

VI-Automotive 17.0 Release Notes

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1 Release Notes

Welcome to the release notes of VI-Automotive v17.0. The chapter contains information regarding new features, known issues and update history.

Please notice that VI-Automotive was formerly known as VI-SportsCar; as a consequence, those names will be used interchangeably in the following.

Please send your comments or support requests to support@vi-grade.com.

Notes: All instruction in this guide applies to all supported Adams versions, see [Platform Support](#) for further info.

1.1 What's new

VI-Automotive v17.0 has the following new or enhanced modeling and simulation capabilities:

- In the context of durability process, a common need is the generation of components loads in local component reference frame. VI-Automotive introduces a specific sub-module designed to automatically generate custom load requests for a selected set of bodies. The requests are identified by the component and connection names so that it's very easy to identify which connection is producing a certain input load on given component. The tool is also able to properly bypass Adams/Car auxiliary bodies like switch and interface part so that the load received through this components is actually mapped to real load source. The new functionality is accessible from the [Simulate -> Request Management menu](#).
- The VI-Automotive shared database has been extended to include new templates, commonly used in production car like:
 - multi-link
 - four-link
 - mcpherson
 - mcpherson with two lower links
 - trailing arm
 - trailing rod

All of them feature vehicle setup capabilities like: camber, toe, ride height.

A new conceptual driveline template is part of the v16.0 database. This model supports multiple wheel drive configuration (FWD,RWD,AWD) and multiple differential setup (locked, open, LSD, viscous).

A more detailed rack and pinion steering template has been included supporting:

- steering column cardanic joints parametric orientation
- steering column compliance effect

- speed dependent servo assistance

Finally a new shared assembly, representing a generic D segment car, is provided.

- All adjustable components now supports an activation flag that can be set in the standard interface. In this way the user can quickly remove adjustments from a model with no need to changing the template.
- VI-Automotive 16.0 adopts the xml result file (.res) as default output file format. Request/Graphic output files are still supported using the standard Adams/Car output format selection method.

VI-Automotive v17.0 embeds VI-Driver version v17.0:

- The new module VI-EventBuilder is now part of the VI-Driver suite to support users of all VI-Driver enabled environment in creating, editing and converting event files. The package features a block diagram based interface for graphically render the event structure and access to the different settings.
- The human driver submodule has been deeply redesigned for producing smoother control actions without losing robustness. The new module introduces the concept of runtime optimization of built in cost function, computed on a dynamic internal reference model.
- A new control subroutine removes the need of handling data duplication between SDF and VDF files.

Please refer to the [revision history](#) table for a summary of the addressed issues and to VI-Road and VI-Driver release notes for product additional information on these products

1.2 Licenses

VI-Automotive v17.0 requires following set of license keys:

- VI_Road_Core
- VI_Road_Toolkit
- VI_SportsCar_ADAMS_IFace
- VI_SportsCar_Core
- VI_Driver_Core
- VI_Driver_EventBuilder
- VI_Tire_Core
- VI_Tire_Toolkit
- VI_Tire_TireLimits

The following add-on modules requires a specific license key:

VI-Safety VI_Safety_Adams_IFace

Please make sure that you are running VI-grade Licensing version 17.0 or newer (based on LMX server version 4.6.5 or newer).

As software prerequisite an MSC Adams/Car supported version installation is required (see [Platform Support](#) for further info) with the related license keys:

- ADAMS_View
- ADAMS_Solver
- ADAMS_Car_Plugin
- ADAMS_Car_Suspension

- ADAMS_Vehicle_Solver

For Adams 2013 and newer the following license key is required.

- ADAMS_TireHandling

1.3 3rd Party Compatibility

This topic shows the compatibility of the VI-grade suite products with the main 3rd-party software.

	VI-CarRealTime	VI-BikeRealTime	VI-DriveSim	VI-Driver for Matlab	VI-Driver for FMI
Matlab®	2010b-sp1, 2015b	2010b-sp1, 2015b	2010b-sp1, 2015b	2010b-sp1, 2015b	
Veristand™ (***)	2014	2014			
ControlDesk® NG	4.2.1, 4.3	4.2.1, 4.3		4.2.1, 4.3	
dSPACE® RCP & HIL (**)	7.3, 7.4,2014a	7.3, 7.4,2014b,2015b		7.3, 7.4	
SimWorkBench®	7.2 64bit	7.2 64bit	7.2 64bit		
xPC®	2012b				
Dymola®	2015				2015
MapleSim™	2015				
CarSim™	8.1.1				
Virtual Test Drive®	1.4				
Prescan®	7.0.1				
SCANer®	1.5.22				

3rd Party Software included in VI-grade products:

	VI-CarRealTime	VI-BikeRealTime	VI-DriveSim	VI-Driver for Matlab	VI-Driver for FMI
FTire	2015-3		2015-3		
MF-Tyre/MF-Swift	6.2.0.3	6.2.0.3	6.2.0.3		

The following table shows the 3rd-party compatibility for Adams-based VI-grade product:

	VI-Motorcycle	VI-Automotive	VI-Rail	VI-AirCraft	VI-CarRealTime Plug-In	VI-Driver
MSC Adams™	2015.1	2015.1	2015.1	2015.1	2015, 2015.1	2015.1
Matlab®	*	*	*	*		

(*): please refer to MSC Adams documentation for compatibility version.

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