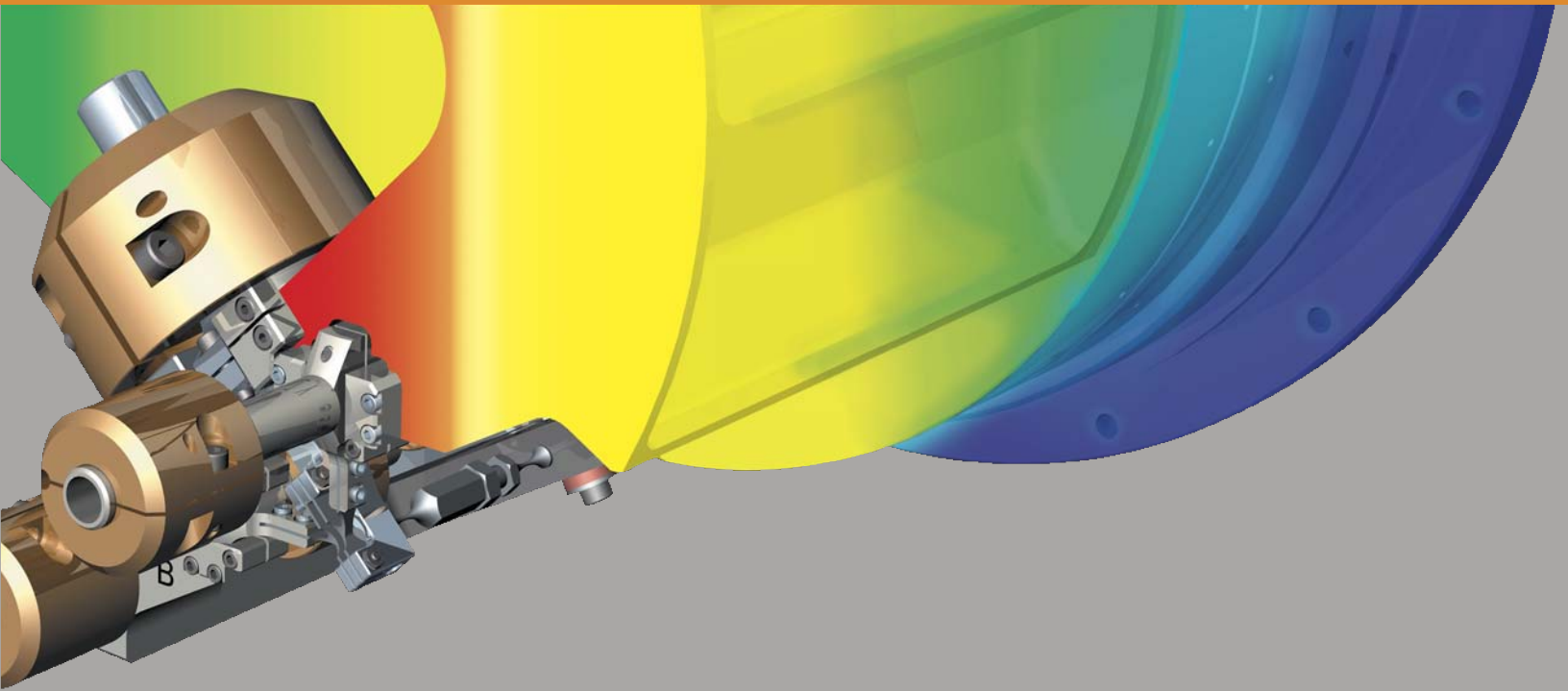


COSMOSWorks

Product Suite



COSMOSWorks Product Suite

No matter what your experience, industry, or analysis needs, there is an affordable COSMOS product that can help get the job done right the first time.

COSMOSXpress – Perform first-pass design verification on simple SolidWorks parts.

