

dSPACE Rapid Prototyping Systems

Function development from autonomous driving to zero emissions

Highlights





- Test and run new functionalities in real environments
- Rapid control prototyping and data-driven development
- Scalable and comprehensive system portfolio from high-end prototyping hardware to production ECUs

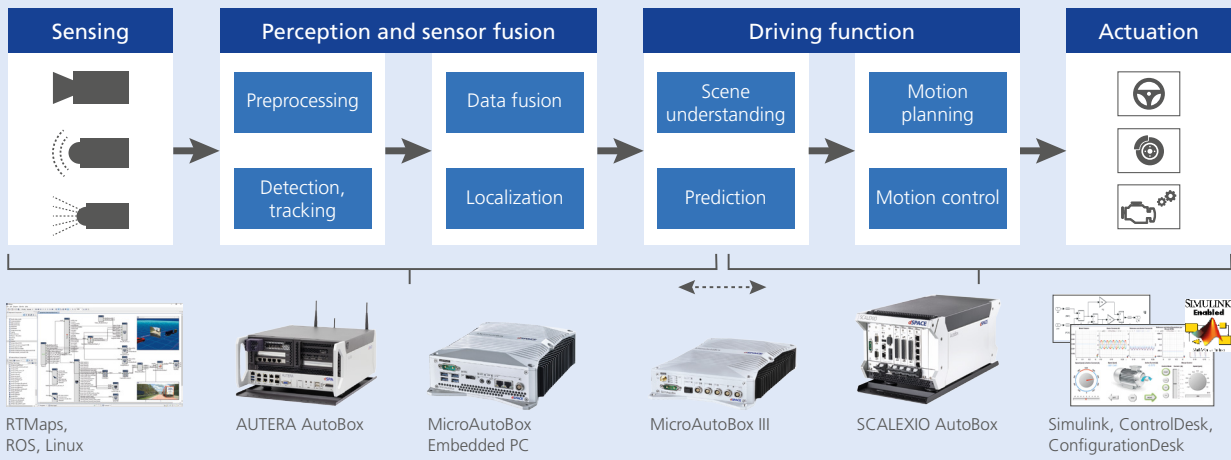


Application Areas

dSPACE rapid prototyping systems are flexible systems that help function developers worldwide bring ideas to life in a real environment, with real sensors and actuators, and in real time. The systems address the requirements of mechatronic control design as well as data-driven development in all automotive domains and in other industries, such as aerospace or robotics. Our prototyping systems enable you to find design faults immediately and let you correct them on the spot, which significantly reduces development times and costs. A scalable portfolio of hardware and software solutions supports most of the commonly used automotive interfaces, including bus & network standards, sensor interfaces for

cameras, radars, lidars, and further extension options like FPGAs or GPUs for ADAS/AD, engine, or electromobility applications. Choose a system that fits your requirements, from extremely compact ECU-interfaces, which enable on-target prototyping on production ECUs, to compact systems like MicroAutoBox or MicroLabBox, to high-end modular systems such as SCALEXIO or AUTERA. To configure the systems, you can use the dSPACE software tools ConfigurationDesk, ControlDesk, and the Bus Manager in combination with commonly used tools such as MATLAB/Simulink, FMI-based models, or Linux-based frameworks such as RTMaps or the Robot Operating System (ROS).

	Laboratory	In-vehicle	Software
Modular	 <p>SCALEXIO LabBox</p>	 <p>SCALEXIO AutoBox</p>	 <p>Implementation software</p>
Compact	 <p>MicroLabBox</p>  <p>Single board</p>	 <p>AUTERA AutoBox</p>	 <p>Experiment software</p>
	 <p>RapidPro Hardware</p>	 <p>MicroAutoBox III Embedded PC</p>	 <p>RTMaps</p>
	 <p>ECU and sensor interfacing</p>	 <p>MicroAutoBox III</p>	

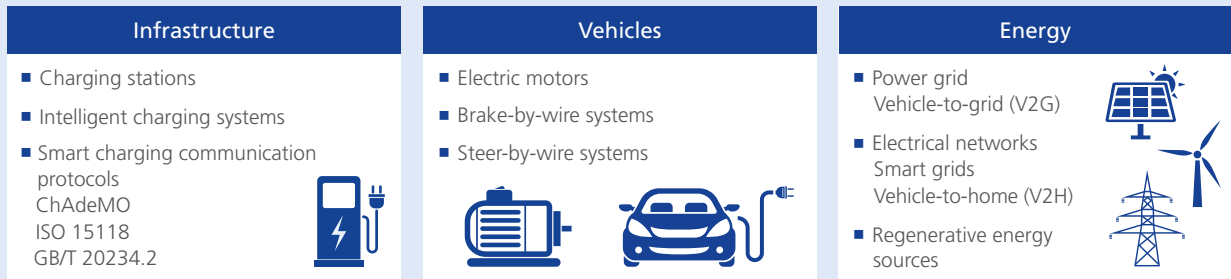


Function Development

dSPACE provides dedicated solutions for fast and efficient function development of ADAS and AD systems, addressing all typical processing stages from sensing to actuation. To keep up with changing demands in the dynamic environment of ADAS/AD, a flexible and scalable system portfolio is available, which can be tailored to your requirements by means of I/O extension options or by time-synchronous coupling of different systems.

Key Benefits

- Open Linux-based systems for perception and sensor fusion prototyping
- Hard-real-time systems for controller prototyping
- Support for relevant automotive buses and networks
- Support of RAW data interfaces for imaging sensors such as GMSL, FPD-Link, or LVDS
- Support of hardware accelerators such as GPUs or FPGAs to deploy or test AI methods in the vehicle
- Option for an integrated hot-swappable data-storage
- Ready-to-use software environments, e.g., based on RTMaps, ROS, Simulink or FMI



Comprehensive Solutions for Electromobility

Whether you are working on control strategies for electric motors, power electronics, fuel cells, power grids, or smart charging systems, dSPACE prototyping systems help turn your ideas into reality with an easy-to-use, industry-proven tool chain. New processor- or FPGA-based control strategies are developed in a model-based-design environment like Simulink and can be directly tested in a real environment at the click of a button.

Key Benefits

- Hard-real-time systems for prototyping of control algorithms with cycle times in the μs range
- Support of large FPGAs with cycle times below 1 μs
- Ready-to-use I/O interfaces and functionalities for electromobility applications, e.g., encoder inputs, PWM outputs, etc.
- Extensions for signal conditioning and power amplifiers
- Support for relevant buses and networks

Contact Information

Our technical sales staff will assist you in choosing the dSPACE system that is right for you. They will also provide you with quotations and more detailed information about the

dSPACE solutions for rapid prototyping and other dSPACE products. Please contact your local sales representative: www.dspace.com/go/locations