

## Industrial machinery and heavy equipment

# Lanly

## Industrial oven manufacturer designs better with Solid Edge

### Product

Solid Edge

### Business challenges

Create faster drying and curing processes

Reduce unit costs

Deliver machines on time

Integrate control systems

### Keys to success

Transition from 2D to 3D design

Evaluate new 3D CAD technologies

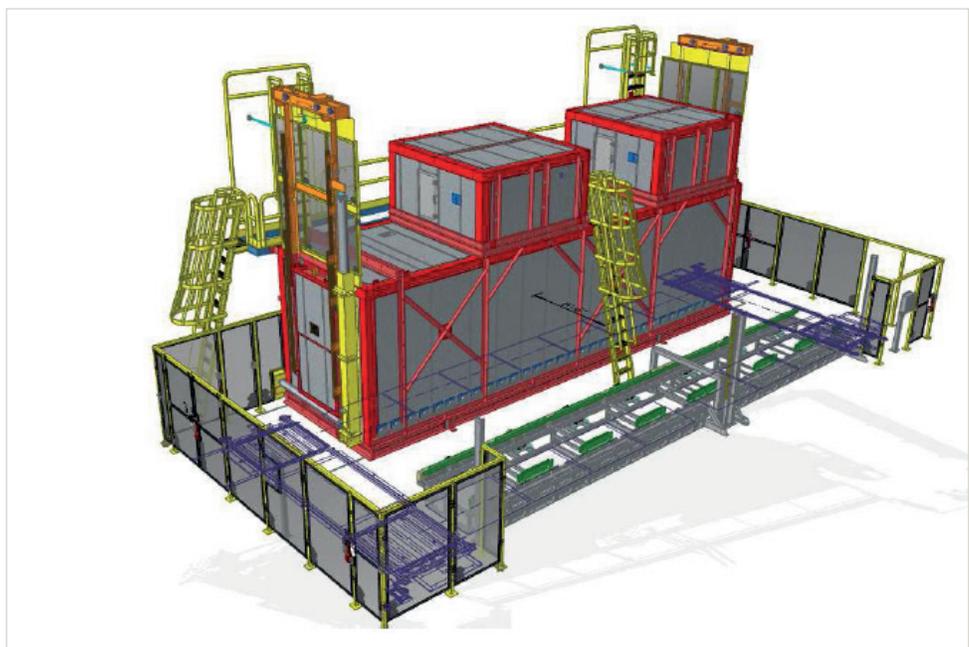
Leverage the Solid Edge community

### Results

Created new designs 7 times faster

Handled revisions 15- to 20-times faster

Increased efficiency/productivity by applying weekly design tips from Solid Edge community



### 3D design with synchronous technology provides a major productivity boost

Like many industrial machinery makers, The Lanly Company (Lanly) has been using 2D computer-aided design (CAD) for decades. Despite having access to 3D modeling tools, Lanly's drafters shied away from solid modeling due to its complexities. But a new way to design in 3D provided a major productivity boost for the industrial oven and furnace manufacturer.

"I knew what 3D could do for us," says Steve Zimnoch, project manager at Lanly.

With a background using 3D CAD systems including Pro/ENGINEER® software, SolidWorks® software and Solid Edge® software, Zimnoch led a nine-month evaluation of several systems and determined that Solid Edge possessed the best technology to transition from 2D to 3D.

That new way leverages synchronous technology, a core component of Solid Edge from Siemens PLM Software. "CAD based solely on history-based design confuses 2D users; there are so many steps required. Solid Edge with synchronous technology reduced the complexity of moving to 3D," Zimnoch says.

*This board and insulation machine, designed by Lanly using Solid Edge, dries primer paint on ceiling tiles.*



## Using synchronous technology, Lanly reports that design revisions can be made 15-to-20-times faster than using traditional history-based CAD.

Lanly creates new machine designs from standard structural steel parts. Using synchronous technology, Lanly reports that design is 15- to 20-times faster than using traditional history-based CAD.

Cleveland, Ohio-based Lanly, founded in 1938, designs and builds industrial ovens, industrial dryers, material handling equipment, process control systems and custom heat processing equipment. Lanly's equipment is used in many applications and industries including aluminum, board and insulation, ceramics, chemicals, coating processing, electrical, food processing, investment casting, lamps, refractories, rubber and plastics, steel heat treating and textiles. Lanly's core business attributes include high-quality workmanship, reducing unit costs, on-time machinery delivery, faster drying and curing processes, and control system integration.

