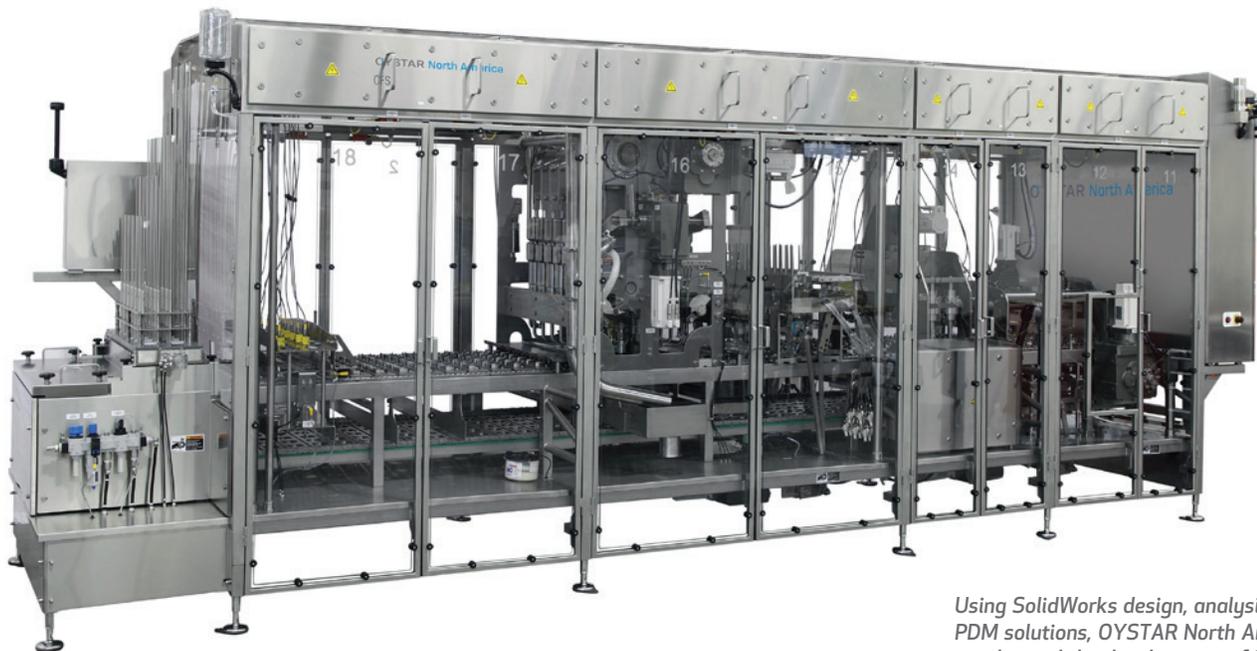


OYSTAR NORTH AMERICA

Developing advanced packaging technologies faster with SolidWorks solutions



Using SolidWorks design, analysis, and PDM solutions, OYSTAR North America has accelerated the development of its rapid filling and packaging machines.

Fortune 100 companies rely on OYSTAR North America's Packaging Technologies Group for the development of rapid filling and packaging machines. While the company's expertise has made it the world's largest aerosol equipment manufacturer, OYSTAR also produces a variety of other filling machines that package products as varied as yogurt, applesauce, and coffee.

As a key division of the OYSTAR Group, the Davenport, Iowa-based manufacturer focuses on technology automation as an important strategy for advancing machine performance, shortening customer lead times, and supporting growth. In 2001, management decided to upgrade its design environment from the Vellum 2D tools that it had used to a 3D design platform, according to Nate Smith, MAP Applications manager.

"Our machines are large—some have 8,000 components—and have become increasingly complex," Smith explains. "While 40 percent of our business involves standard products, the remaining 60 percent represents some level of customization. We needed a 3D design system to develop our packaging machines more precisely and realize improved efficiencies, so we could respond to customer demand for faster turnaround. Using 3D, we believed we could leverage automated design, simulation, and configuration tools to meet our goals."

