diagnostics and calibration
Functionalities	The DiagRA MCD Toolset is an applications and diagnostics tool for working with electronic control units in the automotive industry. It is an integration of the already widespread tools DiagRA M, DiagRA C and DiagRA D. It is used in the whole cycle of vehicle development, production and life.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MCD-3 D, ASAM MCD-3 MC, ASAM XIL, ASAM ASAP3

ODX-Viewer

Type	ODX data management tool
Functionalities	ODX viewer tool filters and displays the data out of ODX projects in several ways, arrange them well and exports complete or reduced data sets in several formats like XML, PDF and CSV.
Supported ASAM Standards	ASAM MCD-2 D (ODX)

Silver Scan-Tool

Type	OBDII/EOBD diagnostic tool
Functionalities	Complete OBDII / EOBD / HD-OBD (SAE J1979/SAE J1939) scantool with WWH-OBD (World Wide Harmonized – Onboard Diagnostics). Support for the Open Source SAE J1699-3 OBDII Compliance Test Cases tool. SAE J1699-3 tool log-file formatter with outputs as XML or PDF files. Own implementation of the SAE J1939-84 OBD Communications Compliance Test Cases for Heavy Duty Components and Vehicles. SAE J 2534 PassThru, RP1210A and D-PDU-API interface connection is supported.
ASAM Standards	ASAM XIL

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rd electronic supports tools and systems for data management, device integration, test and automation systems for end-of-line test and integration frameworks for different computer platforms. In the area of ECUs rd electronic develops and manufactures on-board interfaces and controllers as well as real-time bus analyzers for all bus systems.

FLG

Type	Driver guide system for run-in and brake test stands
Functionalities	Driver guide system for run-in, diagnosis and brake test systems in end-of-line and development test stands. Connects to ECUs via radio trans-

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	mission, test and driver guidance editor, online test compilation, test order and report integration, chassis dyno GDI integration platform, prepared for MCD-3 migration.
ASAM Standards	ASAM GDI

GDI Framework

Type	GDI Integration platform for Windows and Linux (RT)
Functionalities	Integration platform for ASAM GDI devices for test and automation systems. DLL, shared lib and Java coordinator interfaces. ASAM GDIV4.2/4.3/4.4 DCD/DIT parser integrated or stand alone. Macro engine for system persistence and setup procedures - GINA2010 compatible. Platform adapter for Windows and Linux include serial, IP4, CAN, CANopen, and USB.
ASAM Standards	ASAM GDI

Lexikon

Type	Metadata and Application Data Model Management
Functionalities	Web-based solution providing full metadata management services; (Parameter generation, Application Data Models, Equation). Capable of saving Business Rules for naming conventions, equation generation and model construction. Vendor and operating system independent, multilingual support from single licence to full enterprise version. Provides metadata integrity to ODS data repositories.
ASAM Standards	ASAM ODS

Services

Type	Consulting and co-engineering
Functionalities	rd electronic supports development of: ODS-Data models, ODS system architecture; GDI-Integration and driver development; CEA-Component development; MCD-Migration
ASAM Standards	ASAM CEA, ASAM GDI, ASAM MCD-3, ASAM ODS

SP Host

Type	Data management system
Functionalities	Automatic data scanning of test field data generating systems or hosts, scheduled operation of data conversion to ASAM ODS ATF and report generation, upload to ODS repositories, built in security related company authentication services, automatic archival, web based manual access to local and global test data, configurable components for test report generation. Vendor independent.
ASAM Standards	ASAM CEA, ASAM ODS

UBAT

Type	Universal Bus Analyzer for parallel real-time analysis
Functionalities	Monitoring, online analysis and complex triggering for any combination of CAN, MOST, K-Line, FlexRay, BSD, I-, K-, P-Bus. Programmable gateway and simulation procedures in any combination of up to 10 equal or mixed bus systems.
ASAM Standards	ASAM GDI, ASAM MCD-2 MC (ASAP2/A2L)

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ReliaTec GmbH

The ReliaTec is specialized in supporting their customers in the design and development of innovative products and services. As a technologically oriented innovation partner we apply our know-how in the development of software components and tools for networked real-time systems based on LIN, CAN, FlexRay and Ethernet.

ReliaFX Access

Type	Software Product
Functionalities	FIBEX-Importer Library
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 D (ODX), ASAM MCD-2 NET (FIBEX)

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RENK Test System GmbH

RENK Test System GmbH, a member of the MAN-group provides various turnkey test systems for R&D and Quality Assurance applications customized for the automotive, aviation, wind turbine and railway industry for more than twenty years now. RENK also offers consulting for test system design as well as services, maintenance of test systems, technical support and training.

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samtec GmbH

Focused on vehicle communication technology for more than 25 years, samtec has developed itself into a supplier of cutting-edge software and hardware. samtec manufactures solutions to communicate with electronic control units on various bus systems. Both with ready to use products and by customer specific development projects samtec has proved itself as a reliable partner for the international automotive industry.

A2L Parser / ASAP2 / mcd-2 mc parser / SASlib

Type	A2L Parser / ASAP2 / mcd-2 mc parser
Functionalities	The library SAsLib offers access on ECU description-data, which are defined in ASAP2 files (.a21). Thereby the user does not need to know the format of the file in detail. You can easily embed the SAsLib into your application and via the calling of only few functions you can read, interpret the information of the ASAP2 file and also keep it ready in the RAM. The SAsLib on its own does not represent a measure- or application- or diagnostics-system according to the ASAP-definition, but simplifies and makes possible the production of such systems, since it offers a programming port (API) with a function for reading, interpreting („parse“) and access to all the files, which are included in the ASAP2 files. The SAsLib is delivered as a dynamic and linkable library (DLL). The interface is pure ANSI C and that is why it is possible to use it within different development

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areas such as: Microsoft Studio C / C++ / C#, Borland C/C++ Builder, MATLAB or VisualBasic. The library is available for Windows and Linux. The SAsLib.dll is based on the ASAP2-definition 1.31, whereas also older ASAP2-files can be processed. ASAP2 files of newer versions can be parsed with the SAsLib, as far as data-elements, which are added with this version, are not needed. If required the software of samtec can easily be adjusted to new requirements. Scope of delivery: - DLL - C-header files - Documentation - Demo application

ASAM Standards: ASAM MCD-2 MC (ASAP2/A2L)

Diagnostic Suite samDia

Type: Restbus simulation, Gateway, Diagnostic Tool

Functionalities: The Diagnostic Suite samDia unifies the functionalities control unit stimulator/tester, control unit simulator and protocol analyzer in the form of separate modules within a common entity. All programs can also be operated remotely and can be adapted to user defined tasks via scripts. Highlights - Import of FIBEX, AUTOSAR, CANdb- and LDF-files - Individually expandable through module toolkit - Modules for CAN, FlexRay, K-Line, SAE J1850, LIN – CAN analyzer and CAN sequencer - Internal script programming via Microsoft VBScript - Block sequencer with script function - Numerous protocol filters: e.g. ISO 15765, ISO 14229,ISO 14230 - Controllable through remote control via automation interface - Output of communication data in a graphical way Modules - CAN module - K-Line module (analyzer, stimulator, simulator, UART direct) - FlexRay module - LIN module - SAE J1708/J1587 module - SAE J1850 module - Block sequencer - Easy Datalogger (Freeware) - Vehicle simulation modul (Freeware)

ASAM Standards: ASAM MCD-2 NET (FIBEX)

samFibexRuntime API

Type: API

Functionalities: The ASAM Fibex standard has been evoked due to the general tendency of using standardised data formats in the automotive industry. Fibex describes the entire electronic car network as well as moreover the transmitted information beyond different bus systems. With the help of the samFibex component it is possible to create software for the car communication on the basis of our HS Plus and HSX interfaces, which are based on Fibex defined data. Therefore the user does not need any further detailed knowledge about Fibex. The simplified and user-friendly port offers the necessary flexibility and methodology for a manifold and easy usage. Furthermore the Fibex complexity is covert for you as user. Highlights - Supported formats: Fibex 2.0, Fibex 2.0.1, Fibex (2.0)+, Fibex 3.0, DBC, AUTOSAR 3.x in the planning stage -Signal based depiction and handling - Easy navigation into the Fibex hierarchy - Definition with simple XML description of special signal behaviours e.g. Alivecounter, CRC calculations or Toggle Bits - Dynamic generation of own signals (signals, which are not described in Fibex) - Signal value-conversion of physical data into raw data - Special frame/signal initialising-methods (Frame/Signal Fill Byte value) - Automatic dissolving of PDUS within frames with Fibex 2.0

ASAM Standards: ASAM MCD-2 NET (FIBEX)

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Schleißheimer Soft- und Hardwareentwicklung GmbH

Schleissheimer GmbH specializes in Software and hardware development for microcontroller real-time Systems. The Company performs Software tests for the automotive industry. Schleissheimer develops Software and hardware products as prototypes or in small batches. Schleissheimer's portfolio includes the Software tools CanEasy and CanX for CAN/LIN bus development, analysis, and simulation.

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science + computing ag

SCIENCE + COMPUTING AG (s+c) – founded in 1989 – is an IT-services and software development company operating in the fields of computer aided testing, engineering and design (CAT/CAE/CAD). s+c offers a broad spectrum of services related to the handling of huge amounts of engineering data: consulting and concepts, system analysis and integration, custom tool development, optimization of distributed systems, data management and operation of complex, heterogeneous IT-environments.

ASAM ODS consulting and integration

Type	Consulting, engineering, support
Functionalities	Consulting customers in the organization of their test data. Design of ASAM ODS application models. Implementation of ASAM ODS databases.
ASAM Standards	ASAM ODS

ASAM ODS database and version migration

Type	Consulting, engineering, support
Functionalities	Migrating engineering data to ASAM ODS databases. Migrating ASAM ODS based data or ASAM ODS databases to newer versions of the standard.
ASAM Standards	ASAM ODS

ASAM ODS server and Database operation

Type	Support and operations
Functionalities	1st and 2nd level support in the operation of ASAM ODS servers, underlying databases (i.e. Oracle) and servers, problem analysis and operations.
ASAM Standards	ASAM ODS

Software development

Type	Component based GUI application development, consulting
Functionalities	Mapping individual engineering processes into data management applications. Programming of individual GUI applications for comfortable access to ASAM ODS based data using rich client or web based applications. Integration of and integration in customer software. Using and utilizing standard software i.e. developing data management systems based on the openMDM framework http://www.openmdm.org
ASAM Standards	ASAM ODS

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The SGE Ingenieur GmbH is specialized in ECU development for the vehicle and mobility industry. We provide ECU calibration, functional development, calibration and testbed automation, application development in MATLAB/SIMULINK and simulation model development for HIL/MIL/SIL/residual bus applications.

SGE Circus

Type	Software
Functionalities	Measurement Data Visualization and Analysis, Map Creation, Map Visualization and Optimization
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L), ASAM MDF

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For 35 years Siemens is delivering test systems for the automotive industry and automotive suppliers and leverage the long term experience to build optimized solutions. The ASAM solutions ASAM MCD-3D server, ASAM MCD 2D (ODX) and ASAM GDI are integral part of the Siemens SIDIS Pro test software and can be used from administration, test authoring and execution.

