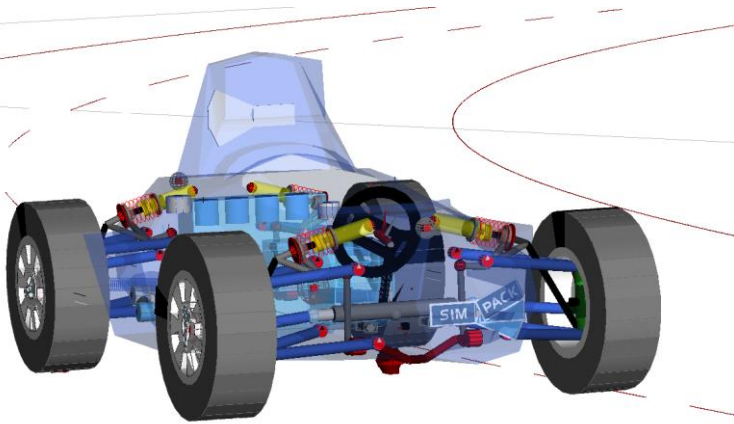




Accurate · Fast · Robust · Versatile

# SIMPACK Formula Student

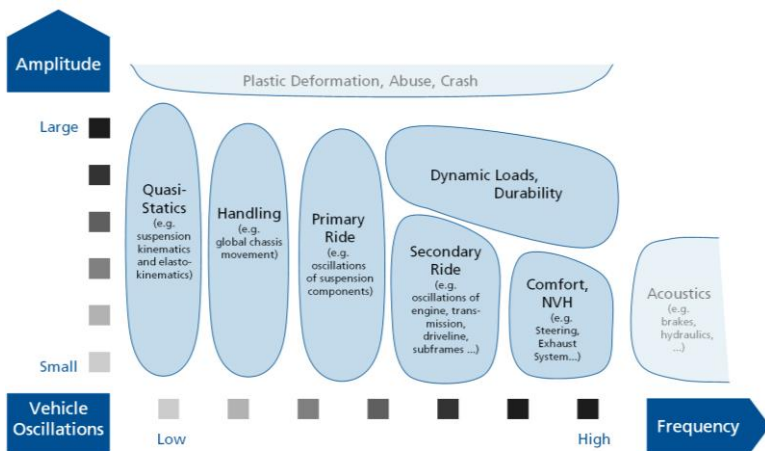
## Application



## What is SIMPACK?

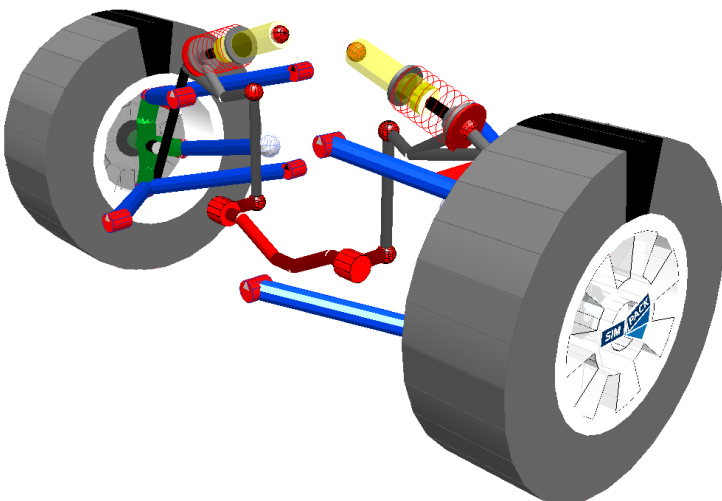
SIMPACK is a general-purpose multi-body simulation (MBS) software tool which is used to aid the development of any mechanical or mechatronic device, ranging from single components through to complete systems (e.g. wind turbines, vehicles and high performance Formula 1 engines). All SIMPACK products are 100% compatible.

SIMPACK Formula Student is an add-on module tailored to the specific requirements of the auto-motive sector.



