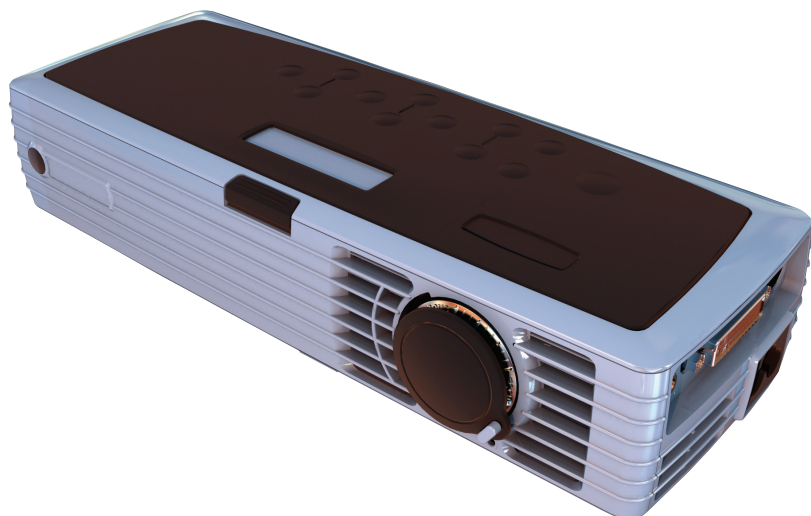


INFOCUS CORPORATION

Redefining mobile projection technology with SolidWorks Professional



InFocus set a new standard for projection mobility on the first product designed completely with SolidWorks software: the LP 120 mobile projector.

InFocus Corporation pioneered the mobile projection market by introducing the first portable system for projecting computer displays onto large screens. Since the company's founding, the combination of laptop computers, presentation software, and mobile projection systems has become the standard approach for supporting presentations to large and small groups in both commercial and educational settings. As the industry pioneer, InFocus has led the market by executing a first-to-market strategy and by introducing new features and technologies ahead of competitors.

To maintain its competitive lead, the company initiated a review of its product development platform in 2000. InFocus engineers had utilized the I-DEAS® 3D CAD system running on UNIX® workstations, but needed a more efficient means for handling increasingly complex geometries and surfaces, according to David Mulholland, senior application engineer.

"The industry trend is toward smaller, lighter projectors, which require curvy, organic shapes and surfaces," Mulholland explains. "Industrial design and the design signature of our products have become critically important, and we believed that we might be able to handle increasingly complex shapes more easily with a more modern CAD system. We also wanted to take advantage of better price-performance ratios by moving from a UNIX-based system to the Windows®, PC-based computing platform."

Following an evaluation of commercial CAD systems, InFocus narrowed its selection to three finalists: Pro/ENGINEER®, I-DEAS, and the SolidWorks® Professional suite of 3D CAD software. Additional benchmarking culminated in the company's decision to standardize on SolidWorks Professional. Mulholland says that InFocus chose SolidWorks software because of its ease of use, powerful capabilities, integrated product data management capabilities, and value.

"We did some things in SolidWorks software with relative ease that were more difficult with I-DEAS," Mulholland recalls. "Generally, it's hard to displace the incumbent; but over the course of the evaluation, it became clear that SolidWorks software represented the best system for us at the best price."

Results:

- Set a new standard in mobile projection technology
- Reduced time-to-effectiveness for new users by 50 percent
- Cut CAD licensing and maintenance costs by 70 percent
- Realized savings of 75 percent in hardware costs

Easier upfront design

By implementing SolidWorks Professional, InFocus engineers have more time to iterate during conceptual design, resulting in the increased innovation that the company needs to maintain its market leadership. The design process involves collaboration between mechanical engineers—who use SolidWorks software to develop the housing, mechanical components, and electrical footprint—and electrical engineers, who develop circuit boards. The company uses CircuitWorks™ software to integrate populated circuit boards into SolidWorks software models.

“Because we are more efficient, we may go back and forth between electrical and mechanical two to four times,” Mulholland says. “It’s just easier to work in SolidWorks software. Our transition to the new system was very smooth, and we have seen a 50 percent decrease in the time that it takes to get a new user up and running effectively.”

Compressing size, reducing weight

The move to SolidWorks Professional has helped InFocus engineers to address the design challenges related to producing smaller, lighter projectors. “We continually strive to get smaller; and when you are dealing with building an assembly of 500 to 600 components within a constantly shrinking space, you need the best tools available,” Mulholland notes. “We work in assembly mode and use the dynamic collision capabilities of SolidWorks software to spot interferences. We also utilize many injection-molded parts and do a fair amount of draft analysis using SolidWorks software tools to check wall thicknesses and draft, so we can minimize the potential for mold problems.”

InFocus uses integrated SolidWorks Simulation analysis software for stress analysis and SolidWorks product data management (PDM) software for managing design data. “We have seen a definite improvement on the analysis side in terms of ease of use. SolidWorks Simulation is far superior for setting loads, constraints, and boundary conditions,” Mulholland says. “SolidWorks PDM software has also been very effective for managing data within the design group. It’s much easier to use and accomplishes everything a user needs.”

A new standard in projection mobility

The LP120 mobile projector was the first InFocus product designed completely with SolidWorks Professional. Featuring a sleek, magnesium frame, the LP120 mobile projector is small enough to fit inside a briefcase alongside a laptop computer and weighs just 1.98 pounds. The product, which earned an Editors’ Choice award from LAPTAP magazine, redefines mobile projection technology, and continues InFocus’s record of industry firsts.

“We were very successful in using SolidWorks software to develop the LP120 product,” Mulholland stresses. “We will not be successful as a ‘me too’ company, and need to continue to break new ground. SolidWorks Professional supports our internal goals of developing higher-quality products and introducing more innovations. It’s helped us to introduce the smallest, lightest mobile projector available, and will continue to help us to develop next-generation products in the future.”

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David Mulholland
Senior Application Engineer



With SolidWorks Professional, InFocus has maintained its technological lead in mobile projection technology, developing smaller, lighter projectors that use more complex shapes and surfaces.



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