Mechanical Simulation Corporation develops the most accurate and computationally efficient methods for simulating the dynamic performance of cars, trucks, motorcycles, and a wide range of specialty vehicles.

After more than thirty years of research, development, and proving ground validation by worldwide vehicle manufactures, our suite of car, truck, and motorcycle simulation products are universally the preferred tools for vehicle dynamics, vehicle control development, and test engineering.

In an environment of limited resources and compressed design and testing cycles, Mechanical Simulation has designed a streamlined user interface and system architecture that optimizes productivity while providing the tools for engineers to seamlessly integrate their own design technologies – shortening time to market and significantly reducing the need for physical testing.

MODULAR AND OPEN ARCHITECTURE

While many of our customers are vehicle dynamics experts, a growing number of engineers from other disciplines use CarSim’s architecture as a platform to integrate and test their own adaptive vehicle sub-systems.

CarSim is designed to seamlessly communicate with your software (SIL) and hardware (HIL) technologies. This lets you and your staff focus on algorithm design – not on writing custom testing code that only roughly approximates real-world scenarios and provides limited test conditions.

Modular Vehicle Definition: each vehicle sub-system is defined with discrete properties and performance tables. This modular, parameter based architecture lets you modify the behavior of any system and lets you run simulations any time during the design cycle – other simulation tools can only be used after the entire vehicle is designed

Integrate your own technologies using standard design tools: Mechanical Simulation provides seamless interfaces to standard design tools such as Simulink, LabVIEW, and ASCET. Advanced users can develop stand alone technologies using Visual Studio.

VS Commands: this powerful scripting language provides tools to automatically control test runs, extend our vehicle model, control complex driving maneuvers, and model auxiliary sensors.
From initial product conception to control algorithm development and all the way to product launch—CarSim provides sophisticated tools that have proven to compress and optimize your design, development, and testing procedures.

CarSim supports all industry standard design tools and a wide range of real-time hardware systems allowing you to use the same vehicle data and test procedures in all product development phases. CarSim’s wide range of support for HIL systems allows you to choose the hardware that is best for your application—without locking you into expensive proprietary hardware.

A discussion of CarSim is not complete without highlighting the software’s ease-of-use and workflow optimization features. Unlike complex tools requiring steep learning curves and expensive consulting services, CarSim is designed for engineers who use multiple software packages and must be able to produce results within minutes. To solve these issues, the software features a streamlined user interface, an extensive on-line help system, and a complete set of example vehicles, 3D roads, and test procedures that demonstrate all CarSim features.