

DIVISION™ Reality

Immersive Visual Collaboration with Massive Digital Mockups

DIVISION Reality is a highly scalable version of DIVISION™ MockUp, PTC's industry leading digital mockup solution. DIVISION Reality enables engineers to develop large-scale virtual mockups, simulate them with intelligent and realistic behaviors, and experience their design in a full-scale immersive environment.

DIVISION Reality greatly reduces the need to build expensive and time-consuming physical prototypes. By providing powerful, interactive tools for designing and implementing virtual reality (VR) scenarios, DIVISION Reality allows engineers to immerse themselves within a virtual environment to realistically experience a product model's capabilities and validate product operations.

In today's increasingly global and competitive market, viewing a realistic and interactive virtual prototype can reduce prototyping and product development costs, and accelerate time-to-market.

Key Benefits

Reduce time-to-market

Companies today typically create very few physical prototypes because they are time-consuming and prohibitively expensive. As a result, engineers must wait until late in the design process before seeing the actual product. DIVISION Reality reduces overall product development time by enabling engineers and other stakeholders to instantly visualize and dynamically analyze their product – at any point in the process, so potential issues can be quickly identified and resolved. With superlative scalability, DIVISION Reality enables rich interaction with 3D CAD models that are often too large to load into the source CAD tools.

Improve collaboration

By analyzing a virtual prototype, distributed product development teams can easily collaborate, as everyone can simultaneously view and discuss the same interactive, realistic digital mockup. With DIVISION Reality, digital mockups can be a valuable part of 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 both the design team and management can rapidly review many design alternatives.



Experience the largest digital mockups in immersive presentation modes using heterogeneous CAD data (Data courtesy of DCNS).

Reduce product development costs

Developing physical prototypes is a costly process. DIVISION Reality 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.

Increase product quality

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

Features

High-end, Efficient Visualization of Large Models

- 64-bit scalability for massive model visualization
- Optimized to extract the best performance from high-end graphics hardware
- Supports large multi-view and multi-pipe display systems, such as CAVE, PowerWall, and Holobench
- Supports 3D peripherals (3D motion tracking, gloves, head mounted displays)
- Real-time multi-process architecture distributes simulation, collision detection and graphics across multiple processors

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 – electrical versus mechanical
- Real-time cross-sectioning
- Pivot point constraints

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 scenarios

Interactivity and Collaboration

- Rapidly load hundreds of thousands of product components and gigabytes of 3D models
- Dynamically import sub-assemblies in real time, as needed
- Fly through assemblies with real-time navigation
- Hear product-generated sounds using integrated audio tools
- Conduct true multi-user, multi-task shared simulations in real-time

Open, Innovative Architecture

- Distributed architecture leverages multi-core, multi-processor and stereo graphics computing configurations
- Advanced API for custom adapters and feature add-ins
- Peripheral device integration
- High-performance graphics engine
- Dynamic, graphical level-of-detail technology
- Distributed multi-tasking and simulation engine

Platform Specifications*

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

*For up-to-date platform support information, please go to www.ptc.com/partners/hardware/current/support.htm

Included Modules

The following modules, which are optional for DIVISION MockUp, are included with DIVISION Reality:

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.

Learn More

For more information about DIVISION Reality and other PTC solutions, please visit www.ptc.com