## Applications:

- Simulation of fully modeled Formula Student vehicles
- Analysis of subsystems
- Quasi-Statics (e.g. Suspension)
- Dynamic handling
- Ride analysis
- Resonance analysis
- Optimization
- Geometric and material modification
- Hardware-Software-in-the-loop



## Highlights:

- Predefined automotive database
- Fully parameterized models
- Easy data input
- Predefined analysis scenarios
- Unlimited flexibility
- Extreme non-linear system behavior (e.g. skid pad)
- Scalable detail and complexity
- Batch jobs
- Automatic analysis reports

## Features:

- Tire models
- Simple driver models
- Easy track definition
- Predefined templates
- Virtual test rigs
- Easy implementation of user specific code

## Interfaces to:

- CAD software
- Control software
- Optimization tools
- In-house software

## Operating systems:

- Windows and Linux.  
See: [www.SIMPACK.com/platforms.html](http://www.SIMPACK.com/platforms.html)

The screenshot displays the SIMPACK AUTOMOTIVE Database interface, organized into several sections:

- Chassis:** Contains three sub-sections: 001\_TMB: Trimmed Body, 007\_LOD: LOADING, and 010\_EGB: EngineGearBoxes.
- Driveline:** A section header above the Front Suspension and Rear Suspension sections.
- Front Suspension:** Contains five sub-sections: 110\_WHE: WHEels, 120\_STE: STEering, 130\_ARB: Anti-Roll Bar front, 140\_SDP: SpringDampPushrod, and 150\_DVB: DoubleVishBone.
- Rear Suspension:** Contains six sub-sections: 210\_WHE: WHEels, 230\_ARB: Anti-Roll Bar, 240\_SDP: SpringDampPushrod, 250\_DVB: Double VishBone, 270\_DIF: DIF gear box, and 280\_SSH: Side SHAfts rear.
- Analysis Scenarios:** Contains three sub-sections: 910\_FS: Front Suspension, 920\_RS: Rear Suspension, and 9900\_CV: Complete Vehicle.

At the bottom of the interface, the text **SIMPACK AUTOMOTIVE Database** is displayed in a stylized font.

## FS Teams in 2009:

- University Stuttgart (Winner FS Germany)
- Fachhochschule Munich

## SIMPACK Customer Solution Centers

### Germany

#### Worldwide Headquarters

SIMPACK AG  
Friedrichshafener Strasse 1  
82205 Gilching, Germany

Phone: +49 (0)8105 77266-0  
Fax: +49 (0)8105 77266-11  
sales@SIMPACK.de  
www.SIMPACK.com

### USA

SIMPACK US Inc.  
Robert Solomon  
25925 Telegraph Road, Suite 101  
Southfield Michigan 48033, USA

Phone: +1 248 996-8750  
Fax: +1 248 996-8930  
Mobile: +1 251 923 9566  
info@SIMPACK-US.com  
www.SIMPACK.com

### France

SIMPACK France S.A.S.  
Immeuble "Le President",  
4eme étage  
40, Avenue Georges Pompidou  
69003 Lyon, France

Phone : +33 (0)437 5619-71  
info@SIMPACK.fr  
www.SIMPACK.com

### Japan

SIMPACK Japan K.K.  
5F Okubo Bldg.  
2-4-12 Yotsuya  
Shinjuku-ku  
Tokyo 160-0004, Japan

Phone: +81 (0)3 5360-6631  
Fax: +81 (0)3 5360-6632  
info@SIMPACK.jp  
www.SIMPACK.jp

### Great Britain

SIMPACK UK Ltd.  
The Whittle Estate  
Cambridge Road  
Whetstone  
Leicester LE8 6LH, UK

Phone: +44 (0)116 27513-13  
Fax: +44 (0)116 27513-33  
Mobile: +44 (0)7767 416 656  
info@SIMPACK.co.uk  
www.SIMPACK.co.uk