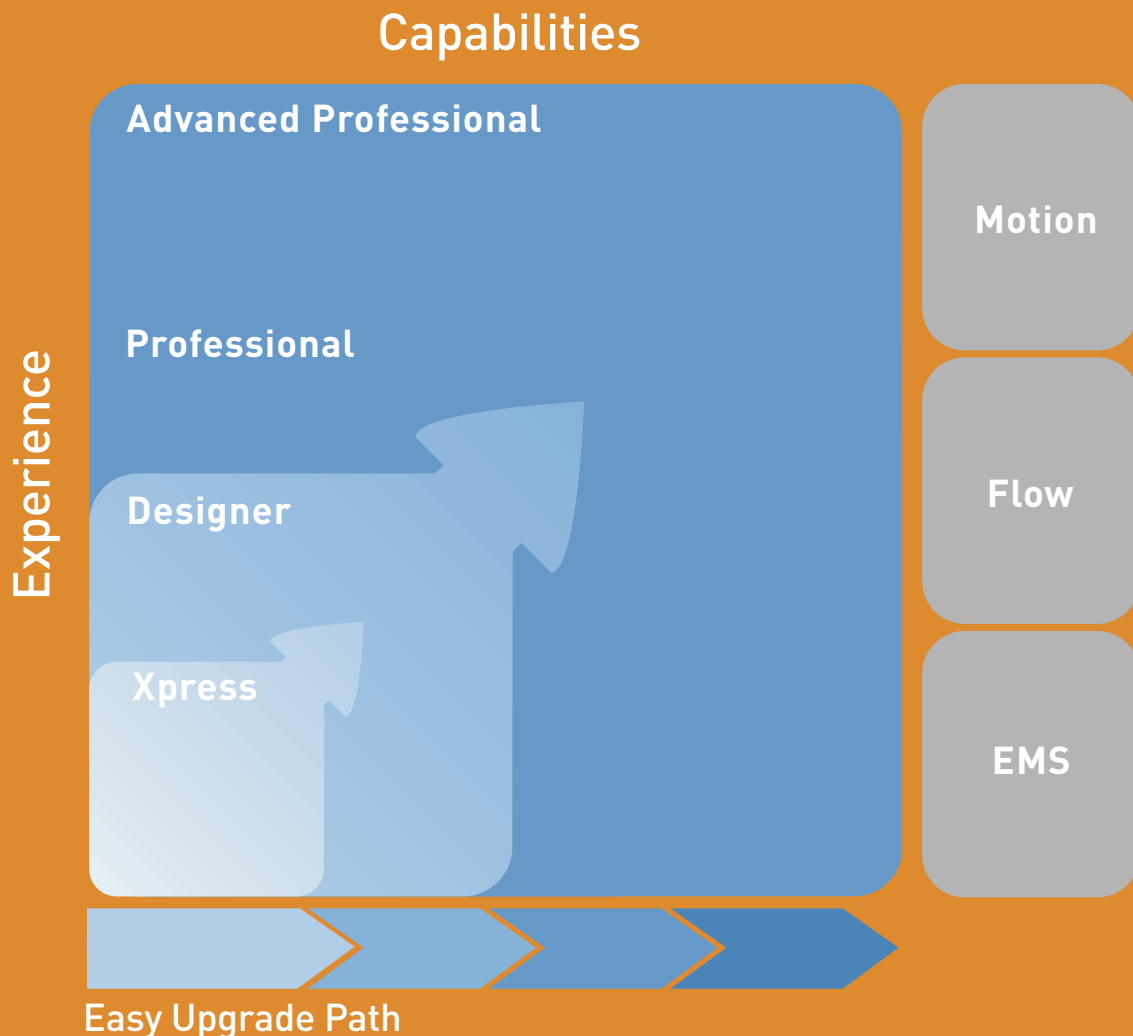
COSMOSWorks Designer - Go beyond hand calculations with virtual simulation tools that are easy to learn and to use.

COSMOSWorks Professional - A wide spectrum of powerful analysis tools to help engineers who are familiar with analysis concepts to test and analyze parts and assemblies virtually.

