



## Lanco Assembly Systems, Inc.

**"We'll continue to count on Solid Edge to help us turn out new designs quicker and with fewer mistakes."**

– Peter Vachon  
Engineering Manager

## Solid Modeling Cuts Machine Design and Drafting Time

**Lanco selected Solid Edge based on its ease of use, assembly modeling capabilities, and streamlined drafting.**

Since adopting solid modeling, Lanco Assembly Systems, Inc. has reduced the time required to prepare drawings for new assembly systems by 50 percent. Once the digital model of a new system has been created, producing drawings is just a matter of creating views and adding dimensions and notations. Solid modeling also allows Lanco designers to create interference-free assemblies, helping reducing overall design time by 20 percent. The company attributes these gains to its solid modeling program, Solid Edge from UGS, which incorporates many features that boost machine designers' productivity.

"We're a machine builder and when we decided to upgrade to solid modeling, we evaluated a number packages from that perspective," says Peter Vachon, Lanco's engineering manager. "Solid Edge had the edge in three areas: its assembly modeling module, which can handle assemblies of thousands of parts with minimal reduction in performance; its drafting functionality, which is far ahead of other solid modelers; and its user interface, which lets people become productive in a fraction of the time other programs require."

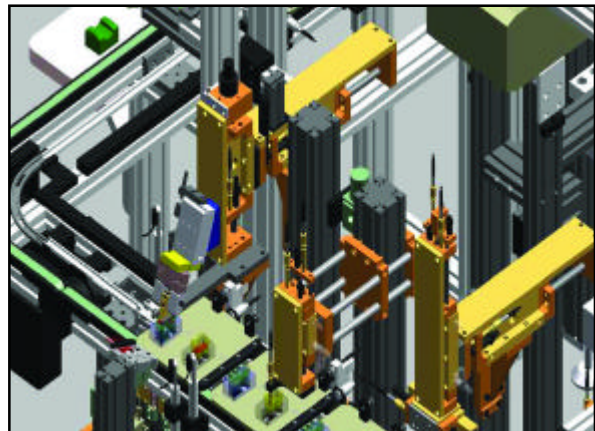
### Time-saving Technology

Lanco Assembly Systems, Westbrook, Maine, is a supplier of turnkey assembly systems. Based on a modular approach, the company's systems have anywhere from a few to dozens of stations, each of which performs a specific assembly function such as picking and placing parts, screw driving, ultrasonic welding, grease dispensing, and testing. Lanco serves customers in the automotive, appliance, electronics, medical, and consumer products industries. A global company, Lanco has facilities in the UK and Switzerland in addition to its Maine headquarters, and a second U.S. facility in North Carolina.

Lanco's use of CAD dates back to the 1980s when designers used CADKEY. In the early 90s, they switched to AutoCAD. These 2D programs served mostly as "electronic drafting tables," according to Vachon. When solid modelers became available, he saw the time-saving potential of the technology right away. "With between 60 and 80 percent of our sales going to the auto industry, we were feeling the pressure to turn out designs faster," Vachon explains. "With my first exposure to solid modeling, I realized it could help us do that."

Lanco's selection of Solid Edge was based on its ease of use, assembly modeling capabilities, and drafting functionality. The software's popularity in Europe was another factor in its favor. Another plus for Solid Edge was that the local reseller, LMGi (Portland, Maine), proved it could provide strong technical support.

Lanco installed 13 seats of Solid Edge. Even before taking training, designers were using the software to work on real projects. "One of the strengths of Solid Edge is its tutorials," explains Vachon. "Between those and the STREAM technology in the user interface, people were doing design work before they took the training class."





STREAM technology uses inference logic and decision management techniques to streamline operations and shorten the learning curve. "It presents only the buttons or icons that are useful at the time," Vachon explains. "In

contrast, one of the programs we looked at was a nightmare of cascading menu after cascading menu. It would have taken six months to be comfortable with, where people were doing productive work with Solid Edge in three weeks."

## New Design Process

Most of Lanco's assembly systems are built around a standard platform, the Lanco HFL 2001 pallet transfer system. Many other parts are common to all systems as well, including pneumatic slides, cylinders, and actuators. These common elements have been modeled as solids and are available to designers in the Solid Edge parts library. Now, as a designer begins to create a new station, one of the first steps is identifying existing parts that can be used and pulling them from the library into a new assembly model. Says Vachon, "This has reduced design time because instead of drawing each part, as they did in the past, designers now focus on the unique tooling, such as gripper jaws for pick-and-place stations or an escapement for presenting a part for placement."

Each station is modeled as a separate assembly, each assembly having hundreds of parts. Depending on the function, the assemblies include between several hundred and about a thousand parts. Solid Edge supports both top-down and bottom-up design techniques, and assembly models capture the relationships among the various components. Designers at Lanco combine the assembly modeling capabilities with Solid Edge's variable modeling to detect interferences before stations are built. They do this by creating alternate assemblies that show the different positions of the moving parts. Design variables for a cylinder identify the location of the rod in the extended and retracted positions, for instance. Solid Edge automatically draws an assembly with components in all of the positions represented in the design variables. This lets designers simulate the motion of the parts and makes it easy to spot clashes. "This prevents mistakes, which is another way the software helps shorten the design cycle," Vachon notes.

Lanco uses digital models in design reviews with customers and finds that these are much better understood than flat drawings. Design reviews go better for another reason as well. "In the past, designs would come into a review about 50 to 75 percent complete. There were still things the designer hadn't thought about or was proposing as an idea," Vachon explains. "With Solid Edge, we're forced to fully design, otherwise we have something that looks incomplete." After a customer has approved a design, detailing begins almost immediately. Since designs are complete at this point, all that is necessary is to use Solid Edge's drafting function to select views, add dimensions, notations and standard drawing elements to create the drawings. "Since the time has already been spent up front creating the models, and we know they are complete and interference-free, producing drawings takes about half as long as it used to," says Vachon.



Lanco is pleased with its choice of Solid Edge and is looking forward to implementing the weldment design tool in Solid Edge. These will speed the process of defining the constituent parts of weldments, as well as weld beads, pre-weld surface treatments, and machining operations after welds are applied. Says Vachon, "With our customers looking for faster and faster delivery times, we'll continue to count on Solid Edge to help us turn out new designs quicker and with fewer mistakes."

## Key Benefits for Lanco Assembly Systems, Inc.

- Reduced design time for automation systems by 20%.
- Ability to detect interferences with solid models.
- Solid Edge supports both top-down and bottom-up design techniques.
- Built-in tutorials.

[www.solid-edge.com](http://www.solid-edge.com)

Americas (800) 807-2200

Europe +31 (0) 79363 5515

Asia Pacific (852) 2230-3333

Other Areas (256) 705-2600



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