

# VehicleSim System Requirements & Software Compatibility

## 1 VehicleSim Products

- CarSim, TruckSim, BikeSim, and SuspensionSim
- Version 2026.1

## 2 System Requirements

### 2.1 Operating Systems

#### 2.1.1 CarSim, TruckSim, BikeSim, and SuspensionSim

- Windows 11 (64-bit), all VS products

#### 2.1.2 CarSim, TruckSim, and BikeSim

- Ubuntu 22.04 LTS & 24.04 LTS (64-bit) (not supported on USB dongles)

### 2.2 Hardware

#### 2.2.1 Minimum Hardware Specifications

- Hard Drive: 32 GB free disk space
- Memory: 16 GB RAM
- CPU: 3.5 GHz Intel® i5 or equivalent
- Graphic processing unit (GPU): OpenGL 2.1 hardware support with 2 GB video memory (NVIDIA, AMD, or similar)

The software might run on a system with a lower specification, but these numbers represent what we consider to be the lower bound of acceptable user experience.

#### 2.2.2 Recommended Hardware Specifications

- Hard Drive: 32 GB free disk space
- Memory: 32 GB RAM
- CPU: 4.5 GHz Intel® Ultra or equivalent
- GPU: OpenGL 3.0 hardware support, 8 GB video memory (NVIDIA, AMD, or similar)
- For a driving simulator, consider a high-end gaming computer

### 3 External Software Compatibility

VS Math Models in CarSim, TruckSim, and BikeSim are supported by VS Solver plug-in libraries (32- and 64-bit DLL for Windows and 64-bit SO for Linux).

SuspensionSim is only for Windows and is usually not run from external software.

#### 3.1 Simulation workspaces

- MATLAB: releases 2018a and later. Running VS Models with 64-bit versions of MATLAB requires a compatible C compiler.

See <https://www.mathworks.com/support/requirements/supported-compilers.html> for more information.

**Notes** MATLAB versions 2019a through 2020b show a significant performance loss running VS Models deployed from the VS Browser. Please contact MathWorks support for additional information. Please use Mechanical Simulation’s Support Center to attain additional information and a temporary workaround for this issue. <https://www.carsim.com/contactus/support.php>

- LabVIEW: tested with versions 2019 (32-bit), and 2020 (64-bit). No known issues for LabVIEW versions back starting 18.0 (32-bit only)

**Notes** For products and versions not listed, please contact Mechanical Simulation for more information. See also the summary for external tire and powertrain programs in Table 1.

#### 3.2 Tire Models

CarSim, TruckSim, and BikeSim work with the following commercial tire models:

- Siemens MF-Tyre 2512 on Windows and Linux
- Siemens MF-Swift 2512 (optional license required from Siemens) on Windows and Linux
- Siemens MF-Tyre/MF-Swift 2512 (dSPACE DS1006; dSPACE SCALEXIO/QNX release 2017A and up; dSPACE SCALEXIO/LNX 32/64-bit release 2020B and up; and Concurrent/Linux Real-Time 64-bit) for CarSim RT (optional license required from Siemens)
- Siemens MF-Tyre/MF-Swift 2512 (dSPACE DS1006 release 2017A and up) for BikeSim RT (optional license required from Siemens)
- Siemens MF-Tyre/MF-Swift 2512 (Concurrent/Linux Real-Time 64-bit) for TruckSim RT (optional license required from Siemens)
- COSIN FTire 2021-3 and newer version (optional license required from COSIN) on Windows
- COSIN FTire/Link 2023-4 and newer version (optional license required from COSIN) for CarSim externally connected through Simulink on Windows
- Fraunhofer CDTire 2023.1.1 and 2025.0.2 for CarSim and TruckSim (optional license required from Fraunhofer ITWN) on Windows 64-bit
- Michelin TameTire 6.3.11 and 6.4.8 for CarSim (optional license required from Michelin) on Windows
- Michelin TameTire RT 6.3.11 and 6.4.8 (Concurrent/Linux Real-Time 64-bit) for CarSim RT (optional license required from Michelin)

External software	Platform	CarSim	TruckSim	BikeSim
Siemens MF-Tyre/MF-Swift 2512	Windows 32/64-bit	○	○	○
	Linux 64-bit	○	○	○
	dSPACE DS1006	○		○

External software	Platform	CarSim	TruckSim	BikeSim
	Concurrent RT 64-bit	○	○	
	SCALEXIO/QNX	○		
	SCALEXIO/LNX 32/64-bit	○		
COSIN FTire (2021-3 and newer version)	Windows 32/64-bit	○	○	○
Fraunhofer CDTire 2023.1.1 and 2025.0.2	Windows 64-bit	○	○	
Michelin TameTire (6.3.11/6.4.8)	Windows 32/64-bit	○		
	Concurrent RT 64-bit	○		
VI-grade WorldSim 2024.2	Concurrent RT 64-bit	○	○	
Generic third-party tire model interface (VS-STI); Requires the tire models to support the platform	Windows 32/64-bit	○	○	○
	Linux 64-bit	○	○	○
	dSPACE DS1006	○	○	○
	Concurrent RT 32/64-bit	○	○	
	SCALEXIO/QNX	○	○	
	SCALEXIO/LNX 32/64-bit	○	○	

Table 1. Summary of system compatibility with external software.

