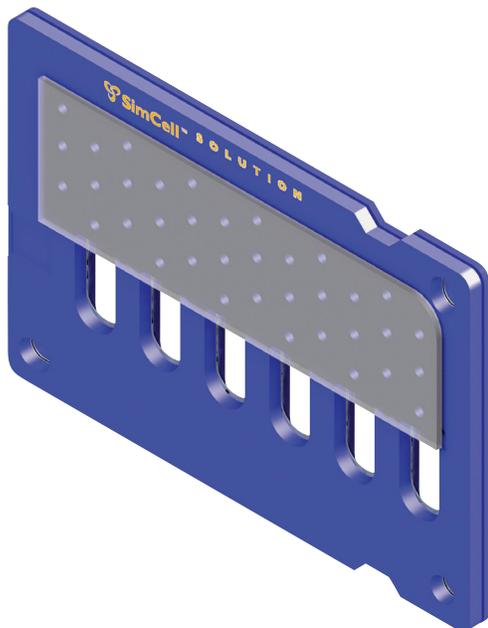


BIOPROCESSORS CORP.

Advancing biopharmaceutical process development with SolidWorks Premium



Using SolidWorks software, BioProcessors has realized improvements in productivity and accuracy, particularly in the development of molded components for the SimCell MicroBioreactor Arrays.

BioProcessors Corp. is a pioneer in innovating high-throughput biopharmaceutical process development technology, and is the leader in providing biopharmaceutical upstream process development applications for the biotechnology and pharmaceutical industry. While the company began its product development efforts using AutoCAD® 2D design software, the complexity and sophistication of its robotic SimCell™ Automation platform, SimCell MicroBioreactor Arrays, and integrated sensor technology—combined with the need to work more efficiently and cost-effectively with partners—prompted the company to upgrade to Autodesk Inventor® 3D CAD software in 2002.

However, the company's engineers encountered several issues while working with Inventor software, according to Sean LeBlanc, associate director of manufacturing. "We experienced our first major hurdle with Inventor in early 2004 when we discovered problems with STEP and IGES translation errors," LeBlanc recalls. "We realized that by having to rebuild models and check translation settings, we were incurring additional costs. Also, we needed a dynamic product data management (PDM) system and integrated finite element and mold analysis tools, so we could better manage our design data and address any issues upfront ourselves, thereby avoiding the costs associated with vendors resolving the problems. In short, we needed more speed, lower costs, and greater accuracy. We noticed that all the partners and vendors we work with use another CAD system: SolidWorks® software."

In early 2005, BioProcessors conducted a thorough evaluation of leading 3D CAD systems to determine if it could achieve these objectives with another solution. "We looked at Pro/ENGINEER®, Unigraphics®, and SolidWorks software, and also included Inventor in the analysis," LeBlanc notes. The company selected SolidWorks software, purchasing one seat of SolidWorks Premium and four seats of SolidWorks Professional. SolidWorks Premium provides powerful design validation software in addition to the full suite of 3D CAD, data

Results:

- Reduced development cycle for molded components by 20 to 35 percent
- Minimized the potential for design errors
- Improved efficiency and cost-effectiveness of partner interactions
- Enhanced collaboration with company scientists

management, communication, and productivity tools included with SolidWorks Professional. BioProcessors chose SolidWorks software because of its ease of use, large-assembly capabilities, inherent value, and integrated applications, including simulation software and product data management software.

"Dollar for dollar, we have a lot more capability with SolidWorks software," LeBlanc says. "It delivers all the capabilities we asked for at a competitive price."

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Sean LeBlanc
Assistant Director of Manufacturing

Improving mold development

Since implementing SolidWorks software, BioProcessors has realized improvements in productivity and accuracy, particularly in the development of molded components. The company's products require complicated plastic assemblies that are produced using complex molds with hundreds of distinct features. Using the mold design and draft analysis of SolidWorks software, the company has reduced its development cycles for molded components by 20 to 35 percent, has improved the cost-effectiveness of vendor services, and has minimized the potential for design errors.

"Before implementing SolidWorks software, we could not simulate the filling of a mold cavity," LeBlanc stresses. "We had to pay our vendor to do the fill simulation, which increased costs. Having to resolve mold issues with the vendor often added time to the development cycle, as well. With SolidWorks software, if a corner will not fill properly, or if we change a feature and want to know if it will still fill, we can address these issues ourselves before interacting with the mold-maker. This, in turn, helps us to reduce costs, save time, and preserve the accuracy of our designs."

Integrated analysis

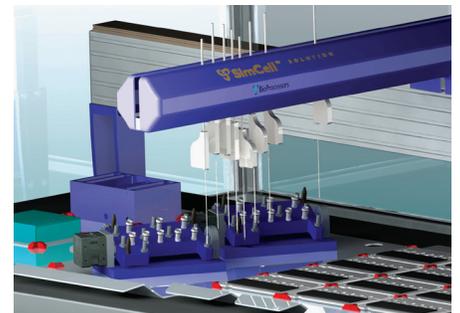
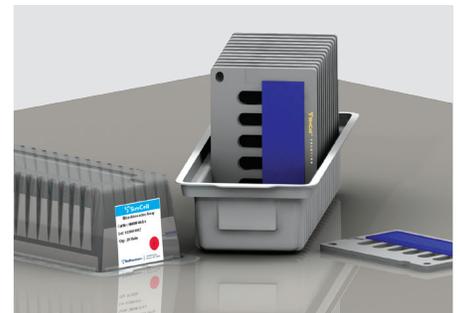
Because the company's engineers can now use integrated SolidWorks Simulation software to run stress analyses and simulate design performance as part of their conceptual design, BioProcessors has cut costs associated with subcontracting finite element analysis work.

"Our designer can apply loads and analyze stresses, while we model components and assemblies," LeBlanc explains. "Not only did we eliminate the cost of contracting out our analysis work, but we also saved time by conducting analysis internally since there is no back-and-forth interaction with a vendor. Having integrated analysis capabilities makes the design process faster, more cost-effective, and further reduces the potential for design errors."

Dynamic product data management

With the product data management software's network Vault and Standalone Client, BioProcessors can seamlessly manage the design state of product components and assemblies, while making design data available to personnel outside of engineering.

"With SolidWorks eDrawings® and the Standalone Client, everyone can review an assembly and burrow down to the component level," LeBlanc explains. "This access enhances collaboration with employees across the organization, whose input forms the basis of our products."



Integrated SolidWorks software applications help BioProcessors continue innovating in the area of microbioreactor technology for high-throughput biopharmaceutical process development.



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