SIDIS Authoring

Type	Editor
Functionalities	The SIDIS Pro authoring suite is used to design all test routines required in the production environment. The suite takes advantage of the integrated ASAM MCD 2D (ODX) and the ASAM GDI interface as well as the import of OTX routines. The graphical user interface with the Flow view allows the easy design of the test flow. A full implemented version control system enables a comprehensive support of the complete releasing process.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D, ASAM GDI

SIDIS GDI

Type	Editor, GDI API
Functionalities	SIDIS GDI provides a GDI API to interface roller benches, wheel alignment machines or filling stations according to ASAM GDI standards. The authoring tool of SIDIS Pro provides an editor to create the test sequences.
ASAM Standards	ASAM GDI

SIDIS MCD-3 D Server

Type	ASAM Runtime Kernel
Functionalities	Server API (3D) interface (.net, COM/DCOM, Java), multi client and remote capable. Interface to SIDIS MVCI is available with performance optimized CIF Interface and PDUAPI. High performance diagnostic kernel incl. time measurement traces. Communication processor supports standard protocols (KWP 2000 on K and CAN), UDS and dedicated OEM protocols.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

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SIEMENS

SIDIS MVCI

Type	Vehicle communication interface
Functionalities	VCI supports standard protocols like KWP 2000 on K-Line and CAN-Bus, UDS, J1939 and dedicated OEM protocols. ASAM features like asynchronous operation, multilink and multi-client capability are available. Devices with WLAN, RF, USB, LAN and serial interfaces are available.
ASAM Standards	ASAM MCD-3 D

SIDIS Runtime

Type	Runtime component
Functionalities	The SIDIS Pro runtime component executes the tests design and developed with the SIDIS Pro authoring system and takes advantage of the parallel communication to multiple ECUs and GDI components to save cycle time in the production line. The embedded CANalyser, debugging and logging functionality simplifies the validation of the test routines.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D, ASAM GDI

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Siemens PLM Software

Siemens PLM Software is an engineering innovation partner for companies in the automotive, aerospace and other advanced manufacturing industries. Siemens PLM Software enables its customers to get better products faster to market, and to turn superior process efficiency to their strategic competitive advantage. Siemens PLM Software offers a unique combination of virtual simulation software, testing systems, engineering services, process and data management. Siemens PLM Software is committed to openness of its Simulation and Test solutions, based on the support of standards, so as to enable optimal interoperability of Siemens PLM Software solutions with complementary solutions supporting the development processes at its customers.

LMS Test.Lab

Type	Integrated environment for functional performance Testing
Functionalities	LMS Test.Lab is a complete solution for test-based engineering combining high-speed multi-channel data acquisition with a suite of integrated testing, analysis and report generation tools. LMS Test.Lab is designed to make testing more efficient and more convenient for the users. It includes solutions for rotating machinery, structural and acoustic testing and vibration control. Support of the ASAM ODS format is a cornerstone of the LMS Test.Lab application, providing full data compatibility with data originating from other sources than LMS Test.Lab.
ASAM Standards	ASAM ODS

LMS Test.Lab Data Management

Type	Engineering Data Management Solution
Functionalities	The LMS Test.Lab Data Management solution provides an environment for efficient management, sharing and data exchange for both work-in-progress and published NVH test data. LMS Test.Lab Data Management can manage ASAM-ODS data securely, publish data beyond the restricted project team and increase the efficiency of sharing data across the company.
ASAM Standards	ASAM ODS

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Sierra-CP Engineering has over 30 years' experience in providing test equipment solutions, all based on our proprietary CADET V14 Control & Automation package. Our range comprises of engine, powertrain, vehicle and component testing equipment as well as engine combustion air handling systems, emissions sampling, robot drivers, fuel measurement and fuel conditioning solutions. We design and manufacture all of our own solutions and support them globally with locations in UK China, UK, USA, India and Malaysia.

CADET Automation System

Type	Test Bed Automation System
Functionalities	Data acquisition, real time control, test sequencing
ASAM Standards	ASAM MCD-1 CCP

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SIMTOOLS GmbH provides tools for developers of distributed control applications. The tools are integrated with the model-based design environment MATLAB/Simulink and support communication standards like FlexRay and CAN. By supporting different workflows the tools provide seamless model-to-code capabilities. Customers include the automotive and other transportation industries as well as research institutions and academia.

SIMBUS

Type	SW-Tool
Functionalities	SIMBUS is a toolbox integrated in the MATLAB/Simulink environment for LIN, CAN/FleyRay rest-bus simulation. The toolbox supports the development of application and/or test functions in Simulink. During execution of the rest-bus system SIMBUS provides synchronoues, real-time access to LIN, CAN and FlexRay directly from the MATLAB/Simulink environment.
ASAM Standards	ASAM MCD-2 NET (FIBEX)

SIMTOOLS/SIMTARGET

Type	SW-Tool
Functionalities	SIMTOOLS/SIMTARGET is a blockset for use with MATLAB/Simulink for the development of FlexRay-based applications. SIMTOOLS cover the whole development process from System-level modelling to ECU-level design, configuration and code generation supporting a seamless transition of Simulink block diagrams to the supported hardware platforms.
ASAM Standards	ASAM MCD-2 NET (FIBEX)

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Sodius SAS

Linking, synchronizing or exchanging engineering data are the most needed capabilities today to enhance productivity and collaboration not only between applications but between teams and organizations. Sodius develops data synchronization products and services that allow people and systems to work together to deliver projects across disciplines, teams, and organizations. In order to ensure high quality on-time deliverables, Sodius supports both systems and software design teams with dedicated services and solutions for requirements management, architecture, modeling and ALM/PLM domains.

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Softing Automotive Electronics GmbH

Softing provides products covering the entire life cycle of an ECU. Its range includes the Diagnostic Tool Set (DTS) product family with authoring, flash and analysis tools as well as ODX runtime systems. Data logger for the vehicle bus systems and interfaces enable symbolic access to the ECUs. Furthermore, Softing offers customer-specific solutions for every stage of the ECU life cycle, especially solutions for development, test, production or after sales applications.

DTS Automation

Type	Easy-to-use API with ODX V2.0.1/2.2 run-time system
Functionalities	Easy-to-use API to handle diagnostics in automation environments via ODX databases. Available as COM, OPC, C++ or LabVIEW API supported hardware: EDIC family, samtec HS-family, Softing CAN HW family, DCDI, Kvaser CAN HW, Vector CAN HW, D-PDU-API compliant interfaces, SAE J2534 compliant interfaces
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

DTS COS

Type	ASAM MCD-3/MVCI server with D-PDU API MCD-3D v2.0.1 (for ODX 2.0.1) and 3.0 (for ODX2.0.1 and 2.2) available
Functionalities	Run-time system for diagnostics, flash programming, measurement, variant coding, OBD, etc. supported hardware: EDIC family, samtec HS-family, Softing CAN HW family, DCDI, Kvaser CAN HW, Vector CAN HW, D-PDU-API compliant interfaces, SAE J2534 compliant interfaces
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

DTS Flash

Type	Flash programming
Functionalities	Flash programming based on ODX v2.0.2 and 2.2 files, Motorola S-record or Intel Hex input files also supported One button solution for end-users and step-wise execution for developing
ASAM Standards	ASAM MCD-2 D (ODX)

DTS Monaco

Type	Engineering Tool (measurement and diagnostics)
Functionalities	Full feature engineering tool with application oriented user interfaces for diagnostics, flash programming, measurement, variant coding, OBD, bus

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DIAGNOSTICS
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Automotive Electronics GmbH

	node emulation, communication analysis, etc. supported hardware: EDIC family, Softing CAN HW family, DCDI, CANlink/2, Kvaser CAN HW, Vector CAN HW, D-PDU-API compliant interfaces, SAE J2534 compliant interfaces
ASAM Standards	ASAM MCD-2 D (ODX)

DTS OBD

Type	OBD test and verification
Functionalities	Test of ECU's OBD- starting on scan tool level down to issue analysis on communication level.
ASAM Standards	ASAM MCD-2 D (ODX)

DTS Venice

Type	ODX editor/checker. Available for ODX 2.0.1 and ODX 2.2
Functionalities	Administration of ODX/PDX databases, editing of ECU diagnostics, symbolic and semantical check of databases, export to RTF and PDF, verification of interpretation without ECU possible
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L)

ECU-Test (TestCASE)

Type	Fully featured Test Automation
Functionalities	Test automation for diagnostics and function tests of ECUs; including great variety of test systems which allows overall test, e.g. Softing DTS (ODX/MCD-3D) and EDIABAS, dSPACE HiL, ETAS INCA (A2L), Vector CANoe, Matlab/Simulink, etc. special versions for UDS and ODX testing
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-3

ODX/OTX/MCD-3 training

Type	Training, workshops and consulting on diagnostic related standards
Functionalities	Based on the experience coming from active workgroup participation Softing provides trainings and workshops on ODX, OTX, and ASAM MCD-3, off-the-shelf or tailor-made, on-site or at our training center in Haar/Munich. We also provide consulting on how to use those standards efficiently.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

OTX Server

Type	Run-time interpreter for OTX sequences including ASAM MCD-3D server
Functionalities	Interpreter for OTX sequences based on ODXv2.0.1/2.2 diagnostic data, based on fully featured ASAM MCD-3D/MVCI-server, provides easy-to-use API allowing efficient integration into any diagnostic tool
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

OTX Studio

Type	Comfortable editor for OTX sequences including ASAM MCD-3D server
Functionalities	Easy-to-use authoring system according to ISO 13209, based on Softing D-Server DTS COS and ODX data, specification view (flow charts) and implementation view (line-based), debugging, online-change of code while debugging, reporting. Many supplements to the standard, e.g. DLL access, file access, GUI library
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

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Softing TDX

Type	Workshop tester based on ODX/OTX/ASAM MCD-3D
Functionalities	Fully configurable workshop tester for all diagnostic functions incl. handling of error memory, measurement, flash programming and guided functions/ diagnostics
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-3 D

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As a manufacturer of high performance and quality hard- and software products Sontheim Industrie Elektronik GmbH provides a broad range of high-tech products for automation and automotive industry and is also specialized in protocol stacks like ISO15765 (KWP2000 on CAN), J1939 and RAW-CAN, which can be used by the M.D.T to develop diagnostic applications.

CANexplorer 4

Type	CAN-Bus monitoring, logging and analyzing software
Functionalities	Modular, efficient, intuitive - the CANexplorer 4 is a completely new developed fieldbus analyzing software which reflects years of know-how regarding the work with CAN-networks within complex machines and vehicles. This new generation features many more functions combined with an intuitive and flexible handling. The CANexplorer provides the complete range of function modules for data acquisition, data processing, data conversion, data logging and data visualization.
ASAM Standards	ASAM MCD-2 D (ODX)

CANfox

Type	CAN-to-USB interface
Functionalities	The CANfox is a compact CANto-USB interface with a 32-Bit micro controller. It provides 1 opto isolated CAN-channel and 1 RS232 channel. With its compact design and providing high performance it's perfect for mobile use. The multithread software interface SiECA132 with demo application for own applications is included.
ASAM Standards	ASAM MCD-2 D (ODX)

CANUSB

Type	CAN-to-USB interface
Functionalities	The CANUSB is a robust CAN-to-USB interface even for rough use and provides up to 2 opto isolated CAN-channels with additional features like ErrorFrame detection and analogue level measurement of the CAN-level. The multithread software interface SiECA132 with demo application for own applications is included.
ASAM Standards	ASAM MCD-2 D (ODX)

COMhawk

Type	ECU, Telematics Module, Diagnostic Module, CAN-to-Ethernet Gateway, CAN-to-Wi-Fi Gateway
Functionalities	Equipped with a 32-bit microcontroller and based on a MicroC/OS-II or Linux operating systems, COMhawk™ offers standard interfaces such as CAN and Ethernet as well as a Wi-Fi interface and optional digital in- and outputs. The on-board device has a robust design of IP67k and is

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sontheim
Industrie Elektronik GmbH

	capable of operating in harsh environments including exposure to dust, extreme temperatures, shock, vibration, and high pressure water or steam jets. A webserver is also integrated.
ASAM Standards	ASAM MCD-2 D (ODX)

M.D.T. Modular Diagnostic Tool

Type	Development Tool
Functionalities	The M.D.T. is a tool for the development of diagnostic applications for the automotive industry by using the latest technology. The multithread based systems provide the possibility to develop diagnostic application without coding by using multiple protocol stacks like ISO15765 (KWP 2000 on CAN), RAW-CAN, J1939 and ISO11783 (ISOBUS).
ASAM Standards	ASAM MCD-2 D (ODX)

ODX-Editor

Type	Development Tool
Functionalities	In addition to the M.D.T. the ODX-Editor provides the user an easy way for editing existing or the creation of new ODX-Data by using a graphical user interface. It cares to observe the rules for creating valid data, tests existing databases and provides help functions during the editing.
ASAM Standards	ASAM MCD-2 D (ODX)

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SOUNDTEC

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High-quality measurement and analysis systems for acoustics and vibration (software and hardware). Solutions for acoustical development, design and testing of machines and components. Customers: automotive, shipbuilding, home appliances manufacturers, aerospace, machinery manufacturers

si++Workbench

Type	si++Workbench is a Software tool for acoustic and vibration test, Analysis and Documentation. All steps of your daily work are done elegantly with this comfortable tool.
Functionalities	Measure your subject of interest (sound, vibration). Handle the list of all your records. Listen to and cut your recordings if needed. Analyze with one or many of the long list of available functions. Design your documents. Print out or send your reports.
ASAM Standards	ASAM ODS

siVision

Type	siVision is a software tool for integrated analysis, filtering and rating of sound. Using this sound simulation presents the user with specific objectives (in dB) for optimizing the noise characteristics of a real component, machine, or vehicle. siVision on LivePad is a compact complete system (measuring instrument, computer hardware and software) with 4 ICP inputs and a CAN bus interface, which can be operated intuitively via an integrated tablet PC. The system is ideal for mobile work, and can be used directly as a test system for applications involving automatic sound testing.