- MF-Swift, MF-Tyre/Swift on RTs, FTire, CDTire, and TameTire require separate licenses.
- ○: Tested and supported; Blank: Not supported.

### 3.3 Real-Time Systems

Following are the minimum hardware requirements for each supported RT system. In each case, a real-time license is required in addition to the basic software license.

#### 3.3.1 dSPACE

We support dSPACE DS Board 6.6 and newer.

	CarSim	TruckSim	BikeSim
DS1006	2.0 GHz	2.0 GHz	2.0 GHz
SCALEXIO (7.4 - 2024A) including DS6001	2.2 GHz	2.2 GHz	2.2 GHz

- For SCALEXIO, we support RTOS: QNX (until dSPACE 2020A), Linux 32bit (dSPACE 2020B to 2021B), and Linux 64bit (dSPACE 2022A and newer).
- DS6001 requires dSPACE Release 2018B and above. There is an additional setting of the network. Please contact our support to get help.

#### 3.3.2 RT-Lab

We support RT-Lab 10.4.x and newer based on documented support from Opal-RT; we have tested releases 2021.3.4 Linux 64bit.

CarSim	TruckSim	BikeSim
2.0 GHz Dual Core	2.4 GHz Dual Core	2.0 GHz Dual Core

### 3.3.3 Vehinfo LABCAR

We support LABCAR 6.3.3 and newer.

### 3.3.4 National Instruments

For NI Linux Real-Time system, we support LabVIEW 2018 and newer; we have tested LabVIEW 2018/2019/2020 & VeriStand 2015/2016/2017/2018/2019/2020. On cRIO/cDAQ Real-Time Linux target, “Write all outputs” shouldn’t be checked. We have tested the NI Industrial Controller (IC-3173) with Linux RT system and LabVIEW 2016. We support LabVIEW 2019 and above with NI Linux Real-Time on PXIe controllers.

	BikeSim, CarSim, and TruckSim
LabVIEW-RT	cRIO/cDAQ 1.9 GHz CPU and IC-3173 i7 CPU; PXIe-8840 Quad-Core, PXIe-8861, and PXIe-8880
VeriStand	cRIO 1.9 GHz CPU; PXIe-8840 Quad-Core, PXIe-8861, and PXIe-8880

NI cRIO with 1.9 GHz CPU is either cRIO-9034 (4 slots) or cRIO-9039 (8 slots). NI cDAQ with 1.9 GHz CPU is either cDAQ-9136 (4 slots) or cDAQ-9137 (8 slots).

### 3.3.5 Concurrent Redhawk with SIMulation Workbench (SimWB)

We support Concurrent Redhawk 32bit/64bit Real-Time system, Linux Real-Time system, with Simulation Workbench (SimWB). For 32bit Linux from Redhawk 5.4 with SimWB 6.0 or newer. For 64bit Linux from Redhawk 6.3 with SimWB 7.2 or newer.

CarSim	TruckSim	BikeSim
2.4 GHz Dual Core	2.4 GHz Dual Core	2.0 GHz Dual Core

### 3.3.6 Speedgoat

We support Speedgoat QNX 7.1/64bit and Linux Real-Time system with version MATLAB/Speedgoat R2021a and newer.

	BikeSim, CarSim, and TruckSim
Speedgoat Hardware	Performance or Mobile with Intel i7 CPU.

### 3.3.7 A&D

We support A&D hardware and the following software.

Platform	Versions
AD5436	01.04.00 and up
AD5445	02.07.00 and up
VirtualDSPConsole	03.03 and up

Platform	Versions
Helios	02.05.03 and up

### 3.3.8 CANoe

We support the CANoe Vector Tool Platform (VTP) devices which include VN8900, VT6000, and RT Rack to run both Interface and Distributed Mode. We have tested CANoe 17 and 18 on VN8914.

Currently, Extended Real Time (ERT) and Standalone Mode aren't supported. Multiple S-Function wrappers, parallel solvers for VS Math Models, and external tire models aren't supported on CANoe RT either.

**Note** We have tested CarSim, TruckSim, and BikeSim on some versions of each supported RT system, but not all combinations. For more details about specific combinations, please contact us by creating an Engineering Support request at <https://www.carsim.com/contactus/support.php> or by calling 734-668-2930 and requesting Engineering Support assistance. Please have your License number (that is, KeyID, as in K123456) available.