Demands for higher production, faster systems, and tighter uniformity are conditions met by the application of high-velocity heated air. This technology is often referred to as air impingement processing. Lanly is a leader in air oven technologies, and its mechanical engineers have developed an efficient, high-velocity tube air discharge duct system. This air impingement system is used to speed drying and curing.

"The engineering of the 200- to 1200-degree high-velocity airflow in the systems is very important. Our engineering challenges are basically using the CAD software to develop the structural steel and the sheet metal conveyor systems and equipment," says Zimnoch.

**"CAD based solely on history-based design confuses 2D users; there are so many steps required. Solid Edge with synchronous technology reduced the complexity of moving to 3D."**

Steve Zimnoch  
Project Manager  
Lanly

### 2D transition to 3D

The use of 2D design techniques created many design errors such as part interferences and outdated drawings after changes were made. "With 3D, now we have an assembly set of maybe 100 drawings. That entire assembly drawing set gets updated once you make your changes. In solid modeling, you can actually see the interferences and where you can get around those. Also the ease of creating drawings allows you to put on more dimensional information so the fabrication of the parts can be completed faster and more accurately," says Zimnoch.

### 3D to better 3D, also a great move

In 2011, Lanly found a new way to maximize its 3D design productivity. Lanly began using Solid Edge in 2000, but in a limited way only for plant layouts. Once Lanly began using synchronous technology, the rest of the designers who had stayed with 2D AutoCAD moved very easily to 3D.

Zimnoch worked in history-based 3D CAD but switched to synchronous technology because "it's so much easier and faster." Lanly engineers have been able to accelerate new designs, revise existing models faster, and achieve better re-use of data created in other CAD systems. History-only CAD systems use a feature-based approach to creating and editing models, which requires a lot of preplanning time to take care of unforeseen changes that frequently arise. Conversely, history-free modeling is fast, but featureless, with limited automated design capability. Synchronous technology provides the best of both with highly automated features and dimensions that facilitate flexibility and near-instant performance.

"When creating a part using synchronous technology, you're only sketching the box and then extruding it. With ordered (history), you're creating a sketch and then you're manipulating that. Synchronous technology is a lot more fluid and it allows you to go seven-times faster," says Zimnoch.

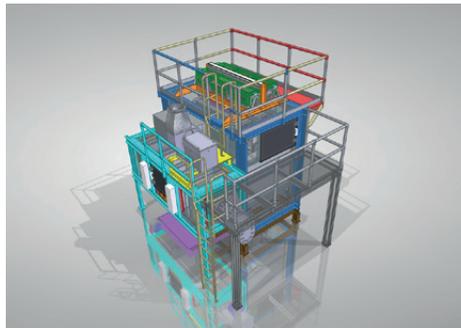
When Lanly hires new designers, they find it much easier to make changes to existing parts and assemblies because they don't have to spend time studying the feature tree to determine how the models were originally built. In many cases, part and assembly models were created by designers who had left the company.

"In history-based CAD, it would take you maybe 15 or 20 minutes to go back and look at the history tree, and in synchronous technology it takes you maybe a minute to a minute-and-a-half to create those same edits," says Zimnoch.

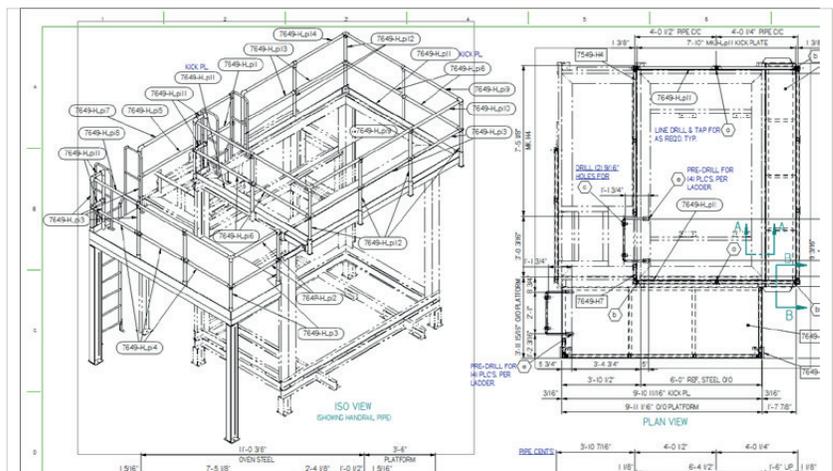
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Steve Zimnoch  
Project Manager  
Lanly

