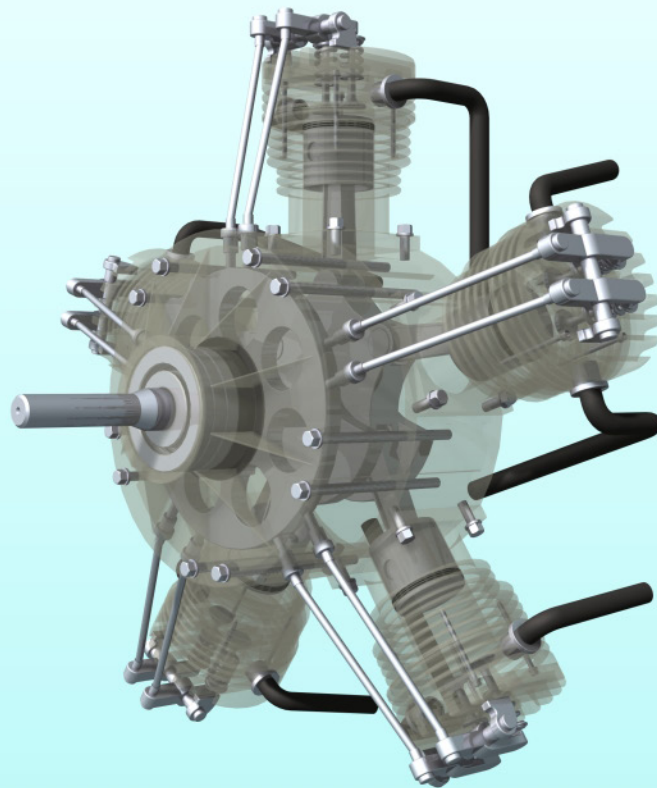


IMSI/Design



California-based IMSI/Design, LLC is the global leader in retail CAD. The company's products include the award-winning TurboCAD®, TurboFLOORPLAN™, Renditioner™, and DesignCAD™ families of precision and graphics design applications.



Market:

Precision design applications such as woodworking, architecture, jewelry making

Product:

3D ACIS® Modeler, PHL V5, Deformable Modeling, 3D InterOp Translators

CHALLENGES

IMSI's 3D modeling kernel for creation and parameterization of models wasn't extensible in its current form to accommodate the company's growth.

Solutions:

- Spatial 3D ACIS modeling engine integrated into TurboCAD software
- PHL V5 enables rapid development of 2D documentation and drawing
- Deformable Modeling tool manipulates surfaces more efficiently
- Spatial InterOp translators for STEP and IGES

Results:

- MSI focuses on its own development, allowing it to compete head-to-head with much larger companies
- Enables TurboCAD to provide unprecedented combination of speed, precision, and feature-to-price value
- IMSI's development staff integrates new versions of ACIS quickly, enabling the company to bring a new version of TurboCAD to market every 12-15 months

COMPANY

MSI/Design is at the forefront of new, innovative CAD areas, such as support for the rapidly growing metaverse (3D virtual reality worlds) and integrating Google SketchUp 3D models into the CAD workflow.

The versatility of TurboCAD makes it ideal for a wide range of 3D modeling, drafting and visualization applications. As significant enhancements have been made to the software's functionality, the company's installed base has shifted from primarily consumer, to more professional in composition. Popular worldwide with woodworkers, architects and jewelry makers among others, the software is fully localized in Japanese, Simplified Chinese, Traditional Chinese, French, German, Spanish and Czech.

CHALLENGE

Through an acquisition, IMSI obtained a 3D geometry kernel that it considered integrating into TurboCAD, but it wasn't readily extensible to accommodate the company's product development plans. In addition, the cost to develop and maintain the modeling engine would outstrip the cost/benefit of licensing a third party solution.