COSMOSWorks Advanced Professional - Offers seasoned analysts a tremendous range of analysis capabilities at a fraction of the cost of most high-end FEA programs.

Other Integrated Analysis Solutions for SolidWorks users:

- **COSMOSMotion™** – The standard virtual prototyping package for engineers and designers interested in understanding the performance of their SolidWorks models.
- **COSMOSFloWorks™** - Redefines fluid flow analysis with robust capabilities normally found in high-end CFD programs.
- **COSMOSEMS™** - The first Windows®-based 3D-field simulator for low frequency electromagnetic / electromechanical applications.



Feature	Xpress	Designer	Professional	Advanced Professional
GEOMETRY TYPES				
Part analysis	✓	✓	✓	✓
Assembly analysis		✓	✓	✓
Thin parts, sheetmetal parts, shells		✓	✓	✓
Beams, Trusses				✓
ANALYSIS TYPES				
Stress & Displacement	✓	✓	✓	✓
Thermal Stress		✓	✓	✓
Contact analysis in assemblies with friction		✓	✓	✓
Frequency & Buckling			✓	✓
Heat Transfer - Steady State & Transient			✓	✓
Temperature Dependent Materials			✓	✓
Drop Test			✓	✓
Fatigue			✓	✓
Nonlinear Stress Analysis				✓
Dynamic Response				✓
Composites				✓
Optimization		+	+	+
Fluid Flow		+	+	+
Motion Simulation		+	+	+
Electromagnetics		+	+	+
USABILITY				
Multiple Studies, "what if scenarios"		✓	✓	✓
Parameters & Design Tables		✓	✓	✓
Customizable Material Library		✓	✓	✓
ENVIRONMENTS (LOADS/RESTRAINTS)				
Uniform pressure & force on faces	✓	✓	✓	✓
Fixed restraints on faces	✓	✓	✓	✓
Directional & non-uniform pressure & force		✓	✓	✓
Force on edges and vertices		✓	✓	✓
Body loads: gravity & centrifugal		✓	✓	✓
Special loads: torque, remote, bearing		✓	✓	✓
Fixed restraints on edges & vertices		✓	✓	✓
Directional and prescribed restraints		✓	✓	✓
Temperature, convection, radiation, heat power			✓	✓
ASSEMBLY CONNECTORS				
Springs, Elastic Foundation		✓	✓	✓
Pin, Bolts, Rigid		✓	✓	✓
Thermal Contact Resistance			✓	✓
VISUALIZATION				
Stress plot, deformation, displacement plot	✓	✓	✓	✓
Factor of safety calculation and plot	✓	✓	✓	✓
Principal stress, directional stress, strain plots		✓	✓	✓
Result probing, listings		✓	✓	✓
Dynamic section, iso plots		✓	✓	✓
Scaled plots, superimposed plots, customizations		✓	✓	✓
Resonant frequencies, mode shape plots			✓	✓
Temperature, heat flux plots			✓	✓
ENGINEERING COLLABORATION				
HTML report	✓	✓	✓	✓
Publish eDrawings of analysis results	✓	✓	✓	✓
Animation and save as AVI	✓	✓	✓	✓
Detailed HTML report customizations		✓	✓	✓
Save as bitmap, JPEG, VRML, XGL		✓	✓	✓
Export to other FEA systems			✓	✓