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Functionalities	siVision optically displays all sound components perceived by the human ear and provides filters to reduce, eliminate, or enhance individual sound components. Real time analysis of sound and vibration - Troubleshooting components and machines - Sound optimization - Interactive and intuitive simulation of target sounds - Objective and subjective rating of sounds and target sounds - Acoustic source identification on the object - End of line testing in production environment
ASAM Standards	ASAM ODS

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The STIEGELE Datensysteme GmbH is specialized in sophisticated hard- and software solutions for data acquisition, processing and test rig control. The company, located in Rothenburg ob der Tauber / Germany, was founded in 1984. The software supports standard data acquisition hardware from all major manufacturers and common data formats.

MGraph

Type	Software
Functionalities	Data analysis and presentation
ASAM Standards	ASAM ODS

MLab

Type	Software
Functionalities	Data acquisition and test rig control
ASAM Standards	ASAM MCD-1 XCP, ASAM MCD-1 CCP, ASAM MCD-2 NET (FIBEX)

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Synchrotek is using the array of in-house built applications and software modules providing almost automatic transfer from model based solutions to prototyping hardware, so the focus is on flexible and cost effective solutions.

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TESIS DYNAware Techn. Simulation Dynamischer Systeme GmbH

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OEMs and suppliers throughout the world rely on simulation solutions from TESIS DYNAware. With over 20 years of experience in the Automotive Industry, customers can benefit from simulation expertise in the development of new engine and drivetrain concepts as well as for vehicle dynamics control systems, complete vehicle simulation, energy management and driver assistance systems.

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DYNA4

Type	Automotive Simulation Software
Functionalities	Open and flexible simulation framework with model handling, test automation and result management, extensive real-time model library for vehicle dynamics, engine dynamics, advanced powertrains and driver assistance systems
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM HIL, ASAM XIL, ASAM XIL-MA, ASAM MDF

veDYNA

Type	Vehicle Dynamics Simulation Software
Functionalities	Vehicle dynamics simulation model for real-time simulation of passenger cars, trucks and trailers with conventional, hybrid or electric powertrains, tools for suspension analysis and
ASAM Standards	ASAM HIL, ASAM XIL, ASAM XIL-MA, ASAM MDF

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TOYO Corporation is an independent Technical trading company in Japan. We see ourselves as the TECHNOLOGY INTERFACE between European/American and Japanese/Asian test and measurement engineering companies since 60 years. TOYO Corporation also offers system integration, localization and aftersales services in data measurement, data analysis to data management to Japanese Automotive Engineers in any fields.

CRONOS-compact/-flex

Type	Universal data acquisition system for in-vehicle tests and test-beds
Functionalities	imc CRONOS-compact is a networkable data acquisition system with up to 512ch for analog and digital buses (like CAN/CCP, LIN etc.) measurement in any environment. CRONOS-Compact can be connected with any test-bed controller and MCD tools via XCP on Ethernet by using A2L files.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-2 MC (ASAP2/A2L)

imc-CANSAS

Type	CAN-bus based Measurement & Analysis Modules
Functionalities	High-performance CAN-bus based measurement modules for applications in test stands, in-vehicle and industrial environments. imc CANSAS is a revolutionary concept for the decentralized capture of physical measurement data.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L)

imc-FAMOS

Type	Comprehensive data processing & signal analysis framework
Functionalities	imc FAMOS provides you with the versatile software tools necessary to visualize and analyze your data, automating routine and complex tasks, from data import to test report. imc-FAMOS can be also used as ASAM-ODS Client by using ODS Browser functionality.
ASAM Standards	ASAM ODS

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TOYO Corporation

PAK/edp

Type	Dynamic Data Measurement and Analysis system / Web-based engineering data portal
Functionalities	Data acquisition of fast, slow of physical measurements and buses measurements. Data analysis with innovative technologies. Highly effective Engineering Data Management
ASAM Standards	ASAM ODS

Peak ODS Server - ASAM-ODS tools

Type	Server and clients for measurement data management with openMDM framework
Functionalities	Consultation for the Process and Methodology in any Test & Measurement fields, Support services and Training for Japanese engineers who is considering improving Measurement Data Management.
ASAM Standards	ASAM ODS

TrackReport

Type	Signal Analysis & Automated Report Generation Software
Functionalities	TrackReport offers a full data visualization and analysis environment, where interactivity and automation help creating simulation or test reports. Configurable report models handle data post-processing algorithms as well as the graphical setup. TrackReport can be also used as ASAM-ODS Client tool.
ASAM Standards	ASAM ODS

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Since its foundation as a spin-off from Dresden University of Technology, TraceTronic has been working with a large number of strong partners throughout the automotive industry. Our highly competent and interdisciplinary team of engineers offers a wide range of services in the field of software applications for validation of embedded systems. Due to our close relationship with customers and the years of experience and scientific research, we have the expertise to guarantee powerful and customized products and services.

ECU-TEST

Type	Test automation software
Functionalities	ECU-TEST is an integrated test automation tool used for specification, implementation, execution, and documentation of test cases. This software executes regression tests which are essential for validating complex technical products such as electronic control units (ECUs). ECU-TEST can be applied during product development as well as during quality control of production itself.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MCD-3

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TTTech Automotive GmbH

TTTech Automotive, a subsidiary of TTTech Computertechnik AG, provides reliable control unit platforms and software solutions offering highest safety classification in accordance with ISO 26262/ASIL D. The modular, certified hardware and software solutions are used for serial production in the field of control and monitoring of electric and hybrid propulsion systems as well as for vehicle dynamics and driver assistance. To validate the vehicle functions, the product range is completed by intelligent data loggers and test equipment for networked systems. TTTech Automotive is a premium member of the FlexRay and AUTOSAR consortia and endorses these open standards for automotive electronic architectures with its products and solutions. Further information on the company and products is available at www.tttech-automotive.com and products@tttech-automotive.com.

TTX-Connexion

Type	Intelligent gateway for signal manipulation
Functionalities	4-Way-Gateway (2 x CAN, 2 x FlexRay); signal routing and manipulation; Datalogging on CF card; Comfortable network configuration via FIBEX, CANdb, and AUTOSAR TL (V3.0); Online-viewing and analyzing with TTXAnalyze; Stand alone in vehicle operation
ASAM Standards	ASAM MCD-2 NET (FIBEX)

TTX-DataLogger

Type	Comprehensive Recording & Analysis of the entire vehicle Network
Functionalities	Simultaneous, extensive data logging with a central time stamp; Configurable power management Filters, triggers, pre-analysis; Open data format; Integrated CCP/XCP master; Freely programmable; Wake-up recording
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX)

TTX-Disturbance Node

Type	Reproducible failure injection for FlexRay
Functionalities	synchronous and asynchronous disturbances; global and local disturbances; Disturbances on channel A and/or channel B; Configurable, triggerable disturbances (incl. 60 test cases); Termination resistor and short-circuit tests; Sending of disturbed frames; Can be automated
ASAM Standards	ASAM MCD-2 NET (FIBEX)

TTX-Optical Link

Type	Optical decoupling for FlexRay
Functionalities	Minimal effect on FlexRay time response - fulfilling the requirements of ISO 11452-2 and CISPR 25
ASAM Standards	ASAM MCD-2 NET (FIBEX)

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Vector Informatik GmbH

Vector is the leading manufacturer of software tools and software components for networking of electronic systems based on CAN, LIN, FlexRay, Ethernet, WLAN and MOST as well as multiple CAN based protocols. The Vector know-how is reflected in a wide range of tools as well as in integrated consulting services with software and systems engineering. Workshops and seminars complete the manifold training program. Customers from the automotive engineering, the commercial vehicle, aerospace, transportation and control technologies around the world trust in the solutions and products from the independently-owned Vector Group.

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ASAP2 Editor

Type	Editor for MCD-2MC (ASAP2) files
Functionalities	Comfortable editor for creating, modifying and updating MCD-2MC description files (*A2L) exploiting the corresponding linker map file.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L)

ASAP2 Lib

Functionalities	The ASAP2 Lib is a function library for reading ASAP2 files of all released versions, including the current V1.61. The library was developed for the C programming language and can be embedded in applications. On demand Vector offers development of customized A2L-converters.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L)

ASAP2 Tool-Set

Type	Updating and merging MCD-2MC (ASAP2) files
Functionalities	The ASAP2 Updater updates the address and data type information of an ASAP2 file using the linker map file. The ASAP2 Merger merges several ASAP2 files to a common ASAP2 file.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L)

CANalyzer

Type	Tool for stimulation and analysis of networks
Functionalities	CANalyzer is the universal software analysis tool for ECU networks and distributed systems. CANalyzer makes it easy to observe, analyze, and supplement data traffic in CAN, LIN, MOST, or FlexRay systems. With powerful functions and user-programmability, all needs are covered from simple network analysis to advanced troubleshooting of complex problems. CANalyzer support the developer in implementing the diagnostic functionality of an ECU.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-2 NET (FIBEX)

CANape

Type	Measurement, calibration and diagnostic system
Functionalities	Time-synchronous acquisition of measurement data via CCP or XCP from CAN, LIN, FlexRay, MOST or external test equipment. Environment recognition by video, audio or GPS. Convenient real-time calibration by CCP or XCP. Seamlessly integrated diagnostics by KWP2000 and UDS. Convenient management of calibration data.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MCD-3, ASAM MDF

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CANdelaStudio

Type	Authoring tool for diagnostic specification
Functionalities	Specify ECU diagnostic services and data in a user-friendly way. This information can be used for test system data supply, ECU auto-code and ECU software validation. Import/export from/to many different formats, including ODX (MCD-2D). A template concept ensures a consistent development process and allows diagnostic data to be reused in different OEM-specific protocols. CANdelaStudio supports several standards like KWP2000, UDS, WWH-OBD, J1939, DoIP, FlexRay. A quick learning curve is guaranteed, not just for diagnostic experts. Data consistency is ensured and enhances product quality.
ASAM Standards	ASAM MCD-2 D (ODX)

CANoe

Type	Tool for test, simulation, diagnostic and analysis of networks
Functionalities	CANoe is the comprehensive software tool for development, test and analysis of entire ECU networks and individual ECUs. It supports you throughout the entire development process. Its versatile functions and configuration options are used worldwide by OEMs and suppliers. The open design makes CANoe the first choice for ECU development for combustion engines and projects related to electrification of the powertrain.
ASAM Standards	ASAM XIL, ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX)

CANoe.DiVa

Type	Tool for Automated Testing of Diagnostic Protocol Implementation and Integration in ECUs
Functionalities	Automatic generation of test cases with comprehensive test coverage based on ECU diagnostic descriptions in ODX or CANdela format. Test cases are executed, an extensive test report is generated. According to a case study, savings of effort by a factor of 4 up to 20 are achieved.
ASAM Standards	ASAM MCD-2 D (ODX)

CDM Studio

Type	Calibration Data Management
Functionalities	CDM Studio is an efficient tool for editing parameter set files. It is easily used to display, compare and edit parameters created in ECU calibration. When solving complex tasks, filters are used to reduce the number of parameters shown on the screen. In addition to calibrating parameter values you can take values from different files and merge them to create new version levels. In using CDM Studio, you retain an overview of your work packages, reliably track parameter changes and manage data levels responsibly. Since all relevant file formats of the automotive industry are supported, it does not matter which measurement and calibration tool is used to generate the parameter files.
ASAM Standards	ASAM CDF, ASAM MCD-2 MC (ASAP2/A2L)

Consulting & Engineering Services for ODX

Type	Vector gives you the best conditions for implementing your requirements. The knowledge of our experienced employees is your advantage in coming up with efficient and customer specific diagnostic solutions.
Functionalities	Vector can provide you with both technical consultation and adaptation or customization of Vector tools in service projects. Our employees are very familiar with many OEM-specific data formats, the ASAM and ISO stan-

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Your efficient all-round solution for measurement, calibration and diagnostics

Universal tool support simplifies your calibration of ECUs. The versatile CANape tool lets you cover all application cases effortlessly:

- Quickly and reliably capture measured data from various sources – synchronous and time-precise. Whether via CCP, XCP-on-CAN/FlexRay/Ethernet or from external test equipment
- Conveniently calibrate the parameters of your ECU algorithms, either online in the ECU or offline in the Hex file
- Easily manage large amounts of calibration data – with full traceability at all times – even on large project teams
- Simplify your tool environment by seamlessly integrated diagnostic services and flash solutions
- Benefit from a universal tool chain with extensive rapid prototyping capabilities and MATLAB/Simulink integration

Vector supports you from functional development to production-ready ECU, in the laboratory, on the test bench and during driving trials.

