

Valley Dairy Farm Automation



Valley Dairy Farm Automation has grown to become a leading manufacturer of customized, innovative dairy farm automation products.

Challenge:

Grow a dairy farm automation business through the rapid development and fabrication of innovative products and customized systems that make dairy farming more efficient and productive.

Solution:

Implement SOLIDWORKS Premium mechanical design and analysis, and SOLIDWORKS Electrical 3D design software solutions.

Results:

- Tripled product offering
- Established Lyntech manufacturing subsidiary
- Minimized mistakes and design errors
- Advanced dairy farm automation technology

Originally founded in 1982 as a dairy equipment dealer in Iowa, South Dakota and Minnesota, Valley Dairy is now seeing orders come in from the U.S. and beyond. Demand has increased so rapidly that it led to the establishment of a new subsidiary to design and manufacture the firm's extensive product offerings.

Valley Dairy's line of products emanated from the company's desire to do the best possible job for customers and for their cows, said General Manager Kevin Bouwman, who began developing products in the early 2000s using the DesignCAD 2D design package.

"As business grew, designing and manufacturing in 2D became frustrating and limiting," Bouwman recalls. "Whenever I needed to make a design change, I had to make the change to multiple drawing views, which wasted time. Roughly 40 percent of our products involve sheet metal, and because dairy applications require either stainless or hotdip galvanized steel, design errors are costly. That's why I investigated 3D design solutions."

Bouwman used evaluation versions of the leading 3D CAD packages before deciding to standardize on the SOLIDWORKS 3D development platform. "The main reason that I chose SOLIDWORKS is that I wanted access to a large, supportive, online community of users that would help me figure out how to use the program," Bouwman explains. "Other SOLIDWORKS features that drove my decision included the software's short learning curve, its industry-leading sheet-metal and weldment design tools, and the company's commitment to continue to develop the software and listen to its users."

Today, Valley Dairy relies on SOLIDWORKS Premium mechanical design and analysis software to develop its dairy automation systems and recently added SOLIDWORKS Electrical 3D to develop associated electrical systems for its products.

Expanding Product Offerings

Since standardizing on SOLIDWORKS, Valley Dairy has developed equipment designs that are more innovative, elaborate, and complete, with fewer mistakes and errors. As a result, the company has tripled the number of

Valley Dairy Farm Automation relies on SOLIDWORKS design tools to develop innovative dairy farm automation products, including the Valet automated crowd gate for managing the flow of cows into a milking parlor.



products that it develops annually. “The move to SOLIDWORKS has allowed us to go from designing a small number of products to support the equipment dealership to offering more than 100 different automation products,” Bouwman says. “With SOLIDWORKS, we can develop products more professionally in terms of fit and function than many global manufacturers, and every year, we add three times as many products.”

“We first realized how beneficial using SOLIDWORKS would be in 2012, when we built an entire milking center from scratch,” Bouwman adds. “About half of the equipment on that installation was designed in SOLIDWORKS—more than 150 distinct part numbers—under very tight deadlines. The success of that project not only validated our decision to move to SOLIDWORKS, it also demonstrated what we could do in terms of quickly expanding our product line using SOLIDWORKS.”

Accelerating Sheet-Metal Design, Fabrication

With SOLIDWORKS, Valley Dairy has improved its sheet-metal design capabilities, resulting in fewer iterations with its fabrication partner and shorter manufacturing cycles. “Because I’ve set up sheet metal templates in SOLIDWORKS, I can quickly develop sheet metal parts and visualize them in both folded and unfolded states,” Bouwman notes. “This allows me to design and fully document five to six parts in an hour, and then send the SOLIDWORKS files to my fabricator for production.

“The speed with which I can churn out sheet metal designs with SOLIDWORKS has surprised our fabricator, who said my output is more than what three of his designers could produce,” Bouwman continues. “That’s the type of productivity that is helping grow the company.”

Unlocking the Power of IoT with Product Innovation

The move to SOLIDWORKS has also enabled Valley Dairy to introduce unique, cutting-edge dairy automation systems, such as its innovative Valet crowd gate for managing the flow of cows into a milking parlor. “Crowd gates control the flow of cows to be milked by separating them into manageable groups,” Bouwman explains. “Conventional crowd gates require the operator to push a button to lower and raise the gate, often after leaving the milking station to observe what’s going on. Our Valet crowd gate uses an algorithm to automatically manage the flow of cows without operator intervention,” Bouwman says. “We’ve taken a dumb, pneumatic-driven machine and transformed it into an intelligent, electrical piece of equipment that makes cow flow management easier and more efficient. And, because we use SOLIDWORKS design configurations, we can quickly produce a design that fits the dimensions of a particular dairy operation, allowing us to offer custom widths without having to redesign the system.”

Learn more about Alignex customer Valley Dairy Farm Automation at valleydairy.biz.



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expertise are just some of the ways we go beyond SOLIDWORKS' core functionality and offerings—giving you the competitive advantage to focus on what matters most.

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