OYSTAR decided to standardize on SolidWorks® design software. The company later added SolidWorks Simulation software and implemented the SolidWorks Enterprise PDM product data management system. Today, OYSTAR has more than 400 SolidWorks and SolidWorks Enterprise PDM licenses across the organization. The packaging technologies manufacturer chose SolidWorks because it is easy to use, facilitates large assembly design, and includes integrated visualization, simulation, and data management tools. OYSTAR also uses Gold Solution Partner DriveWorks® knowledge-based engineering (KBE) software to automate the configuration of its machines.

Challenge:

Speed up development of sophisticated filling and packaging machines to support growth while simultaneously boosting machine performance.

Solution:

Standardize on SolidWorks design, SolidWorks Simulation analysis, and SolidWorks Enterprise PDM (product data management) software to accelerate development.

Results:

- Reduced design cycles by 50 to 60 percent
- Accelerated production throughput tenfold in some cases
- Cut configurable design time from weeks to days
- Increased revenue

"We used SolidWorks on a pick-and-place assembly for our cup-filling machines, which package coffee" Dry Products Applications Manager Chung-Chee Tai recalls. "The interference-checking capabilities in SolidWorks enabled us to discover a major interference early in the design cycle. That project only took us three weeks, and we knew that we had the right design tool."

Compressing design cycles

Since implementing SolidWorks solutions, OYSTAR has experienced a 50 to 60 percent reduction in its design cycles. With the help of DriveWorks KBE software for configuring custom-built machines, OYSTAR has cut the time required to develop a custom design from weeks to days. The addition of a Mitsubishi laser-cutting machine for producing parts is also helping the packaging systems manufacturer streamline production.

"SolidWorks allows us to visualize how our machines will function in 3D," Tai says. "Coupled with providing better management of product data, SolidWorks has enabled us to cut our development time in half."

Filling 500 cans, 960 cups per minute

OYSTAR is not only developing its packaging systems more quickly, but is also boosting its performance. One of the company's machines fills 500 aerosol cans per minute. Another system fills 960 yogurt cups in just 60 seconds. Performance advances like these allowed OYSTAR to increase throughput tenfold for one of its customers in just four years.

"With SolidWorks Motion, we can perform mechanical linkage analysis to precisely position components so that they are really close to one another without colliding or generating unwanted forces," Smith notes. "This enables us to optimize and really fine-tune performance. With simulation tools we can run deflection, fatigue, and heat transfer analyses to make sure that certain components flex properly, take steps to reduce heat, and find ways to make our machines last longer at higher usage cycles."

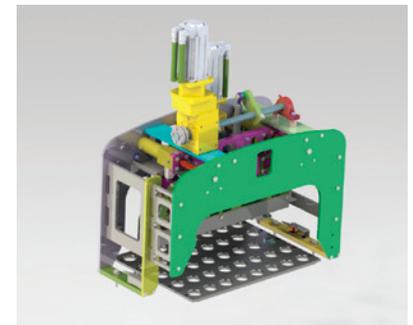
Effective data management supports growth

SolidWorks Enterprise PDM software is an important part of OYSTAR's productivity gains. As the packaging manufacturer has grown—annual revenue is increasing—so has the number and complexity of the machines that it produces. With an easy-to-use data management system in place, OYSTAR can maintain its faster pace while working more effectively with its sister companies.

"We made the decision to standardize on SolidWorks Enterprise PDM corporationwide two years ago," Smith points out. "One of the obvious benefits of the system is that we can now collaborate with other groups across OYSTAR. However, SolidWorks Enterprise PDM also helps us work more efficiently within our group. If we need a quick snapshot of a part that we might want to use on a new design, we can find the latest revision in a matter of seconds and then decide whether to use the part or scrap it in favor of a better design."

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Chung-Chee Tai
Dry Products Applications Manager



OYSTAR North America takes advantage of SolidWorks Motion tools to conduct mechanical linkage analyses, which enable the manufacturer to position components precisely without colliding or generating unwanted forces.

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