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	dards and underlying processes. Our services are: Optimization of existing diagnostic processes, Migrations of master data to ODX, consultation on the implementation/integration of ODX in existing diagnostic development processes, definition and implementation of authoring guidelines, OEM-specific ODX Techdays
ASAM Standards	ASAM MCD-2 D (ODX)

DaVinci Configurator Pro

Type	Configuration of AUTOSAR basic software
Functionalities	DaVinci Configurator Pro is the configuration tool for MICROSAR basic software (BSW) and runtime environment (RTE). It masters the complete ECU configuration workflow and supports multiple input formats such as AUTOSAR System Description or the ASAM file formats FIBEX (description for CAN and FlexRay networks) and ODX (description of diagnostic implementation). DaVinci Configurator Pro exports A2L files that describes the measurement and calibration parameters of MICROSAR BSW and RTE.
ASAM Standards	ASAM MCD-2 D (ODX), ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX)

FIBEX Explorer pro

Type	Tool for viewing, editing and creating FIBEX XML files
Functionalities	View, edit and create FIBEX files for FlexRay including manufacturer extensions in a user-friendly way without detailed knowledge of the XML-based file format. The tool provides loss-less editing functions for FIBEX files.
ASAM Standards	ASAM MCD-2 NET (FIBEX)

GL Logger Family

Type	Data logger for test fleet operators and test benches
Functionalities	Logging of CAN, LIN, MOST150, FlexRay networks. Additional logging of analog and digital channels. Support of CCP/XCP on CAN and XCP on FlexRay. Diagnostics via UDS and KWP2000 on CAN.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX), ASAM MCD-2 NET (FIBEX)

Indigo

Type	Vehicle-oriented diagnostic test system
Functionalities	Easy-to-use diagnostic tester to apply diagnostics during system development and vehicle integration. No diagnostic expert knowledge required by users. Self-configuring, use-case driven and vehicle-oriented GUI. Parameterized via ODX and other relevant data formats. Simultaneous support of KWP, UDS and GMW3110. Also support of Diagnostics over-CAN FD and DoIP, as well as OBD (OBD2 or WWH-OBD). Direct overview of vehicle status and vehicle identification data. Additionally Indigo Remote is the remote diagnostics solution that lets you access vehicles directly and interactively from anywhere in the world.
ASAM Standards	ASAM MCD-2 D (ODX)

MDF Validator

Type	Tool for viewing and validating the structure of MDF files
Functionalities	MDF Validator is a freeware tool to validate and analyze the block structure of MDF files (3.x/4.x). It will check the loaded MDF file and display

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	format errors and violations to the specification that disallow loading the file in Vector tools. Unusual or unsupported features are indicated as warnings. MDF Validator also shows the structure of the MDF blocks that contain the (meta) information about the measurement data, which helps exploring the file content and understanding the MDF format. Please note: MDF Validator is NOT able to display the measurement data itself, e.g. as a graphic curve representation. Use Vector CANgraph instead.
ASAM Standards	ASAM MDF

MDF4 Lib

Type	Function library for reading MDF3 and MDF4 files
Functionalities	MDF4 Lib is a powerful function library you can use to sort MDF files and read them in your own applications. Along with the widely used MDF3 format, the new ASAM-standardized MDF4 format is also supported. The library offers a convenient C++ interface for easy access to signal data and meta information in a MDF file, independent of the specific MDF version (3.x/4.x).
ASAM Standards	ASAM MDF

MICROSAR

Type	AUTOSAR basic software which includes an implementation of the XCP Slave
Functionalities	The package MICROSAR XCP supports XCP communication with an XCP master on various communication topologies such as CAN, CAN-FD, LIN, FlexRay or Ethernet. The runtime environment MICROSAR RTE supports software components with calibration ports allowing access to calibration data. MICROSAR RTE manages calibration data access during offline and online calibration; the latter supports different data access strategies like initialized RAM and Single- and Double Pointered. Configuration (e.g. transport layer parameters or XCP events) is done in the configuration and generation tool DaVinci Configurator Pro.
ASAM Standards	ASAM MCD-1 XCP

ODXStudio

Type	Authoring Tool for diagnostic data in ODX format
Functionalities	Easy-to-operate user-oriented authoring tool for diagnostic data in ODX format. Standard conformant - perfect round-trip functionality by use of ODX as internal data format. Quick loading, editing and saving of even very large sets of ODX data (>> 100MB). Optimal scalability: From individual ECU to entire vehicle or platform. Extensive features to support OEM-specific authoring guidelines. Full coverage of all ODX categories ODX-D, ODX-C, ODX-V, ODX-F, ODX-E, ODX-FD
ASAM Standards	ASAM MCD-2 D (ODX)

Training for ODX

Type	Training
Functionalities	Training for ODX, with exercises
ASAM Standards	ASAM MCD-2 D (ODX)

vCDM

Type	Collaboration platform for calibrators
Functionalities	vCDM is a collaboration platform to exchange data within and among globally distributed calibration teams. It provides sophisticated functions to support an iterative calibration approach. The database founded tool collects, merges, transforms and distributes calibration data. Many formats

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	are supported (DCM, CDF 2.0, CSV, PaCo, CANape PAR, Intel-HEX and Motorola S-Record). The physical calibration data is tracked within a data warehouse. Reports to track calibration maturity are available. Analysis functions and APIs can be used to benefit from the collected intellectual property.
ASAM Standards	ASAM CDF, ASAM MCD-2 MC (ASAP2/A2L)

vFlash

Type	(Re-)Programming ECUs over CAN, CAN FD, FlexRay, LIN or Ethernet (DoIP)
Functionalities	vFlash is a very easy-to-use tool for programming one or more ECUs via CAN, CAN FD, FlexRay, LIN or Ethernet (DoIP). It provides ECU programming based on direct “native” flashing in Intel hex, Motorola-S and binary format as well as flash programming based on ODX-F. Because of its flexible approach, vFlash can support different flash specifications of a wide variety of automotive OEMs without requiring modifications by the end user. The edition vFlash Station allows additionally the simultaneous flashing of up to 8 ECUs each on a separate communication channel.
ASAM Standards	ASAM MCD-2 D (ODX)

vSignalyzer

Type	Display, Evaluate and Document Measurement Data
Functionalities	vSignalyzer is a convenient tool for efficiently evaluating measurement data of all types. It gives you extensive options for visualizing the data as well as functions for manual and automated analysis and reporting. Measurement data acquired in network development, analysis and ECU calibration may be read-in from various file formats.
ASAM Standards	ASAM MDF

VX1000

Type	ECU Interface
Functionalities	The VX1000 System is a scalable solution with top performance for your measurement and calibration tasks. It can be used in the vehicle – both in the interior and in the engine compartment –, on test benches and in the laboratory. The VX1000 base module is connected to a PC over XCP on Ethernet. Overview of Advantages: very small adapter (POD) for the ECU interface, high measurement data throughput of up to 30 Mbyte/s, 80000 samples/s, function bypassing with very short latency times. VX1000 supports all features for Engine Management ECUs like coldstart, page switching …
ASAM Standards	ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L)

XCP Professional

Type	Implementation of the XCP Slave
Functionalities	Implementation of an XCP slave for non-AUTOSAR ECUs using the Vector CANbedded stack. Supporting CAN and LIN network topologies. Configuration (e.g. transport layer parameters or events) is done in the configuration and generation tool GENy
ASAM Standards	ASAM MCD-1 XCP

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ViGEM is focused on the development and production of innovative test tools for the automotive industry. Our embedded systems offer impressive levels of performance, comfort, and reliability. E.g. ViGEM CCA car communication analyser products enable to record automotive buses and Gigabit Ethernet at continuous data rates up to 4Gbit/s and offer up to 4TB removable memory.

CCA 5001

Type	Car Communication Analyser, data logger, test tool
Functionalities	The CCA 5001 is a data logger for multimedia, infotainment or component development, such as ECU specific test scenarios (chassis, powertrain, comfort, etc.). The CCA 5001 offers mobile, continuous and reliable data recording at 100% bus load. Small dimensioned but at a full range of services the CCA 5001 enables continuous and lossless data recording at data rates up to 300 Mbit/s.
ASAM Standards	ASAM MCD-1 XCP

CCA 7001

Type	Car Communication Analyser, modular data logger, test tool
Functionalities	The CCA 7001 is a modular data logger for analysis and validation of automotive networks and their components. Type and number of buses and interfaces can be adapted by selecting from various plug-in capture units. The CCA 7001 records data at rates of max. 1 Gbit/s. The data is stored on an internal SSD.
ASAM Standards	ASAM MCD-1 XCP

CCA 9002

Type	Car Communication Analyser, high performance data logger, test tool
Functionalities	The CCA 9002 is a high performance data logger for analysis and validation purposes with special regard to advanced driver assistance system, e-mobility, infotainment, and eAVB applications. It offers continuous or event based data recording at data rates up to 4 Gbit/s. The data is stored on 4 TB exchangeable data storage modules (SSD in RAID). The system configuration is modular, i.e. by adding plug-in capture units you can adapt type as well as number of buses and interfaces.
ASAM Standards	ASAM MCD-1 XCP

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Visu-IT! GmbH

Visu-IT! supplies high quality tools for the ECU function and software development of electronic control units. Main objective is to ensure and maintain data consistency in the whole development process - that means both in the system-/ function-development and in the software-development. We also offer development and engineering services in the automotive area.

ASAM MCD-2MC File Parser

Type	ASAP2 Parser (Software Component)
Functionalities	High performance A2L File Parser. Highlights: generic parser, supports all ASAP2 keys, full support of AML, provides both a COM and a .NET interface.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L)

ASAP2Toolkit

Type	ASAP2 Editor & Tools
Functionalities	The Visu-IT! ASAP2Toolkit is a standalone application to create, import, merge and update “ASAM MCD 2MC” description files (*.a2l). The ASAP-2Toolkit contains an easy to use and intuitive ASAP2 editor, provides an automatic address update and enables the user to use standard develop-ment process files “*.i3e” (IEEE-695) and “*.elf” (ELF-DWARF) to generate an a2l description file automatically.
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L)

Automotive Data Dictionary (ADD)

Type	Global data dictionary for ECU variables
Functionalities	The Automotive Data Dictionary (ADD) represents a global data dictionary for all ECU labels/variables used in a company/organisation. The single source concept of ADD eases the handling and management of data declarations over all projects. Due to the (company-wide) availability and uniqueness of these labels, ADD allows a continuous and consistent data declaration during the whole development process.
ASAM Standards	ASAM MDX

Data Declaration System (DDS)

Type	ECU SW Development Environment
Functionalities	DDS represents a central repository for all ECU variable declarations and thereby ensures consistency between your ECU source code and your ASAP2 description file. Interfaces: ANSI-C Export: Address Import (IEEE 695, ELF/DWARF), ASAP2 Import & Export, XML Export & Import, Inter-face to autocoding tools
ASAM Standards	ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 D (ODX), ASAM MDX

FunDoc

Type	Automated function documentation of simulation models
Functionalities	The objective of the Visu-IT! FunDoc tool is to ease the documentation process of simulation models. At this junction it is designed as a first-step tool in your documentation process chain. FunDoc is able to connect to several development tools and place the gathered information at user’s disposal for edit or print.
ASAM Standards	ASAM CDF, ASAM MDX, ASAM FSX, ASAM CC

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Weisang GmbH is developing software and providing services for technical applications. Weisang's core product FlexPro is a standard software package for analysis and presentation of measurement data and is used worldwide by thousands of engineers, scientists and measurement technology experts in automotive and other industries. FlexPro is the client tool of choice to access data stored on ASAM ODS servers and in ATX files as well as data from various data acquisition systems.

