

# DIVISION™ MockUp

Create large-scale, realistic digital mockups

DIVISION MockUp, PTC's industry leading digital mockup solution, leverages rich CAD data to create virtual 3D product prototypes. Now, all users—even those without installed CAD applications—can fully visualize, study and interact with the product.

DIVISION MockUp greatly reduces the need to build expensive and time-consuming physical prototypes. With powerful, 3D prototyping tools, DIVISION MockUp allows engineers to simulate product capabilities and validate product operations such as assembly and disassembly. In today's increasingly global and competitive market, viewing a realistic and interactive virtual prototype can reduce product development costs and accelerate time-to-market.

## Key Benefits

### Reduce time-to-market

Companies typically create very few physical prototypes because they are time-consuming as well as prohibitively expensive. As a result, engineers must wait until late in the design process before seeing the actual product. DIVISION MockUp reduces overall product development time by allowing engineers to instantly visualize and dynamically analyze their product—at any point in the process, so potential issues can be quickly identified and resolved.

### Improve collaboration

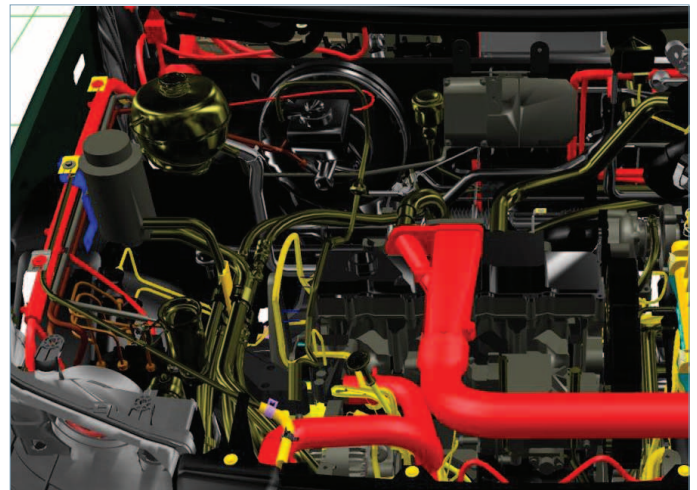
By utilizing a virtual prototype, distributed teams can easily collaborate, as everyone can simultaneously view and discuss the same interactive, realistic digital mockup. Digital mockups can be used for design reviews and analysis, assembly planning and packaging, maintenance studies, and sales and marketing campaigns. Such improved communication and collaboration accelerates the decision making process, as the design team and management can now rapidly review many design alternatives.

### Reduce product development costs

Developing physical prototypes is a costly process. DIVISION MockUp significantly reduces the need for physical models by providing immersive and functionally rich virtual prototypes that can be created on-demand. By reducing the number of physical prototypes, you can minimize product development costs while enabling your distributed design team to virtually construct an unlimited number of design variations.



Reduce the number of physical prototypes by analyzing virtual prototypes in DIVISION MockUp.



Perform rapid, large-scale interference checks for heterogeneous digital mockups

### Increase product quality

DIVISION MockUp allows engineers to investigate realistic part behaviors and real-time mechanisms earlier in the product lifecycle. Many potential problems can now be quickly uncovered, analyzed and resolved during the development process. With the ability to discover issues that otherwise would have gone unnoticed until late in the product lifecycle, DIVISION MockUp can help your organization improve overall product quality.

## Features

### Design Analysis

- Import designs from Pro/ENGINEER® and other major CAD applications
- Fast, efficient, real-time collision detection
- Hard clash, soft clash, and clearance checks
- Multi-set clash test
- Interference checking
- Gather interference durations
- Real-time cross-sectioning
- Pivot point constraints
- Swept-volume capture

### Functional Product Simulations

- Define and verify assembly/disassembly sequences
- Create and verify removal paths in real time
- Study maintenance operations
- Validate part access
- Verify customer requirements using functional simulation mockups
- Develop interactive content for use in training manuals and other publications

### Interactivity and Collaboration

- Rapidly load thousands of product components and gigabytes of CAD data
- Dynamically import sub-assemblies in real time as needed
- Fly through assemblies with real-time navigation
- Hear product-generated sounds using integrated audio tools
- Work within true multi-user environments
- Create, view and save interference reports

### Open, Innovative Architecture

- Advanced API for custom adapters and feature add-ins
- Peripheral device integration
- High-performance graphics engine
- Feature level-of-detail technology
- Distributed multi-tasking and simulation engine
- Modular architecture allows DIVISION functionality to be easily utilized by other applications

### Platform Specifications\*

- Operating Systems
  - Microsoft Windows (32-bit and 64-bit): NT 4.0, XP
  - Unix (32-bit and 64-bit): Solaris, HP-UX, SGI IRIX
- Graphics Software: OpenGL
- Languages: English

\*For up-to-date platform support information, please go to [www.ptc.com/partners/hardware/current/support.htm](http://www.ptc.com/partners/hardware/current/support.htm)

## Optional DIVISION MockUp Add-On Modules

### DIVISION Immersive Device Option

Interface with 3D peripherals and tracking devices such as head-mounted displays, wands, 3D mice, and gloves to enable a real-life understanding of designs.

### DIVISION Style Clinic Option

Perform real-time styling studies in a virtual showroom. Evaluate surfaces using zebra striping reflections, and study surface aesthetics with light tube reflections and shadows.

### DIVISION Motion Planning Option

View realistic simulations of product behaviors using event-based timing and triggers. Train operators on assembly/disassembly steps by defining and generating animation paths and sequences.

### DIVISION Safe Work Manikin

Identify and analyze ergonomic aspects of the product design by capturing manikin behavior. Create your own manikins, manipulate postures, and analyze manikin interaction with the product, equipment and facilities.

### Learn More

For more information about DIVISION Mockup and other PTC solutions, please visit [www.ptc.com](http://www.ptc.com)