SOLUTION

Approximately ten years ago IMSI decided that licensing Spatial's ACIS modeling kernel would enable it to get TurboCAD to market faster. "Our development approach has always been to focus on our core competency of developing precision design software and look to third parties for best-in-class component technology, rather than expend the resources developing it ourselves," says Bob Mayer, IMSI/Design's Chief Operating Officer.

"ACIS and its extensions help our software developers bring new features to market more rapidly. Through our long-term relationship we've gained development efficiencies and are better able to respond to our customer's requests for new functionality in existing and future products."

-- Bob Mayer, Chief Operating Officer IMSI/Design

The company chose Spatial because it is the price/performance leader in 3D solid modeling engines, which fit perfectly with IMSI/Design's core strength of interoperability and its own strategy to be the price/performance leader in the market.

Within one year IMSI developers integrated ACIS into TurboCAD. Today TurboCAD with ACIS enables complex edits and transformations, such as extrudes, lofts, holes, embosses and bends. In early 2008, IMSI and Spatial entered into a long term agreement to integrate Spatial's 3D component technology across the TurboCAD Windows-and Mac-based product line, specifically the use of Spatial's 3D ACIS Modeler with 3D ACIS PHL V5 and 3D deformable modeling extensions, as well as 3D InterOp translators.

Over the years, developers from both companies have worked closely together to optimize Spatial components for IMSI's customers, particularly with regard to deformable modeling. 3D deformable modeling is an interactive sculpting tool for shaping 3D models, while maintaining high-quality, manufacturable surfaces and allowing for the easy creation and manipulation of free-form B-spline curves and surfaces. This functionality enables TurboCAD users to interactively fashion shapes that automatically adhere to rich sets of constraints and enables them to perform manipulations on curves and surfaces that would "otherwise be extremely difficult or impossible to accomplish using control point manipulation," notes Mayer.

TurboCAD's use cases are many and varied. For example, mechanical designers use it to create very detailed drawings by creating or importing a 3D model. TurboCAD supports over twenty 3D file formats, thanks in part to Spatial's InterOp translators. Using TurboCAD's specialized drafting palette, users can take 3D sections from a model and display them through view ports to dimension the cross section. The ACIS engine and PHL hidden line technology enable fast, accurate 2D hidden line drawings. This is especially useful for mechanical engineers doing model prep prior to the actual manufacturing process.

Woodworkers use TurboCAD's 3D drawing tools to design, detail, visualize, and layout cabinets and other fine furniture. With its photorealistic rendering, as well as lighting and materials capabilities, TurboCAD is an especially effective tool for woodworkers to present to their clients what the finished product will look like based on the initial specification. And because the 3D model is driven by Spatial's parametric design technology, it's easy for the woodworker to make changes according to a client's requests and needs.

RESULTS

"TurboCAD has had a long relationship with Spatial and has seen ACIS improve in both performance and quality over the years," added Mayer. "Now with the continuing evolution of the 3D deformable modeling tool, we can easily say that Spatial's suite of subsystem solutions was a great investment for us as a company and for our end-users."

Mayer attributes the success of the two companies' long term relationship to open communication from both technical and the business perspectives. "Spatial isn't steeped in bureaucracy, which is really good for a smaller company like us that likes to move quickly to maintain our leadership position in the market," says Mayer. "We appreciate the way Spatial responds to our questions and needs and gets back to us whether it's a technical or business issue."



TurboCAD is used by architectural firms around the world, in part because the software has the ability to import Google SketchUp models -- not just the geometry, but the materials, components and the views that are analogous to layers in CAD manufacturing. Once imported, the model can be saved as a solid modeling object and manipulated in TurboCAD through the ACIS kernel.

What Spatial-provided functionality was critical to IMSI's development plans to serve all of these different markets? "Extensibility," remarks Mayer. "We wanted something we could start with and grow with and certainly ACIS gives us that." Mayer notes that IMSI still hasn't tapped all of the Spatial functionality. "We believe we can take our product a long way by continuing to incorporate Spatial technology."

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