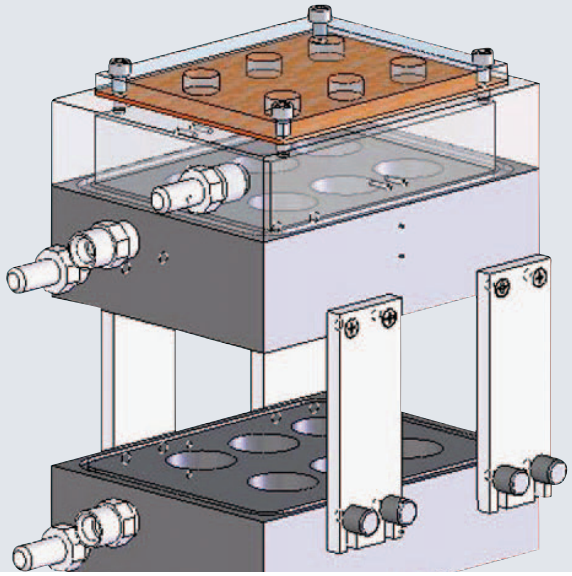
Bristol-Myers Squibb Company

AUTOMATING PHARMACEUTICAL AND MEDICAL RESEARCH EQUIPMENT DESIGN WITH SOLIDWORKS



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- Reduced design cycles by 75 percent
- Boosted equipment quality
- Improved documentation and management of design data
- Enhanced interaction with BMS scientists

As a leading global pharmaceutical company, Bristol-Myers Squibb (BMS) Company supports one of the most active and extensive pharmaceutical and medical research programs in the world. BMS scientists conduct research studies and experiments involving the entire scope of medical research in their quest to discover new drug therapies for the treatment of medical conditions ranging from cancer and high blood pressure to diabetes and HIV/AIDS. Much of the equipment and instrumentation that company scientists utilize is commercially available. However, the research is often so distinctive that it requires highly specialized, custom-designed equipment, in which case researchers call upon the services of the company's Discovery Automation Group.

"Basically, we design and build any equipment that our scientists cannot buy," explains Joseph Nolfo, one of the group's mechanical engineers. "They may need a reactor that performs several high pressure reactions simultaneously or one with reflux capabilities. Frequently, the experiments are so novel that we need to develop special equipment or instrumentation as quickly as we can to keep the research on track."

In years past, the group used 2D design software for development before switching to a 3D parametric CAD package during the 1990s. While the group believed the move to a parametric 3D design system would make them more efficient, they eventually determined that they needed a design system that would be easier to learn and use, and more affordable. So, the group initiated an evaluation of other 3D CAD systems in 2000, says Nolfo.

After evaluating several leading 3D CAD systems, BMS selected SolidWorks® 3D CAD software for equipment development. Nolfo says his group chose SolidWorks software because it was the easiest to use, was the most intuitive, and represented the best value. "We believed SolidWorks software was the most suitable for helping us get parts completed quickly," he notes.

SolidWorks

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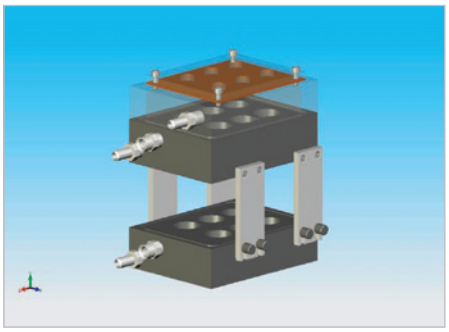
Joseph Nolfo, Mechanical Engineer



By implementing SolidWorks PDM software, the BMS Discovery Automation Group established a more secure system for managing design data and controlling revisions.

Shortening design cycles

Since implementing six seats of SolidWorks software, the Discovery Automation Group has shortened its design cycles by 75 percent, while simultaneously improving equipment quality. "We are more than 75 percent faster using SolidWorks Professional," Nolfo says. "It's easier to make design changes in SolidWorks, which not only makes us faster, but also improves our quality. Now, we can approach design changes with a lot less resistance than when we were working with tools that made modifying a design a long, tedious process."

"Virtually everything we do – including working with assemblies, generating drawings, and communicating with vendors – requires fewer steps in SolidWorks than in the other packages we used and evaluated," Nolfo adds. "SolidWorks software is helping us to meet our goals of developing research equipment that performs at a high level as quickly as possible."

Improving design documentation and data management

Following the initial SolidWorks implementation, the group upgraded to the SolidWorks Professional suite in order to reap the benefits of SolidWorks product data management (PDM) software. "We added PDM software to replace our manual documentation system, which was based on paper 2D engineering drawings, with a more efficient electronic system," Nolfo recalls. "By adding SolidWorks product data management software, we established a more secure system for managing design data and improving revision control."

In addition, the PDM software fosters a higher level of design reuse within the group, further increasing efficiency. "SolidWorks PDM software enables us to control access to design data, which both ensures the security of legacy data and makes it available for use on current projects," Nolfo explains. "Because all the documentation is in one secure location, we can safely review it whenever we begin a project requiring equipment that is similar to projects we have completed in the past. We simply can reuse design concepts more frequently with SolidWorks PDM software."

Enhancing internal communications with eDrawings

By implementing SolidWorks Professional software, the Discovery Automation Group also gained access to SolidWorks eDrawings® design communication software, which has enhanced interaction between the group's engineers and BMS research scientists.

"We used to spend a lot of time trying to communicate back and forth with our scientists," Nolfo says. "The scientists define their needs, and we develop concepts to address those needs. In the past, interacting with our clients could be difficult. They are not engineers and at times found it difficult to read a 2D drawing. Now, we simply send them an eDrawings file. Reviewing concepts takes less time than in the past, and scientists really like it because they can conveniently review more information on their own computers."

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