FlexPro

Type	Software
Functionalities	Archiving, analysis and presentation of measurement data.
ASAM Standards	ASAM ODS

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White Pine is a new company that specializes in engineering data management and analysis solutions and software development services. Our company is developing a variety of useful software tools and products primarily aimed at very large scale, high speed data acquisition, processing and analysis using both ASAM ODS and Big Data technologies.

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Wind Hill Technologies was founded in 2003, the headquarters is located in Beijing where set up its R&D center and factory, and we have branches in Shanghai and in Hong Kong. Our product series include ECU tools, test and measurement, industrial automation, testing equipment and engineering services. At present, our products have been widely used in automobiles, engineering machinery, railway, military, etc.

Visual Analyzer

Type	Network Analysis, Measurement and Calibration Tool
Functionalities	Complete solution for bus communication, data logging, measurement, and calibration via CAN, LIN including J1939, CANopen, CCP and XCP protocol support.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP

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X2E GmbH

X2E is a highly innovative and flexible partner in the development of advanced electronic solutions for automotive and aerospace applications. The main products are high performance automotive data loggers for the automotive industry. Additionally X2E provides complex solutions, from development of ECUs to automotive bus analyzing tools. Our high performance multibus data loggers are capable of recording data from several automotive bus systems simultaneously (CAN, LIN, FlexRay, RS232, Analog, MOST, Ethernet, BroadR-Reach) with a 100ns precision timestamp. Furthermore, our product range provides a platform which not only collects data, it is also capable of sending data at any time. The data loggers can be tailored to your requirements because of our flexible slot-concept. X2E supports its customers by equipping them with the products which are tailored to their exact needs and more importantly by developing new innovative solutions for them. With an in-house production facility, X2E can provide the full service range from development to production. Innovation, Quality and Customer Satisfaction is what X2E offers to its customers.

Xoraya 6810 Quad V5

Type	Automotive Bus Data Logger
Functionalities	100ns precise timestamp CAN, LIN, FlexRay, MOST, Ethernet, BroadR-Reach, RS-232, GNlog, DLT, Analog, XCP, CCP, PSI5, Video-Interface
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MDF

Xoraya Connect

Type	Remaining Bus Simulation Platform
Functionalities	CAN, LIN, FlexRay, MOST, Ethernet, RS-232
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP

Xoraya Minilogger

Type	automotive data logger
Functionalities	100ns precise timestamp CAN, LIN, FlexRay, MOST, Ethernet, BroadR-Reach, RS-232, GNlog, DLT, Analog, XCP, CCP, PSI5, Video-Interface
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L), ASAM MCD-2 NET (FIBEX), ASAM MDF

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XI-Works provides professional services in the fields of engineering processes, documentation, data management and diagnosis. The firm develops engineering documentation and data management solutions and integrates them into customers' system landscapes. XI-Works offers a range of products and framework solutions that can be used to create such systems.

Advanced XML Editor (Axe) for Eclipse Generic XML Editor

Type	Generic XML Tool
Functionalities	XML-Editing in different views (Plain Text, Tree, CSS, Forms), XML-Checking, Spell Checking, Table Editing, Formula Editing, Image Display, Diffing highly customizable by rich API and Extension Points.
ASAM Standards	ASAM XIL, ASAM CC, ASAM CDF, ASAM Container Catalog, ASAM FSX, ASAM Issue, ASAM MDX, ASAM MSRSW

ATX Consulting Services

Type	Consulting Service
Functionalities	The ATX consulting services deliver concepts and specifications for your specific test environment about question like: • How to use ATX? • How to map your existing test descriptions? • Which tools are needed to work with ATX? • How to generate implementation code out of ATX? • How to structure ATX projects? • How to specify specific profiles for my test use cases? • How to define ATX libraries? • How to create test reports? • How to manage test results? Learn from the ATX specification editor.
ASAM Standards	ASAM XIL, ASAM CC

AXE ATX Workbench

Type	Test Specification Editor
Functionalities	Define and Organize ATX Projects Editing, Checking ATX Files
ASAM Standards	ASAM XIL, ASAM CC, ASAM Container Catalog

AxeEcuDoc Ecu Documentation Suite Editing solution for functional specification based on MSRSW, AE-FSX, AE-MDX, MSRREP, AE-CC and AE-ATX

Type	Documentation System
Functionalities	Editing, Checking, PDF-Publishing for Functional Specification and Test Specification
ASAM Standards	ASAM CC, ASAM CDF, ASAM Container Catalog, ASAM FSX, ASAM MDX, ASAM MSRSW

EcuDoc-Publisher PDF publishing for functional specification.

Type	Documentation System
Functionalities	Checking, PDF-Publishing for Functional Specification
ASAM Standards	ASAM CDF, ASAM MDX, ASAM FSX, ASAM CC

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EcuDoc-Publisher Server Web application server for server based PDF publishing and continuous integration of functional specification

Type	Documentation System
Functionalities	Checking, PDF-Publishing for Functional Specification
ASAM Standards	ASAM CDF, ASAM MDX, ASAM FSX, ASAM CC

XIDiff Generic XML differ

Type	Generic XML Tool
Functionalities	Show the differences between XML documents, merge of XML documents.
ASAM Standards	ASAM XIL, ASAM CC, ASAM CDF, ASAM Container Catalog, ASAM FSX, ASAM Issue, ASAM MCD-2 D (ODX), ASAM MCD-2 NET (FIBEX), ASAM MDX, ASAM MSRSW

XMetal-Kit for MSRSW, MDX, Container Catalog, MSRREP and MSRSYS

Type	Documentation System
Functionalities	Editing, Checking, PDF-Publishing
ASAM Standards	ASAM CDF, ASAM MDX, ASAM FSX, ASAM CC

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Yokogawa Digital Computer is engaged in designing and development of microcomputer, peripheral system and others to providing consulting and tools that help Japanese and international companies improve the development process for embedded product. We can provide ECU measurement tools, software development environments, ICE, debugger, and CAN/Serial programmer.

NETIMRESS

Type	Programmer (CAN/Serial)
Functionalities	Versatile/high-speed flash on-board programmer for both small production line and large production line that can support both stand-alone and network control.
ASAM Standards	ASAM MCD-1 XCP, ASAM MCD-2 D (ODX)

RAMScope

Type	Data measurement, analysis tool
Functionalities	High-speed monitor tool for the environment that measures synchronously and analyzes RAM in two or more ECU
ASAM Standards	ASAM MCD-3 MC

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ACADEMICS

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Aristotle University of Thessaloniki is the largest university in Greece with more than 90,000 undergraduate and postgraduate students. The Laboratory of Applied Thermodynamics (LAT) belongs to the Energy Division of the Mechanical Engineering Department of Aristotle University. Its educational and research activities cover the following fields:

- Applied Thermodynamics and Combustion
- Internal Combustion Engines and Emissions Control
- Emissions Inventories and Forecasts
- Energy Policy and Renewable Energy Sources

The main focus of the laboratory activities lies on applied as well as basic research, regarding exhaust emissions of Internal Combustion Engines. LAT possesses state-of-the-art equipment and know-how on both testing and simulation methodologies in the field of emissions characterization and after-treatment. LAT provides R&D services in the field of automobile exhaust emissions and after-treatment technology. Having a long tradition in this field, LAT possesses valuable experience in both testing and modelling methodologies to provide high quality services to its industrial partners. The testing services are supported by regularly updated equipment for the measurement and characterization of gaseous and particulate emissions, as well as fuel and fuel additive properties.

The Laboratory has founded Exothermia S.A. (2007) and EMISIA S.A. (2008), two spin-off companies specialized on software engineering for exhaust aftertreatment applications and emission inventorying, emission modelling & impact assessment studies of environmental policies, respectively.

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Founded in 1991, Brandenburg University of Technology Cottbus is an internationally accepted, innovation-oriented small university with about 6,750 students and about 1,300 employees. It operates teaching and research on highest international level, with the focus on environment, energy, material, construction as well as information and communication technology and combines internationality with regional respect through teaching and research in a real laboratory. The Chair of Automotive Technologies and Drives is integrated in the Institute of Traffic Engineering (ITE) and treats in research and teaching the basics and applications of the vehicle and drive technology, the motorcycle technology and alternative drives. The research focuses here are particularly in the field of thermal and energy management of vehicle drives (engine and drive train) including implementation and validation of certain measures. Furthermore, there are extensive experiences in the simulation of waste heat utilization concepts and cooling systems as well as in the evaluation of fuel consumption and emission potentials in legal cycles as well as in real-life customer drives.

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Budapest University of Technology and Economy, Dep. of Control and Transport Automation

The Budapest University of Technology and Economics can trace its evolution through several academic institutions, dating back to 1782. With 24000 students and many researchers it is one of the most important research centres in Central Europe. The main research area of the Department of Control and Transport Automation are the control theory and automotive engineering.

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Das virtuelle Fahrzeug Forschungsgesellschaft mbH

VIRTUAL VEHICLE is an independent, international platform for research and development of new simulation methods/tools in the automotive and rail industry, enabling faster and more efficient development, early validation of concepts and a multidisciplinary development approach. Fields of research include Vehicle Safety, Thermodynamics, NVH, E/E, Software, System Design and Optimization.

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Fachhochschule Köln

CUAS represents a broad range of educational and research activities. With about 17,000 students, half of them in engineering programs, there are many opportunities for automotive and ASAM-related projects, student thesis, and other kinds of cooperation. Faculty members are actively involved in ASAM Project groups and familiar with ASAM standards.

Consulting

Product Type	Consulting
Functionalities	Expert monitoring of projects, analysis, recommendations, advice
ASAM Standards	ASAM ACI, ASAM GDI, ASAM MCD-2 NET (FIBEX), ASAM ODS

Contract research/development

Product Type	Research/development service
Functionalities	Conduct research (also within a project team of universities & companies)
ASAM Standards	ASAM ACI, ASAM GDI, ASAM MCD-2 NET (FIBEX), ASAM ODS

Student internships

Product Type	Internship projects
Functionalities	Provide students opportunities to work on internal projects (also intern.)
ASAM Standards	ASAM ACI, ASAM GDI, ASAM MCD-2 NET (FIBEX), ASAM ODS

Student projects

Product Type	Research/development service
Functionalities	Develop prototypes or evaluate methodologies for implementation
ASAM Standards	ASAM ACI, ASAM GDI, ASAM MCD-2 NET (FIBEX), ASAM ODS

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FH Aachen

The FH Aachen is a major research center in Germany. The competencies of the scientists in our 10 faculties and 7 institutes lie in the future fields of energy, mobility, and life sciences. In addition, outstanding experts in the areas of design, architecture, and civil and mechanical engineering, as well as in economics and logistics, and also in the fields of electrical, information and production technology work at the FH.

