



Accurate · Fast · Robust · Versatile

# SIMPACK CRANK TRAIN

## 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. vehicles, high performance Formula 1 engines, crank train, valve train, timing mechanism, chain and complete engine models. All SIMPACK products are 100% compatible.

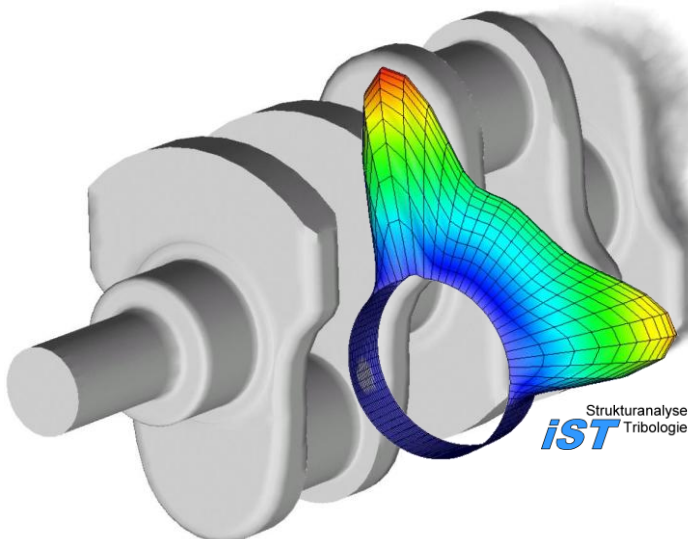
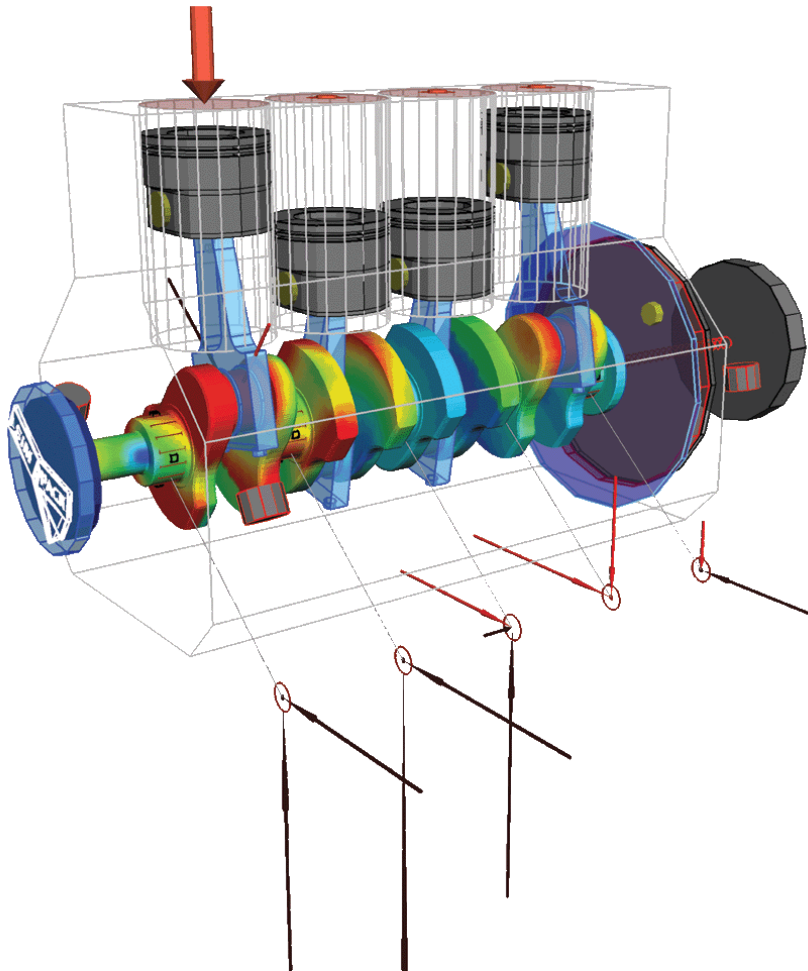
SIMPACK Crank Train is an add-on module tailored to the specific requirements of the engine simulation sector.

### Applications:

- Simulation of any engine/crankshaft design
- Kinematic and dynamic simulation
- Geometric and material modification
- Eigenfrequency analysis
- Order analysis
- Optimization
- Durability / Fatigue analysis

### Highlights:

- Unlimited modeling flexibility
- Extreme non-linear system behavior, e.g. gas forces, EHD interface to IST Tower
- Fully parameterized highly detailed engine database for all typical engine types available
- Acoustic analyses in the frequency and time domain
- Scalable level of model detail and complexity
- Batch jobs
- Automatic analysis reports
- Interfaces to third party software



Strukturanalyse  
**IST**  
Tribologie

## Features:

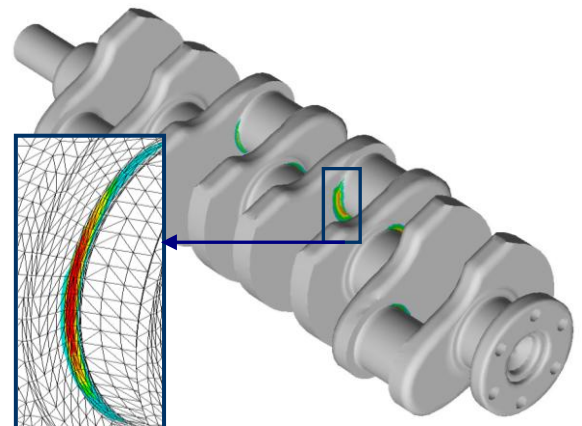
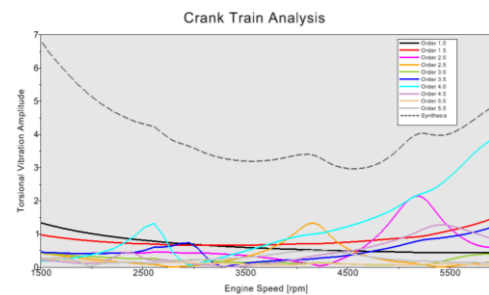
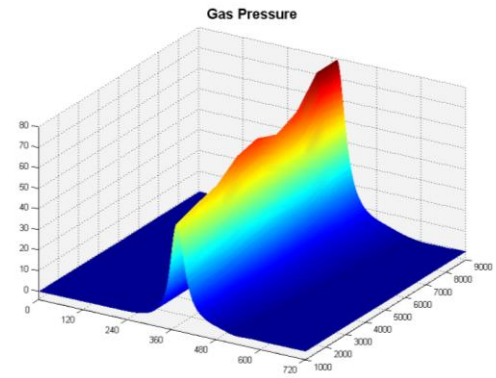
- Elasto-Hydrodynamic Bearings, EHD – IST Tower software package
- Frequency and amplitude depended elements
- Flexible body generation within SIMPACK
- Importation of flexible bodies from FEM codes
- Easy implementation of user specific code
- Displacement animation in SIMPACK
- Stress animation in SIMPACK
- Continuous "Run Up"
- Step wise "Run Up"

## Interfaces to:

- CAD software
- Finite element codes
- Control software
- Fatigue analysis software
- Optimization tools

## Operating systems:

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



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