✓ Feature Included
+ Add On

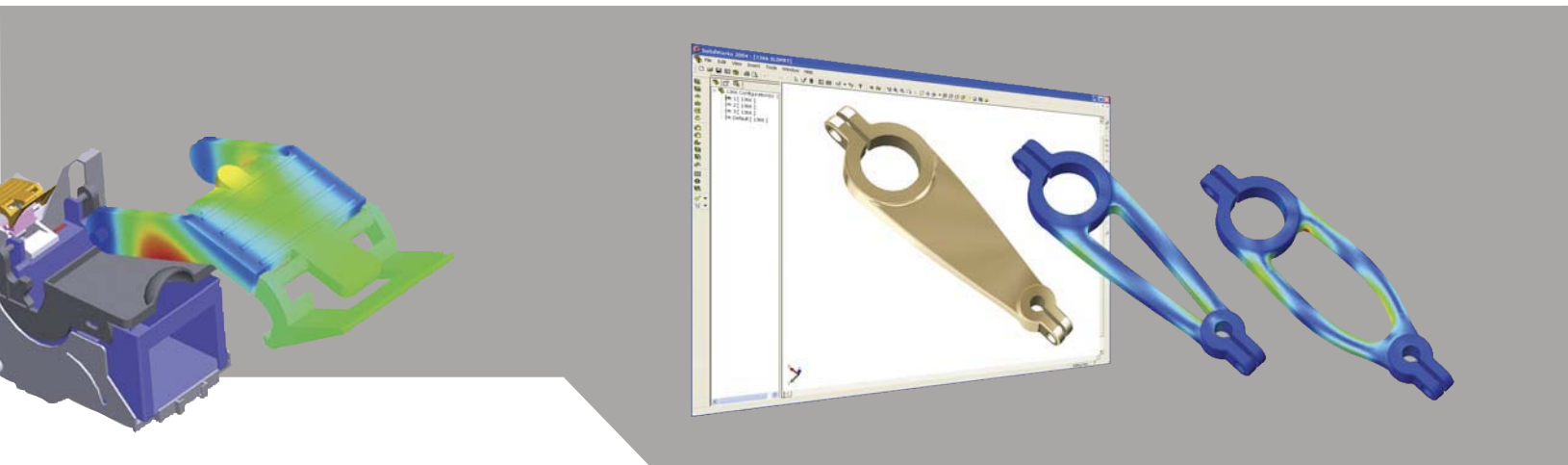
COSMOSXpress

Free design verification with no upfront costs

Gain insight into how your SolidWorks® design will function with COSMOSXpress™, the point-and-click stress analysis wizard built into SolidWorks 3D modeling software. For designers with no previous virtual simulation experience, COSMOSXpress guides you step-by-step through the design analysis process - allowing you to explore the benefits of first-pass design checks without any cost.

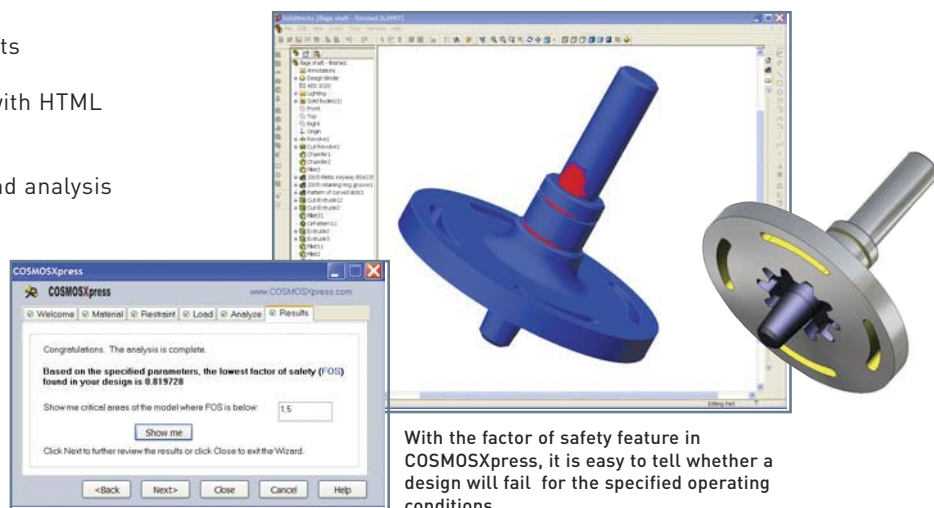
Basic testing capabilities for SolidWorks parts

COSMOSXpress offers design verification and validation functionality, which, depending on your application may be sufficient for your needs. COSMOSXpress is suitable for stress analysis of simple parts, and gives you the ability to simulate the effect of force or pressure loads on those parts. Once you have your stress results, COSMOSXpress allows you to generate HTML reports and create eDrawings™ files to document and communicate the results of the analysis.