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University of Applied Science, Department Informatics

XIL - Co-Simulationsbackplane –

Product Type	Werden derzeit überwiegend die einzelnen Entwicklungsschritte mit getrennten Tools abgedeckt, so bietet eine Co-Simulation die Chance, den gesamten Entwicklungsprozess beginnend von der Spezifikation über die Implementierung bis hin zum abschließenden Test mit einer ‚Integrierten Entwicklungsumgebung' abzudecken. Damit einhergehend ergeben sich die Chancen, die Übergänge zwischen den einzelnen Entwicklungsschritten mit weniger Aufwand darzustellen, einmal erstellte Testspezifikationen während des gesamten Entwicklungsprozesses nutzen zu können und den Dokumentationsaufwand entsprechend gering zu halten.	
Functionalities	Co-Simulation von: • C-Code • Ascet • Simulink RTW • Simulink • Blender • DAQ • UML	Key-Feature: • Echtzeitfähig • Anwendung auf PC-Plattform und Prototypenelektronik • XCP zum Messen und Parametrisieren • XCP zum Testen
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 MC (ASAP2/A2L)	

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FZI Forschungszentrum Informatik

Forschungszentrum Informatik (FZI) is a non-profit contract research organisation that concentrates its efforts on innovative information technologies for providers of investment and consumer products, production processes and information services. FZI supports the development of innovative applications based on recent but already proven techniques, offering its partners a unique interdisciplinary environment that fosters joint research amongst diverse fields of Informatics, Mechanical and Electrical Engineering.

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Hochschule für Angewandte Wissenschaften Hamburg

With 14,000 students Hamburg University of Applied Sciences is one of the largest of its kind in Germany. Founded in 1970, our roots go back to the 18th century. The CoRE (Communication over Real-time Ethernet) group of the department of computer science researches in the area of future automotive communication infrastructures.

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Hochschule Heilbronn

Heilbronn University ranks amongst the major institutions of Higher Education in the state of Baden-Württemberg with over 8,000 students. It works closely with its partners in business and industry in education and research, e.g. the study program Automotive-Systems-Engineering is sponsored by major companies and offers support and consulting to every interested organisation.

Consulting

Product Type	Consulting
Functionalities	Benefit from the knowledge and the experience of our experts in many fields of automotive technology. We can ensure the success of your projects by a sound and detailed analysis and target-oriented advice.
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 NET (FIBEX)

Research and Development Projects

Product Type	Research and Development
Functionalities	We find solutions to your Research and Development problems in many fields of automotive technology
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 NET (FIBEX)

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Hochschule Trier

Hochschule Trier is a University of Applied Sciences with 6000 students. We perform research in Vehicular Systems and Electronics as well as in Energy Efficient e-mobility.

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HTW Dresden

Dresden University of Applied Sciences (Hochschule für Technik und Wirtschaft Dresden) was founded in 1992. It is the second largest post-secondary educational institution in Dresden, the capital of Saxony. Engineering, economics, design, and 'green' disciplines constitute the four pillars that more than 40 forward-looking diploma, bachelor's, and master's degree programs in civil engineering/architecture, electrical engineering, information technology/mathe-

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matics, product design, mechanical and process engineering, and business administration are based upon. These degree programs include a number of subjects that are unique to post-secondary education in Saxony such as agriculture, horticulture, landscape planning and development, environmental monitoring and analysis, geoinformatics and surveying, as well as geoinformatics and cartography. International connections of the various courses and placements abroad are essential characteristics of Dresden University of Applied Sciences' modern approach to teaching, which also train students\' intercultural communication skills to foster an important east-west interface. International teaching and research cooperations and student and university teacher exchanges sponsored by the university help to maintain close contacts with numerous universities and colleges in Europe, Africa, America, Asia, and Australia. State-of-the-art laboratories, the university's globally connected computer network, an extensive library, the language centre, and the industrial placement semester (which is compulsory for every student to acquire professional experience and develop new business contacts) all ensure that studies at the university retain a highly practical dimension. The combination of technology, business, and aesthetics, which are of equal interest to both students and instructors, sets the tone for both the training profile and academic life at the university. With 8 faculties, approximately 170 professors, and more than 5,000 students, the university is large enough to integrate the different disciplines successfully and generate a high synergistic effect. On the other hand, it is still manageable enough to facilitate personal dialogue in individual courses. Music enthusiasts can look forward to performances by either of the university's orchestras, and sports fans will enjoy the school\'s outstanding athletic facilities. In addition to its main function as a centre for teaching, the university is also a centre of applied research and economical development. For example, the \'Vehicle Engineering Research Institute\' is recognised internationally. The Zentrum für angewandte Forschung und Technologie e.V. (ZAFT) (Centre for Applied Research and Technology) has existed since 1998, and the goal of the centre is to unite specialists from nearly every faculty to collaborate on innovative system solutions.

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Jiangnan University

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Technische Hochschule Ingolstadt

The Technische Hochschule Ingolstadt is a dynamic University of Applied Sciences that is strongly occupied with mobility issues. We offer various study courses in this field as well as executive education. Our research institute is a strong R&D partner and the automotive research centre CARISSMA provides an excellent infrastructure.

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TU Darmstadt, Institut für Verbrennungskraftmaschinen u. Fahrzeugantriebe

The Institute for Internal Combustion Engines and Powertrain Systems is a subdivision of the Technical University of Darmstadt. The institute has about 70 employees, 14 of them scientific assistants. There are 12 dynamic engine test beds, 3 of them with hybrid simulation systems. Main topics are: Electrification, Methodology and Simulation, Exhaust aftertreatment, ICE Optimization, alternative fuels

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TU Dresden, IAD – Institut für Automobiltechnik

The Institute of Automotive Technology (IAD) at the Dresden University of Technology covers all automotive related topics in research and teaching. The IAD consists of the three chairs in Automotive Engineering, Vehicle Mechatronics and Internal Combustion Engines. The IAD as a main collaborative research partner of the automotive industry provides competence in modeling and simulation of various automotive domains and operates several test benches, e.g. for engines, generators, batteries and many more.

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Universität Kassel

Perform Research and Development Work in the fields of: Hardware-in-the-Loop Simulation and Modeling, Design of Experience supported Testing on Test beds for Engines and Gear Boxes, Functions development for engine ECUs.

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Universität Stuttgart, Institut für Verbrennungsmotoren (IVK)

IVK/FKFS (Research Institute of Automotive Engineering and Vehicle Engines Stuttgart) operate various test facilities, e.g. a full-scale and a model-scale wind tunnel, a driving simulator and several engine test stands. Additionally, the institute offers support in simulation, NVH, thermodynamics, vehicle dynamics, road load studies, automotive electronic systems, communication and power networks, alternative vehicle and powertrain concepts.

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University of Bologna

The University of Bologna is considered to be the oldest University in the Western World (founded 1088). Today it hosts about 90000 students in 11 Schools, 33 Departments on 5 Campuses.

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University of Hyogo

University of Hyogo is a public university established by a local government, furnishes six schools, eleven graduate schools and four research institutes, and gives new knowledge in a wide range from liberal arts to sciences while we conduct extensive research, such as Pico-biology selected as a Global COE Program.

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Zhejiang University

Zhejiang University is a comprehensive national university, founded in 1897.It's one of the earliest modern academies of higher learning established in China. Zhejiang University is a key comprehensive university whose fields of study cover philosophy, literature, history, education, science, economics, law, management, engineering, agriculture, medicine etc.

SMR Automation

Product Type	Software
Functionalities	Test Automation tool
ASAM Standards	ASAM XIL

SMR Controller

Product Type	Software
Functionalities	Calibration & Measurement Tool
ASAM Standards	ASAM MCD-1 CCP, ASAM MCD-1 XCP, ASAM MCD-2 D (ODX)

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ASAM ODS

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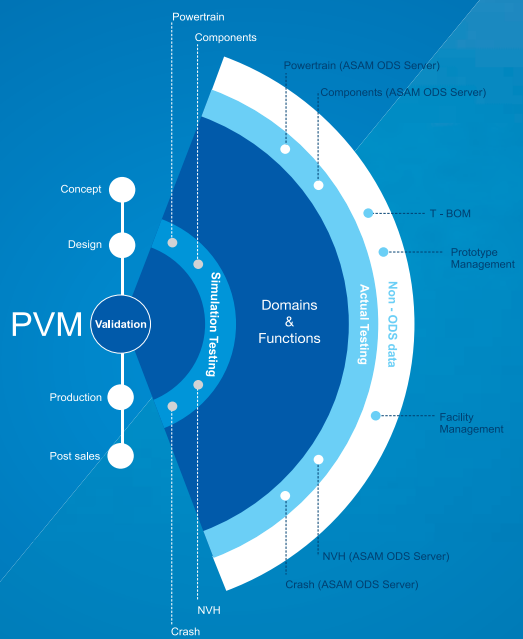

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Refreshed 2022 Audi A8 and S8 deliver space for progress through sharpened design and enhanced technologies

- **Audi flagship reaffirms its position as luxury sedan leader with broad design refresh**
- **Simplified A8 model range features powerful 6-cylinder 3.0-liter TFSI engine, while S8 is outfitted with 563-horsepower 4.0-liter V8**
- **Revised equipment offer across model line presents a tiered approach to personalization, from high luxury to high performance**

HERNDON, Va., February 15, 2022 – Enhanced design of the 2022 A8 and S8 models strengthens their presence and authority, and represent Audi's flagship luxury models. In an increasingly complicated world, the Audi customer desires calming experiences and technologies that complement their busy lives. The Audi A8 and S8 have always represented an elegant combination of driving engagement, top-tier materials and build quality offering the respite desired from life's demands. Highlighted by a serene interior experience, the model line is distinguished by its driving dynamics and performance capabilities. Comfort, control logic, infotainment, and the quality of the materials are of utmost importance to the discerning customer. For 2022, a streamlined entry point to the heralded 563-horsepower V8 engine, appeals to A8 and S8 buyers alike. With new standalone packages available, S8 customers can now outfit their vehicle with equipment and technologies that reflect their unique preferences and priorities.

Exterior: space to stand out

The refreshed 2022 A8 family catches the eye with strengthened design elements. From the front, the A8 receives a wider singleframe grille, adorned with an all-new design including angular bar design. The rear design is anchored by broad fascia and features customizable taillight signatures comprised of OLEDs, linked by a segmented light strip. Additionally, the rear diffuser insert in the bumper is highlighted through redesigned horizontal bars, highlighting the width and stature of the A8.

When viewed from its side profile, the level roof line accentuates the vehicle's length, and its wheel arches allude to its standard quattro all-wheel drive. The S line exterior package now comes standard on the A8, with air intakes on either side of the front fascia, highlighted with distinctive blades and a black grille, which adds to the overall character of the vehicle.

The Audi S8 performance sedan can be identified by its four flow-optimized tailpipes, a design signature of Audi S models, and a wider Singleframe grille adorned from top to bottom with chrome angles. For an even more formidable appearance, an additional Black optic Plus package is available to be equipped to both the A8 and S8, including black mirrors, badges, rings, and black 21-inch wheels.

minimalist environment when not needed.

The interior is adorned with available Valetta and Valcona leather and incorporates Dynamica, a microfiber material first introduced in the Audi portfolio within the Audi e-tron GT. Dynamica is added to the door panels, and can be further optioned to cover the interior pillar trim or roof lining.

For the A8, ventilation and massage seats with lumbar support are just a few of the comforts customers and their passengers can experience. For the S8, the amenities expand further with an available four-seat rear comfort package, including a rear full-length center console offering fold out wing tables and an integrated digital remote to control the lighting and seating preferences.

Infotainment: seamless and sensible operation

The MMI touch response operation found in the A8 is presented in two displays (10.1'' upper and 8.6'' lower), with the upper screen controlling infotainment and navigation functions and the lower devoted to climate control and comfort operations like massaging, ventilation, and seat heating. Of course, occupants can control most functions through advanced natural voice recognition. The Audi virtual cockpit, with optional head-up display, contributes to a thoroughly modern driver-focused experience, with the most pertinent information displayed directly to the line of sight of the driver.

Connected Services: an easy, intuitive digital ecosystem around the customer

The Audi A8 and S8 can be a mobile office as much as they can serve as a retreat. With the MIB 3 suite of infotainment technologies, passengers can connect up to eight mobile devices to available LTE mobile Wi-Fi. Sitting in the back of an S8 with the available four-passenger rear-seat comfort package, passengers are able to deploy individual tables to create a convenient secondary workspace.

