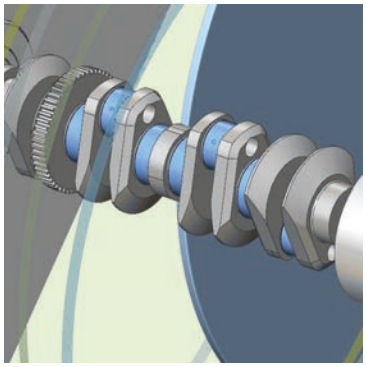
ModuleWorks
Get There Faster.

Machine Simulation
Component

ModuleWorks state-of-the-art simulation components empower your application with high-performance machine simulation and toolpath verification tools.

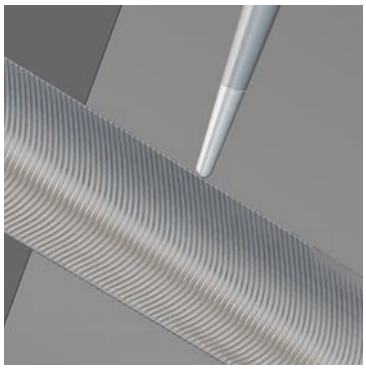
The Machine Simulation component supports substractive processes for milling, turning and beam cutting as well as additive processes for laser cladding and 3D printing. Flexible kinematic definition, powerful APIs and a range of customization tools ensure fast and seamless integration into existing and new applications.



Grinding Simulation

Key Benefits

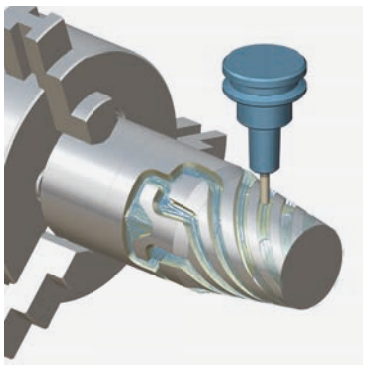
- Proven state-of-the-art technology
- Easy to use
- Reduced time to market
- Cost-effective implementation
- Flexible integration
- Customize the look and layout
- Supports multi-threaded CPUs



Milling Simulation

Stock Removal

- Milling, turning, wire-ED, drilling, threading, laser, grinding, punching, sawing
- Supports multi-cutter tools
- Hybrid simulation/manufacturing
- GPU-shader & automatic stock quality improvement
- Chips/chunks/parts detection and handling
- Textures (e.g. wood) and sectioning
- Analysis: color the cuts based on different criteria
- Tool engagement and material removal information
- 4D simulation (rollback material)

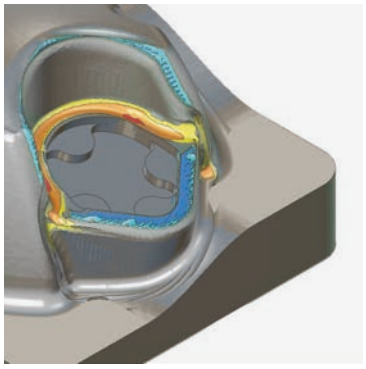


CMM Simulation

Machine Simulation

- Collision checking & axis limits overrun
- Tree-style fully integrated machine definition editor
- Mills, lathes, mill-turns (with multi-channel), robots, CMM
- Cut off-, pick up- (fall-down) functionality
- Automatic stock clamping and revolving
- Backplotting for 3D printing
- Customizable user interface with up to 4 views
- Capture videos and pictures and stand-alone presentations
- 100+ sample machine models

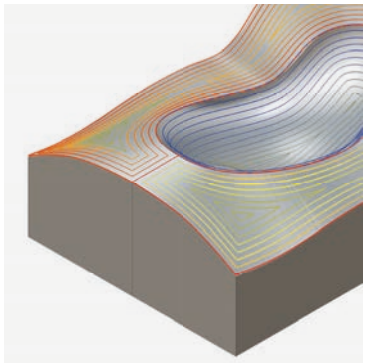
Fact Sheet: Machine Simulation Component



Gouge Detection

Error Detection

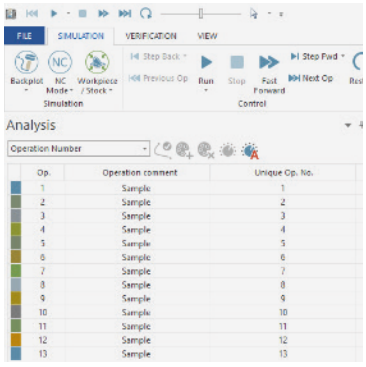
- Gouge & excess detection
- Collision detection - flute, shaft, arbor, holder
- Clash detection - tool, rapid moves
- Proximity alert
- Zoom into regions of interest
- Stock visualization
- Measurement between all elements



Toolpath Analysis

Toolpath Analysis

- Analyze by tool, operation or sequence
- Toolpath ordering
- Scale, change or reverse the tool axis
- Change the orientation
- Segment length
- Feedrate, height change
- Statistics



User Interface

User Interface

- Video style controls, interactive view controls
- OpenGL or abstract renderer graphics
- Tool positions and tool axis vectors
- Follow and trace modes
- Full sequence or single operation

For information on other CAD/CAM components, including 3-axis- and 5-axis toolpaths, visit:
www.moduleworks.com

ModuleWorks

ModuleWorks GmbH
Aachen, Germany
Tel: +49 241 99 000 40
info@moduleworks.com
www.moduleworks.com

ModuleWorks Japan
Fujisawa, Japan
Tel: +81 466 54 9144
hashimoto.h@moduleworks.com
www.moduleworks.com

Sign up for our Newsletter at:
www.moduleworks.com