With COSMOSXpress, you can:

- Perform a first-pass design check on simple SolidWorks parts
- Determine the factor of safety of your parts
- Easily document and share your results with HTML reports and SolidWorks eDrawings
- Enjoy the benefits of design simulation and analysis free inside SolidWorks



With the factor of safety feature in COSMOSXpress, it is easy to tell whether a design will fail for the specified operating conditions.

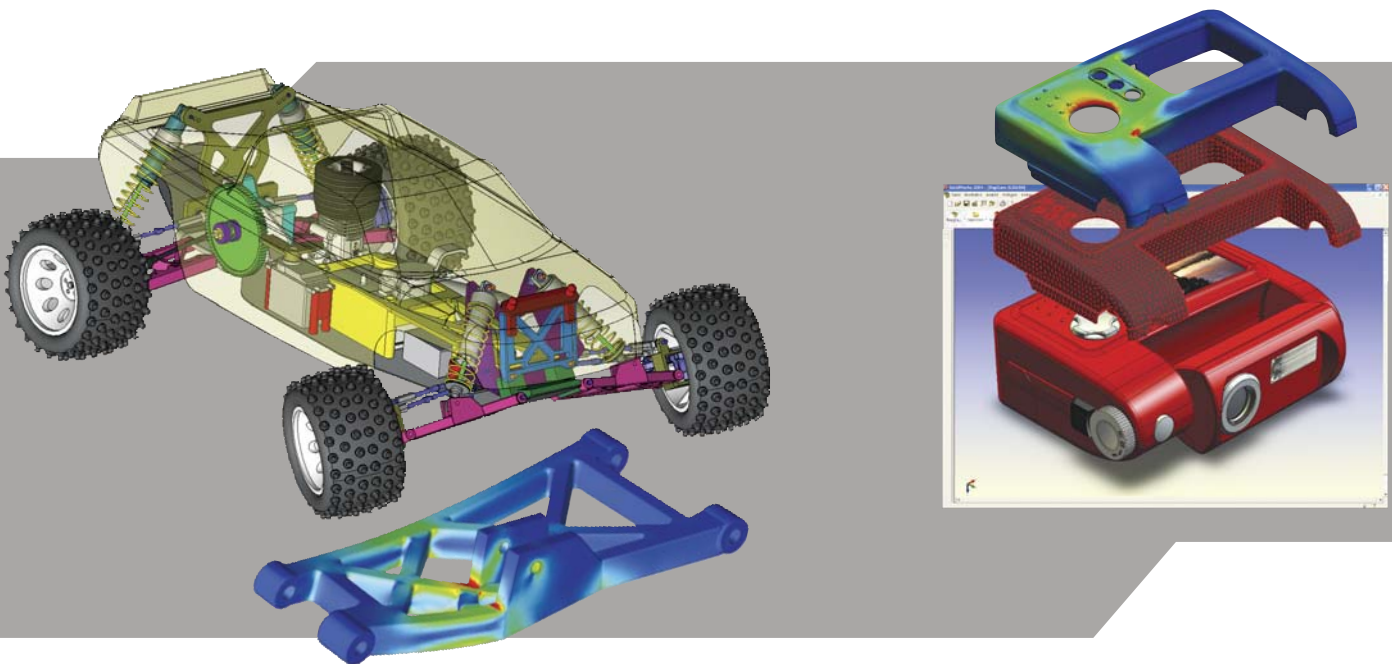
COSMOSWorks Designer

Affordable simulation tool for every engineer's desktop

For designers and engineers who need to improve product quality, COSMOSWorks™ Designer contains the industry's most commonly used analysis capabilities. COSMOSWorks Designer makes it easy to go beyond simple hand calculations by verifying your intuitions while studying the real-world performance of different design alternatives without ever leaving the SolidWorks window.