Audi connect and the entire suite of services offered within the A8 and S8 enrich the driver's experience as well, with its available Traffic Light Information that can provide a live countdown of a traffic light's time to turn green at more than 21,000 intersections across the U.S. It also entails an Integrated Toll Module to eliminate the need for a toll transponder, and a number of other services. A full list of the 2022 connected features and MIB 3 infotainment system offerings can be **found here**.

Performance: from sublime to surreal

Standard adaptive air suspension in the A8 provides a balance between comfort and performance expected from the Audi flagship. The A8 can effortlessly awaken on command with the backing of a 335-horsepower, 3.0-liter V6 TFSI engine. Standard on the A8 are 19-inch 5-spoke design wheels with all-season tires. Optional with the Executive package are 20-inch 10-parallel-spoke-design wheels with all-season tires, and 21-inch 10-Y-spoke design wheels with the Black optic and Black optic plus packages respectively. The high-performance S8 elevates the luxury sedan by way of its 563-horsepower, 4.0-liter twin-turbocharged V8 engine. Further complimenting S8's prestige, there are several differentiating standard features such as sport air suspension and dynamic all-wheel steering. The S8 comes standard with 20-inch 5-double-spoke S design wheels on summer tires. The optional

the Executive package. This option includes Audi active lane assist with emergency assist, Audi adaptive cruise assist with traffic jam assist, turn assist, intersection assist, and side assist with pre sense functionality for the rear.

Digital Matrix-design LED headlights and OLED rear lights

Lighting innovation has long been a hallmark of Audi design, and the A8 family continues to lead the way in demonstrating the brand's most advanced technology. The enhanced A8 comes standard with LED headlights and OLED taillights. When the Audi drive select is switched to dynamic mode, the taillights adjust to a wider signature unique to the driving mode. Working alongside the driver assistance systems, the OLED taillights have a proximity indicator which activates all OLED segments when another vehicle approaches closer than 6.6 feet of a stationary A8 from behind. Also incorporated into the OLED rear lighting system are dynamic turn signals and a choreographed lighting display through coming home/leaving home animations.

Further differentiating Audi S8 is the Audi approach to the future of advanced lighting technology. Available Digital Matrix-design LED headlights create a striking signature. Each of the headlights are equipped with 1.3 million micro-mirrors that break down the emitted light into tiny pixels, allowing the light beams to be controlled with maximum precision. Producing a unique lighting performance, the Digital Matrix-design LED headlights can display unique coming home/leaving home animations. Additional features may be unlocked if U.S. regulations allow, including on-road lane markers and light beams that can dip around or below other cars.

Peace of mind: safety-enhancing tech and driver assistance

Delivering an Audi benchmark in driver assistance and convenience systems, the 2022 A8 continues to set the standard in luxury, providing increased ease of mind and operation through its comprehensive assistance functionality. The A8 comes to market with a suite of standard and available equipment to ensure complete dynamics and driving assistance. Enhancements to this standard package include the optional stress reducing adaptive cruise assist, advanced collision mitigation and cross traffic assist, through its onboard sensors, cameras and laser.

The advanced driver assistance systems in the A8 offer an added element of ease behind the wheel. While the driver maintains control, the intelligent systems in the A8 can simultaneously assess the vehicle's surroundings, providing the driver with added confidence and stress reduction. The impressive array of safety enhancing systems, including lane centering capabilities and precise lane tracking, makes A8 the driver assistance benchmark for the brand and the segment.

2022 Model	Engine	Horsepower	Torque	MSRP
A8 L 55 TFSI	3.0 TFSI	335 hp	369 lb-ft	$86,500
S8	4.0 TFSI	563 hp	590 lb-ft	$116,900

electrified, including fully electric and plug-in hybrid vehicles. Globally, we are committed to net CO2 neutrality by 2050. In 2021, Audi sold 196,038 vehicles in the U.S. and more fully electric models than ever before, with electric vehicle deliveries up by more than 50% over 2020. Learn more about who we are and how we're working to create a more sustainable, innovative, and inclusive future at audiusa.com or media.audiusa.com.

This information and any vehicle specifications are preliminary and subject to change.

Always pay careful attention to the road, and do not drive while distracted. See Owner's Manual for further details, and important limitations.

Always pay careful attention to the road, and do not drive while distracted. Audi connect should only be used when it is safe and appropriate. Audi connect services and features are optional, provided with the support of authorized affiliated and third party service providers, and may require additional subscriptions with separate terms and conditions. Available on select models. Certain services collect location information, see Terms of Service for information about how to disable and for other details. Connect services are subject to technologies remaining commercially available, and such services are not guaranteed.

This [Traffic Light Information] feature is not a substitute for attentive driving. Always pay careful attention to the road and obey all speed and traffic laws. Requires compatible traffic infrastructure which is not available in all areas. Not available on vehicles built prior to June 1, 2016. See Owner's Manual for further details, and important limitations.

[Integrated Toll Module] Requires registration and paid subscription with Payviam. Subscription fee does not cover individual tolls. Coverage area limited. See payviam.com for details.

Driver Assistance features are not substitutes for attentive driving. See Owner's Manual for further details, and important limitations.

Starting MSRP of $86,500 for a 2022 A8 L 55, 3.0-liter TFSI 6 CYL with Tiptronic transmission. Price excludes $1,095 destination charge, taxes, title, other options and dealer charges. Dealer sets actual price.

Starting MSRP of $116,900 for a 2022 S8, 4.0-liter TFSI, 8 CYL with Tiptronic transmission. Price excludes $1,095 destination charge, taxes, title, other options and dealer charges. Dealer sets actual price.

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2022 Audi S8

2022 Audi A8

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superbly refined vehicle, both inside and out. Let the sales team at Green Audi take all of the guesswork out of finding the perfect version of the **2022 Audi A8 (https://www.greenaudi.com/new-inventory/index.htm?search=&model=A8&year=2022&gvBodyStyle=Sedan)** for you.

(https://www.greenaudi.com/new-inventory/index.htm?search=&model=A8&year=2022&gvBodyStyle=Sedan)

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seats, and heated rear outboard seats. And for those looking for an extra level of refinement, there is the available luxury package with extended leather package, power rear outboard seats with memory, and heated rear surfaces such as the door armrests and center armrest.

- 22-way power front seats
- Heated steering wheel

Heated front surfaces
Heated rear outboard seats

- Available rear outboard seats with memory

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2022 Audi A8 Technology Features

The **2022 Audi A8 (https://www.greenaudi.com/new-inventory/index.htm?search=&model=A8&year=2022&gvBodyStyle=Sedan)** was designed with a multitude of integrated assistive technology such as the available Audi connect® intelligent navigation and the available remote vehicle services such as car finder and roadside assistance. The available head-up display in the 2022 Audi A8 projects important information about your drive and your vehicle within your field of vision on the windshield, and to stream your favorite media and access your apps and contacts, the 2022 Audi A8 has connectivity with both Apple CarPlay® and Android Auto™. For anyone looking for a truly deep and immersive audio experience while driving your new

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2022 Audi A8 Interior Color Options

The **2022 Audi A8 (https://www.greenaudi.com/new-inventory/index.htm?**

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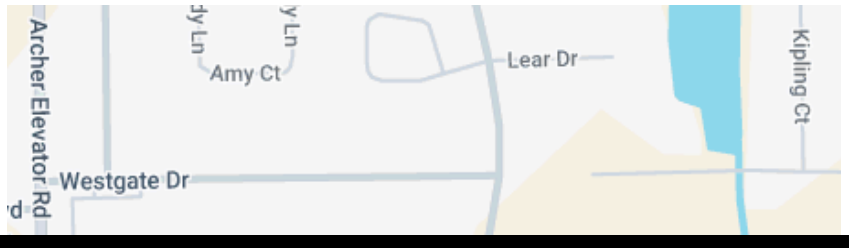
Why Buy From Green Audi?

The **2022 Audi A8 (https://www.greenaudi.com/new-inventory/index.htm?search=&model=A8&year=2022&gvBodyStyle=Sedan)** is an incredible choice for anyone in the market for a luxurious sedan with a generous selection of interior options to truly make it your own. And Green Audi in Springfield, IL is the perfect place to check out all that the 2022 Audi A8 has to offer. Stop on out to see them today at 3881 Wabash Ave , Springfield, IL, 62711 or call



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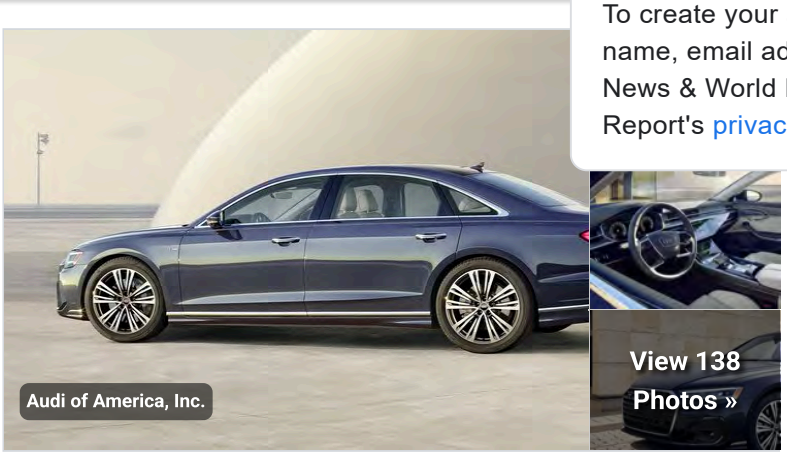
2022 Audi A8

#5 out of **8** in **2022 Luxury Large Cars**



$47,632 - 71,908 Avg Price Paid

~~$86,500 - 116,900~~ Original MSRP

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2022 Audi A8 Review

By David Gluckman | November 26, 2024

Other Years: 2025 2024 2023 2022 2021 2020 2019 2018 2017

The 2022 Audi A8 is a well-rounded luxury large sedan. It may not be the most athletic in its class or have the showiest interior, but it's packed with tech and provides a serene driving experience.

7.1/10
U.S. News Rating

Pros

- Modern, tech-focused interior
- Plush seating
- Comfortable ride

What's New for 2022

- Refreshed exterior styling
- V8 and plug-in-hybrid A8 discontinued
- Standard wireless Android Auto

Cons

- Not as nimble as some competitors

- ✖ Lackluster fuel economy
- ✖ Smaller-than-average trunk for the segment

Features and Specs

Seats 5

14-19 City / 23-28 Hwy

AWD

335 - 563 Horsepower

See full 2022 Audi A8 specs »

Audi A8 2022 Dealer Inventory in Washington, DC (20007) [change location]

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Audi A8 Rankings

The 2022 Audi A8's #5 ranking is based on its score within the 2022 Luxury Large Cars category. Currently the Audi A8 has a score of 7.1 out of 10, which is based on our evaluation of 19 pieces of research and data elements using various sources.

#5 in **2022 Luxury Large Cars**

#15 in **Used Luxury Large Cars $30K and up**

U.S. News Rating	7.1
Critics' Rating	9.0
Performance	7.8
Total Cost of Ownership	3.6
Interior	8.6
Safety	N/A
Reliability	N/A

Where This Vehicle Ranks

2022 Audi A7

2022 Genesis G90

$47,208 - $50,645 AVG PRICE PAID

3

2022 Mercedes-Benz S-Class

$66,176 - $158,667 AVG PRICE PAID

4

2022 BMW 7-Series

$48,748 - $96,174 AVG PRICE PAID

5

2022 Audi A8

$47,632 - $71,908 AVG PRICE PAID

6

2022 Porsche Panamera

$64,477 - $138,859 AVG PRICE PAID

See the full 2022 Luxury Large Cars rankings »

2022 A8 Photos

See all 138 Photos »

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2022 Audi A8 Overview

Is the 2022 Audi A8 a Good Used Car?

Yes, the 2022 A8 is a good used car. Both the standard A8 and the high-performance S8 provide good power, and the V6-equipped base model has solid fuel economy estimates for the segment. The A8's interior design is modern and clean, with a slick-looking dual-display infotainment system taking up the center stack and doing away with most physical controls. It's roomy inside, though trunk space is disappointing. The 2022 model's five-year projected ownership costs are about average for the luxury large car class.