**Lanly engineers have been able to accelerate new designs, more quickly revise existing models and achieve better re-use of data created in other CAD systems.**



*A rendered CAD image and drawing of this Lanly metal processing oven illustrates the ease of creating drawings with more dimensional information, so the fabrication of parts can be completed faster and more accurately.*



Another downside to just using history-based design, Zimnoch notes, occurs when a customer wants a part moved to a different location on a machine. "You would have to go back into the history tree and make those edits, which sometimes was very cumbersome. Now with synchronous technology, you can look at what the customer is asking and make an edit so that it fulfills what he has asked, without spending time looking at what you had done to create that part," he says.

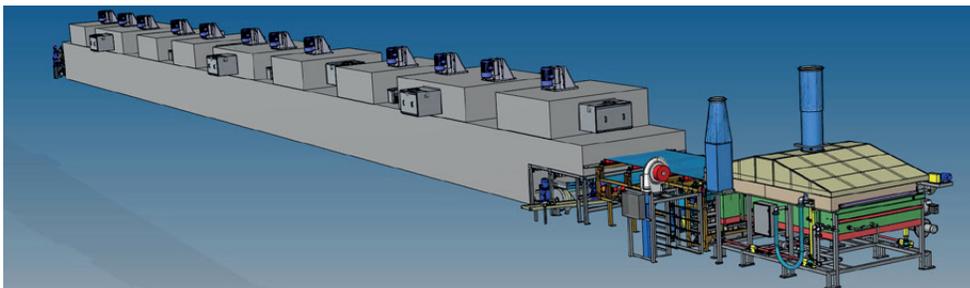
Synchronous technology also helps Lanly efficiently re-use design data created with other CAD systems. For example, with oven equipment, Lanly uses many part models from vendor or third-party website



Food moves from left to right in this pita chip snack dryer.

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Steve Zimnoch  
Project Manager  
Lanly



CAD assembly of a food processing oven designed by Lanly using the synchronous technology functionality of Solid Edge.

## Solutions/Services

Solid Edge  
[www.siemens.com/solidedge](http://www.siemens.com/solidedge)

## Customer's primary business

The Lanly Company designs and builds custom heat processing equipment for an extensive range of industries.  
[www.lanly.com](http://www.lanly.com)

## Customer location

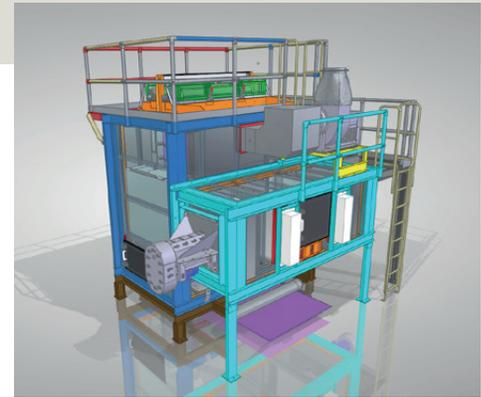
Cleveland, Ohio  
United States

resources. "That allows us to pick up a sprocket or motor model and place them into our designs," Zimnoch says. "If these 'dumb' featureless part models need to be rotated or moved – to place an electrical connection box on the other side of a model, for example – it's very difficult to do in an ordered history environment; practically impossible," Zimnoch says.

"If you do it in synchronous technology, you're using and selecting the faces that you want to manipulate and you can make changes. You're not really changing the customer's design or the vendor's design – you're changing just the components on that vendor piece."

## Solid Edge community

Lanly leverages the advanced technologies of Solid Edge and also the vast expertise of the large and growing Solid Edge online community site. The Solid Edge community is a set of forums, blogs and



knowledge bases where people ask, share, read, search, learn and comment about Solid Edge topics.

"The Solid Edge community is a very, very useful tool for us," Zimnoch says. "I just saw the blogs the other day on the use of the Alt key, for example. I'll have a weekly meeting with the rest of the design team and we'll go over what I've found in the community and present that to them. It's a very good tool for me to help educate everyone else in our company."

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Steve Zimnoch  
Project Manager  
Lanly

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