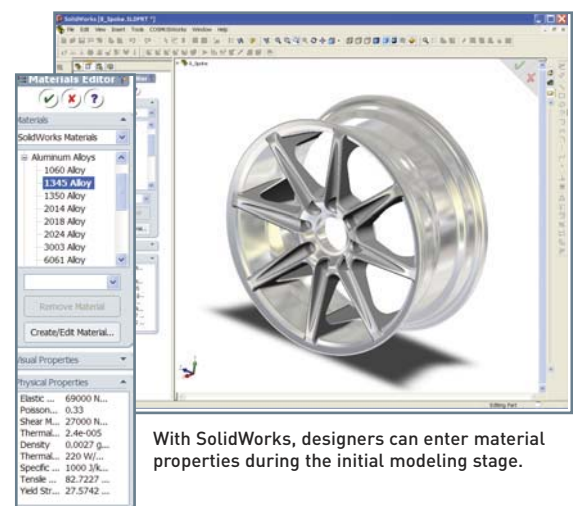
Easy to learn and use for immediate productivity

Fully embedded inside the SolidWorks interface, COSMOSWorks Designer utilizes the SolidWorks FeatureManager® and many of the same mouse and keyboard commands, so anyone who can design a part in SolidWorks can analyze it without having to learn a new interface. COSMOSWorks Designer contains the most frequently used design validation tools, offering stress, strain, and displacement analysis capabilities for both parts and assemblies at a very affordable price.



With COSMOSWorks Designer, you can:

- Go beyond simple hand calculations with virtual simulation tools that are easy to learn and use
- Study assemblies and interaction between different components
- Explore validation results using visualization tools such as dynamic sectioning and probing at any location
- Study various design alternatives under different real-world conditions and select the best one
- Quickly verify your intuitions and reduce physical testing



With SolidWorks, designers can enter material properties during the initial modeling stage.