If you want the ultimate in luxury trappings, better to look at a Mercedes-Benz S-Class. There's also the BMW 7 Series. It's more of a driver's car, and it has more trunk space

Compare the A8, S-Class and 7 Series »

Pricing

How Much is a 2022 Audi A8?

Based on listings for the 2022 Audi A8, the average list price is $47,632. Prices range from $47,632 to $71,908 and vary depending on the vehicle's condition, mileage, features, and location.

Pricing by Model

Trim	Price
Standard	$86,500 - $116,900

See the Best Used Car Deals »

2021 vs. 2022 Audi A8: What's the Difference?

Audi refreshed the A8's styling for 2022 and simplified the powertrain lineup, dropping the plug-in hybrid and the 453-horsepower twin-turbocharged V8 engine. Also, wireless Android Auto became standard.

Compare the 2021 and 2022 A8 »

Here are the key changes for the Audi A8 over the last few years:

- 2022: refreshed styling; twin-turbocharged A8 and plug-in hybrid discontinued; wireless Android Auto made standard
- 2021: wireless device charging, 22-way power-adjustable and ventilated front seats and surround-view camera system joined standard features list
- 2020: available twin-turbo V8 engine debuted for A8; S8 and plug-in-hybrid models introduced; lane-departure warning made standard

- 2019: redesigned with updated styling, new touch-screen infotainment system and more standard driver-assistance features

If you're considering an older model, be sure to read our 2019 A8, 2020 A8 and 2021 A8 reviews to help make your decision. You can learn about savings and discounts on used vehicles on our Best Used Car Deals page. Also, check out our review of the new Audi A8, and take a look at our Best New Car Deals and Best New Car Lease Deals pages to see how much you can save on a new vehicle.

Which 2022 Audi A8 Model Is Right for Me?

We recommend going for a plain-old base A8. It comes well-equipped, its V6 engine is plenty punchy, and most add-ons are available.

What Does Audi's Certified Pre-Owned Warranty Cover?

Audi offers a certified pre-owned program for cars five years old or less and with fewer than 60,000 miles. Qualifying vehicles bought under the new-car warranty period have coverage until four years from the vehicle's original in-service date or 50,000 miles. Certified pre-owned Audis purchased after the four-year new-car warranty has ended receive an additional one-year/20,000-miles comprehensive warranty. This is not an extension of the new-car warranty. Audi CPO models must pass a 125-plus-point inspection.

Among luxury car manufacturers, Audi's CPO program is underwhelming, according to our research. It's surpassed by rivals such as Mercedes-Benz, BMW and Lexus.

See the best CPO programs »

Extended Warranties for Audi Cars and SUVs

Not every used Audi will qualify for a certified pre-owned warranty. However, there are options available if you want additional coverage after the manufacturer's warranty has expired.

Read more about extended car warranties »

2022 A8 Performance

Both the A8's V6 engine and the S8's V8 have mild-hybrid systems that help harvest waste energy under braking and redeploy it as a power aid during acceleration. Both engines operate smoothly, as do their eight-speed automatic transmissions, with the noticeable difference being their output levels. The A8 rides nicely thanks to an adaptive air suspension, and the S8's sport tuning tightens up responses somewhat, but these are not exactly nimble cars.

- **Base engine:** turbocharged 3.0-liter V6 with 335 horsepower and 369 pound-feet of torque (A8)
- **Available engine:** twin-turbocharged 4.0-liter V8 with 563 horsepower and 590 pound-feet of torque (S8)
- **Drivetrain:** all-wheel drive
- **Transmission:** eight-speed automatic

2022 Audi A8 Gas Mileage

The V6-powered 2022 A8 has fuel economy estimates of 19 mpg in the city and 28 mpg on the highway. The high-performance S8 is rated at 14/23 mpg city/highway. The A8's estimates are good for the luxury large carclass, while the S8's are on par with other performance-oriented cars in the segment.

Read more about A8 performance »

2022 A8 Interior

2022 A8 Interior Quality

The cabin in the 2022 A8 is well-built using rich materials, including real leather and wood. It's also very quiet inside.

How Many People Does the 2022 A8 Seat?

The two-row A8 and S8 seat five people, though the S8 is available with a four-seat layout that replaces the center rear seat with a full-length console. Ignoring that rear middle position, there isn't a bad seat in the house. The same creature comforts available upfront (massage, power adjustments, heating and ventilation) are available for the rear outboard seats, as well. Rear legroom is generous and on par with what other spacious luxury barges offer.

- Valetta leather upholstery
- 22-way power-adjustable front seats
- Heated and ventilated front seats
- Power rear-window and back-glass sunshades
- Power tilt-and-telescoping steering wheel
- Three-seat second row

Available seating features:

- Valcona leather upholstery
- Heated front and rear armrests
- Heated steering wheel
- Heated and ventilated rear seats
- Front sport seats
- Power-adjustable rear outboard seats
- Front- and rear-seat massage functions
- Two-seat second row

2022 Audi A8 Cargo Space

The A8 has 12.5 cubic feet of trunk space, which is below average for the luxury large car segment. A hands-free power trunk lid is standard.

2022 Audi A8 Features

The A8's infotainment system consists of two large touch screens in the center of the dash. The only physical control is a volume knob; haptic feedback from the touch screens lets you know you've pressed a virtual button, but you'll still need to look down at the display to know which one to tap. The system takes some getting used to, but it isn't unnecessarily complicated.

- **Standard infotainment features:** a 10.1-inch upper touch screen, an 8.6-inch lower touch screen, a 12.3-inch digital instrument cluster, wireless Apple CarPlay and

wireless device charging, two USB ports, a 17-speaker Bang & Olufsen audio system, satellite radio, HD Radio and Bluetooth

- **Available infotainment features:** a rear seat dual-screen entertainment system, a 23-speaker Bang & Olufsen audio system and a rear power outlet
- **Additional standard features:** a panoramic sunroof, soft-close doors, a hands-free power trunk lid, proximity keyless entry and quad-zone automatic climate control
- **Other available features:** multicolor ambient interior lighting

See 2022 Audi A8 specs »

Read more about A8 interior »

How Safe Is the 2022 A8?

2022 A8 Crash Test Results

Neither the National Highway Traffic Safety Administration nor the Insurance Institute for Highway Safety has crash tested the 2022 Audi A8. This is typical for high-end luxury vehicles.

Standard driver-assistance features:

- Forward collision warning
- Forward automatic emergency braking
- Lane-departure warning
- Automatic high-beam headlights
- Rain-sensing windshield wipers
- Surround-view camera system
- Front and rear parking sensors
- Rearview camera

Available driver-assistance features:

- Lane-centering assist
- Blind-spot monitoring
- Rear cross-traffic alert
- Traffic-sign recognition
- Night-vision assist
- Head-up display (shows pertinent driving and navigation information directly on the windshield)
- Intersection assist (uses sensors to help prevent accidents at intersections)

How Many Child Car Seats Fit in the 2022 Audi A8?

There are two complete sets of LATCH connectors for the A8's rear outboard seats. The Insurance Institute for Highway Safety has not evaluated this LATCH system for its ease of use.

2022 Audi A8 Recalls

There are no major recalls for the 2022 Audi A8 at this time.

See more information on Audi A8 safety recalls »

2022 Audi A8 Models and Trims

The 2022 Audi A8 comes in two trims: A8 L 55 TFSI and S8. Both have standard all-wheel drive and an eight-speed automatic transmission.

Audi A8 L 55 TFSI

The A8 L 55 TFSI sports a 335-horsepower turbocharged V6 engine. Standard features include Valetta leather upholstery, 22-way power-adjustable front seats with heating and ventilation, a panoramic sunroof, power rear-window and back-glass sunshades, soft-close doors, a hands-free power trunk lid, an adaptive suspension, proximity keyless entry, quad-zone automatic climate control, a power tilt-and-telescoping steering wheel and an auto-dimming rearview mirror.

The infotainment system consists of a 12.3-inch digital instrument cluster, 10.1-inch

Alexa, navigation, voice and handwriting recognition, wireless device charging, two USB ports, a 17-speaker Bang & Olufsen audio system, satellite radio, HD Radio and Bluetooth.

Standard driver-assistance features include forward collision warning, forward automatic emergency braking, a surround-view camera system, lane-departure warning, automatic high-beam headlights, a rearview camera, rain-sensing windshield wipers and front and rear parking sensors.

The available Executive package adds a heated steering wheel, multicolor ambient interior lighting, adaptive cruise control, lane-centering assist, blind-spot monitoring, rear cross-traffic alert, traffic-sign recognition and intersection assist. The Luxury package adds rear-wheel steering, extended leather upholstery, heated rear-row door and center-console armrests, rear-row reading lights and power rear outboard seats with heating, ventilation and massage functions.

The Comfort Plus package includes upgraded Valcona leather upholstery, front-seat massage functions, heated front-row door and center-console armrests, heated outboard rear seats and a head-up display. A rear-seat dual-tablet entertainment system is also available.

Audi S8

The S8 performance variant boasts a 563-horsepower twin-turbocharged V8 engine. It improves on the A8's equipment with front sport seats, Valcona leather upholstery, a sport-tuned air suspension, a rear sport differential and rear-wheel steering.

Most of the aforementioned available features can be had on this trim, though they may be bundled differently.

Unique to the S8 is the four-passenger Rear Seat Comfort package, which replaces the rear center seat with a full-length center console featuring folding tables and a rear power outlet. It also provides illuminated seat belt buckles.

The S8 Comfort Plus package includes a Dinamica (synthetic suede) headliner, additional leather trim, heated rear outboard seats and a head-up display.

Available stand-alone features include a predictive active suspension system, night-

See 2022 Audi A8 trims and specs »

How Much Does It Cost to Insure a Audi A8?

The cost of insuring a Audi A8 will depend on a variety of factors, including your deductible, the level of coverage that you want, and the type of insurance that you choose. Your age, gender, location, credit score, and driving record can also have an impact on your insurance rates. Check out our car insurance guide to find the best policy for you.

2022 Audi A8 Versus the Competition

2022 Audi A8 vs. 2022 Mercedes-Benz S-Class

The 2022 Mercedes-Benz S-Class has one of the nicest interiors in the luxury large sedan class. The seats are sumptuous, and the design is elegant, with Benz eschewing sharp angles and straight lines for rounded edges and long curves. Everything is rendered in top-notch materials too. The S-Class' base engine – a turbocharged and supercharged inline-six – is more powerful than the A8's V6, and the Mercedes has a larger trunk. The Audi's only real advantage comes with its projected ownership costs, which are lower than the Benz's.

Compare the A8 and S-Class »

2022 Audi A8 vs. 2022 BMW 7 Series

The 2022 BMW 7 Series is the driver's option in the class, but don't expect it to drive like a 3 Series. This big cruiser is comfortable at all times but won't say no to a quick jaunt down a twisty back road. It also has a larger trunk than the Audi, and its engine menu offers up to 600 horsepower from either a V12 or the Alpina V8. The BMW's interior is much more understated than that of the Audi's, an important detail in this high-luxe segment.

Compare the A8 and 7 Series »

Compare the A8, S-Class and 7 Series »

Why You Can Trust Our Reviews

U.S. News & World Report has been ranking the best cars, trucks and SUVs since

industry. This 2022 A8 review combines 18 professional reviews with concrete data like performance specs, fuel economy estimates and safety ratings.

Audi A8 Owner Reviews

4.8

2 Reviews

4.6

Pros

The massager, space, smooth take-off, and lighting!

Cons

Remote starter isn't available

Submitted by KENDRA B on July 2022 | 2022 Audi A8 L | Purchased on June 2022

5.0

Pros

Good looks, great ride and comfort and very high quality

Cons

Systems too complicated

Submitted by John B on January 2021 | 2020 Audi A8 Plug-In Hybrid L | Purchased on December 2020

Other Years

2025 2024 2023 2022 2021 2020 2019 2018 2017 2016 2015 2014

Local Inventory

2024 Audi A8 For Sale

2023 Audi A8 For Sale

2022 Audi A8 For Sale

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All Audi A8 For Sale

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