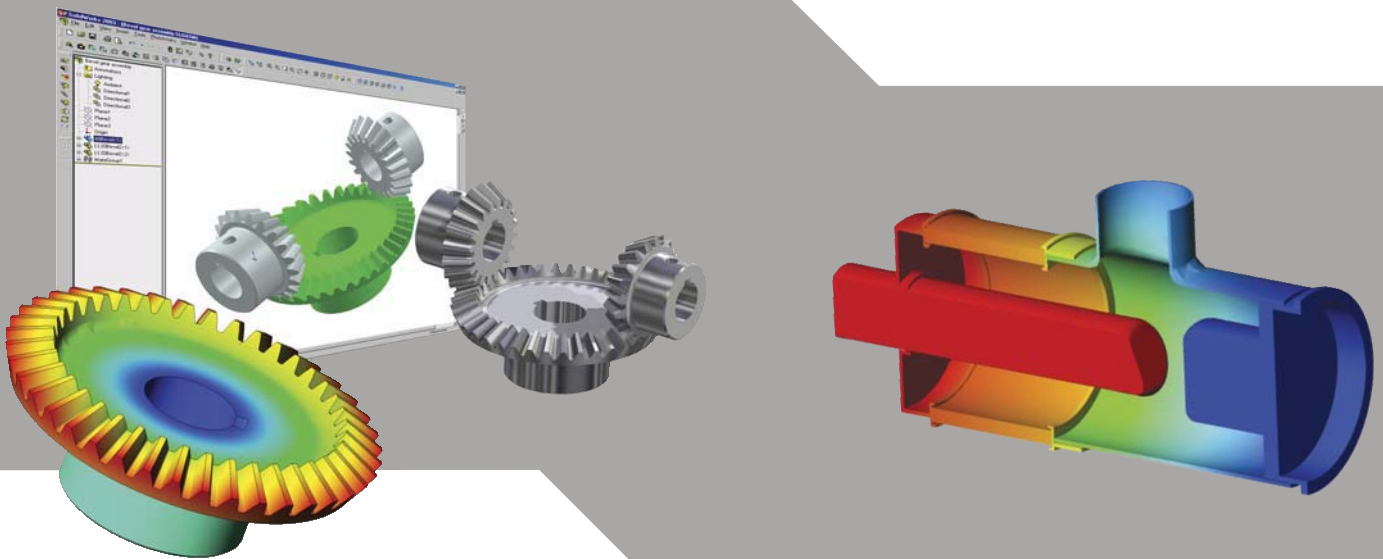
COSMOSWorks Professional

Powerful analysis for engineering professionals

COSMOSWorks Professional offers a wide spectrum of powerful tools to help engineers who are familiar with analysis concepts to perform virtual testing and analysis of parts and assemblies. Engineers who need more specific analysis capabilities can use COSMOSWorks Professional to predict the physical behavior of practically any part or assembly under any loading condition: from a simple beam under a bending load to vibration analyses of a car suspension.

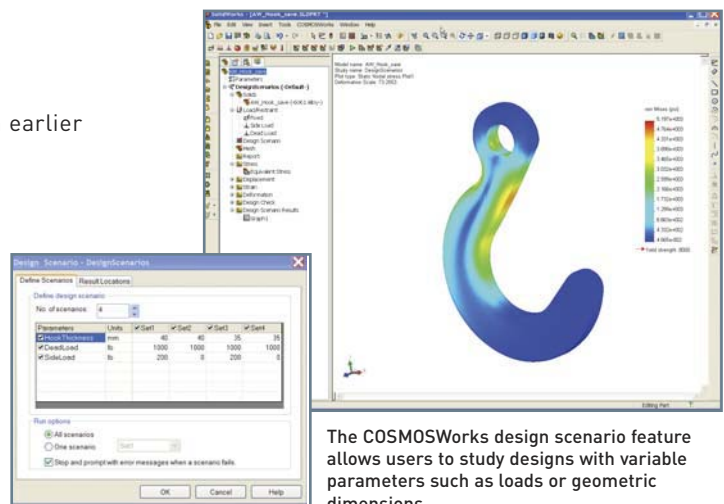
Intelligent analysis so you can work smarter, not harder

In addition to the analysis capabilities included inside COSMOSWorks Designer, COSMOSWorks Professional offers thermal heat transfer, thermal stress, vibration, and buckling analysis. Regardless of industry application, from aerospace to medical, COSMOSWorks provides significant product quality benefits; enabling engineers to detect design problems in less time than a prototype could be built.



With COSMOSWorks Professional, you can:

- Determine if your design will fail due to buckling or vibration
- Reduce the costs and time delays caused by physical prototyping
- Identify potential design flaws and correct them earlier in the design process
- Solve extensive thermal simulation problems
- Perform coupled thermal and structural analysis
- Perform drop test analysis



The COSMOSWorks design scenario feature allows users to study designs with variable parameters such as loads or geometric dimensions.

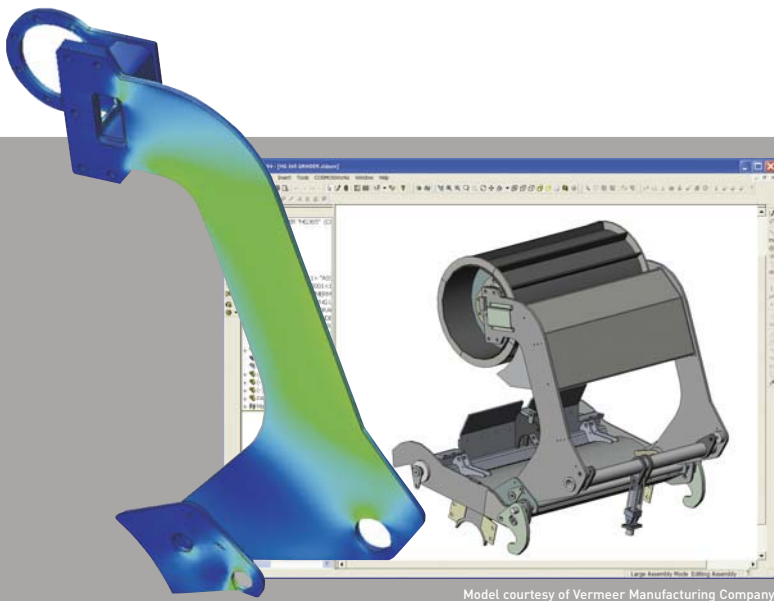
COSMOSWorks Advanced Professional

High-end analysis tools without the high-end price

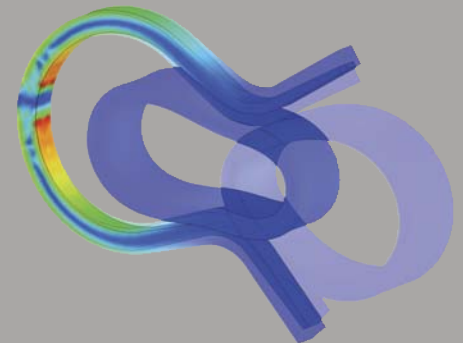
One of the most comprehensive and sophisticated packages available, COSMOSWorks Advanced Professional offers seasoned analysts a tremendous range of analysis capabilities at a fraction of the cost of most high-end FEA programs.

Serious FEA for serious users

For tough engineering problems like advanced dynamics, and nonlinear and fatigue simulation, you need a powerful tool that delivers reliable results quickly. Backed by over 20 years of FEA expertise and technological innovations, COSMOSWorks Advanced Professional offers the high-end analysis you need to get the job done.

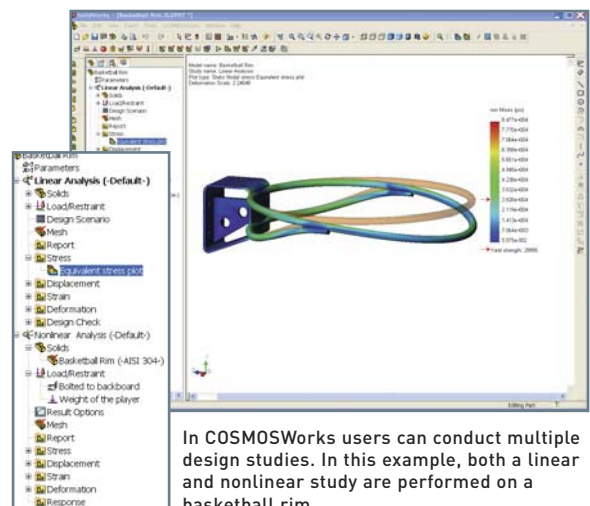


Model courtesy of Vermeer Manufacturing Company



With COSMOSWorks Advanced Professional, you can:

- Perform nonlinear analysis on plastics, rubbers, polymers, and foam
- Conduct contact analysis coupled with nonlinear materials
- Determine failure due to fatigue from cyclic loading on your designs
- Study the performance of your design under dynamic loads
- See the behavior of composite materials



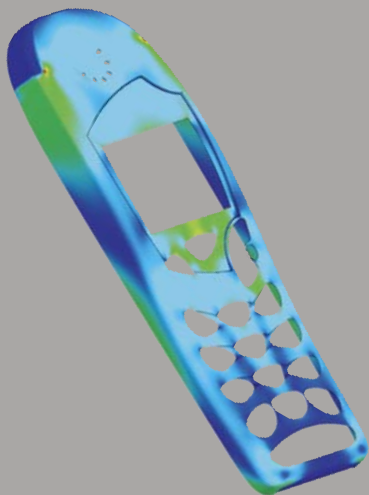
In COSMOSWorks users can conduct multiple design studies. In this example, both a linear and nonlinear study are performed on a basketball rim.

www.solidworks.com



For More Information

For more information about COSMOS Analysis Products, contact your local SolidWorks reseller. To find the reseller nearest you, please visit www.solidworks.com. You may also call toll-free at +1-800-469-7287 to speak with a sales representative. If you are calling from outside the US, please dial +1-310-207-2800.



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