



Meyn speeds complex machine design with realistic 3D visualization

By John Krouse

FOCUS

MEYN

Poultry Processing Solutions

NobleTek

formerly known as TechniGraphics

Meyn is a global leader in poultry processing systems. It develops high-quality, high-performance equipment with tens of thousands of mechanical parts that must work in perfect synchronization to meet specific customer requirements. This long-time CATIA V5 user – with plans to move to V6 – conveys ideas, gains insight into product behavior and improves engineering productivity by leveraging the lifelike precision of its 3D designs.

No matter where you are in the world, chances are good that the chicken on your dinner table was processed using equipment from Meyn Food Processing Technology – one of the world's top manufacturers of automated poultry processing systems. The company is headquartered

in the Netherlands, with customers in over 90 countries and a list of references that includes the world's top 25 poultry processors.

Meyn's end-to-end systems consist of all phases of processing, from live bird handling and cut-up to weighing

and packaging. The largest of layouts cover 10,000 square-meter (100,000 square-feet) or more. Some machines have over 25,000 parts. Meyn's super-fast de-boner can process 3,000 legs per hour.

TRANSITIONING FROM 2D DRAWINGS TO 3D MODELS

Meyn has used CATIA V5 since 2004 to design its complex equipment. It is currently migrating to the V6 PLM platform, as well as transitioning from 2D drawings to designs based on 3D models. According to Steef Klein, Meyn's Chief Information Officer, high-end 3D functionality was one of the major reasons in selecting CATIA over less functional mid-range packages.

"The ability to visualize large assemblies is one of the greatest advantages of designing in 3D," said Klein. "Engineers can study intricate details and how parts fit together by rotating models and generating exploded views, cross-sections and transparencies. Working in 3D enables us to obtain a realistic representation of the product that was impossible with 2D."

In addition, mechanical simulations can be performed on the 3D models, analyzing motion paths, part fit, clearances and interferences. Plans are to leverage CATIA V6 to broaden such simulation to include dynamic analysis in determining accelerations, forces, displacements and deflection of components.

WORKING SMARTER AND FASTER IN THE VIRTUAL WORLD

Designing in 3D with CATIA provides insights into product behavior and allows engineers to spot

and fix problems, explore design alternatives and perform what-if studies – all before expensive prototypes are built.

Such capabilities increase engineering productivity in generating the huge number of variants required for Meyn's configure-to-order approach in which standard modules are sized and integrated for each customer's unique requirements. "Using CATIA enables our engineers to develop and manage product variants, check the performance and optimize design all very quickly," said Klein.

LIFELIKE VISUALIZATIONS HELP AVOID UNEXPECTED PROBLEMS

Douglas Noordhoorn, Manager of Meyn's IT Competence Center, pointed out that 3D visualization also improves the customer review process. "When we have fully transitioned to 3D design using the V6 PLM platform, we will be able to show customers a realistic 3D representation of their machine and how it will work before it is built. If design changes are required, we can simulate these before building a machine to avoid unexpected problems."

Plans are to expand the sharing of 3D models with suppliers and co-development partners in the development of highly specialized machines, especially those with advanced mechatronics.

"The 3D models are unambiguous in conveying precisely to these outside companies how their designs fit into the overall system," added Noordhoorn.

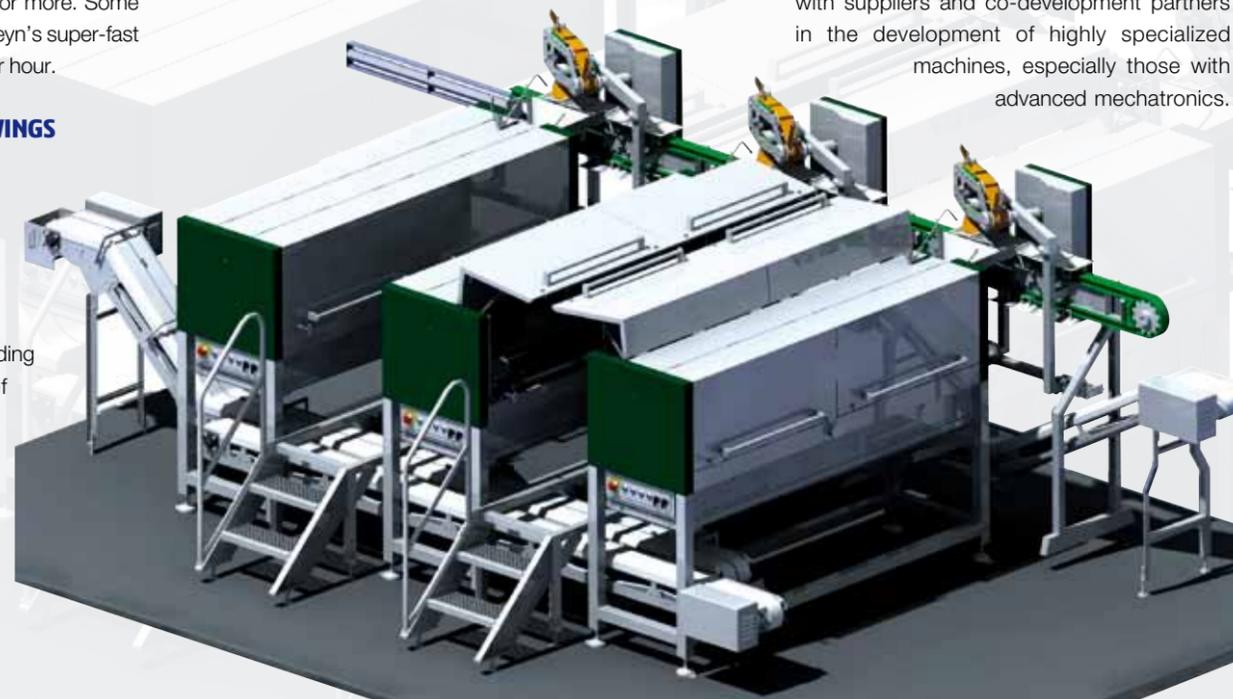
MANAGING MASSIVE AMOUNTS OF DESIGN DATA

To further leverage 3D design, Meyn is in the final stages of transitioning from 2D legacy systems and ENOVIA SmarTeam to the V6 PLM platform. Multi-site capabilities will allow Meyn to centralize its huge product database and software portfolio, enabling CATIA V6 and related development processes to be standardized across its worldwide facilities.

This approach will provide companywide access to features for extracting data from 3D models to automatically generate BOMs, create 3D CAM data, as well as manage configure-to-order product variants and large assemblies. Overall, the new platform will enable Meyn to address its biggest challenge: managing the massive number of change orders across a hybrid mix of 3D models with 2D legacy drawings and related product data.

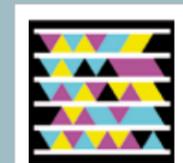
"Quality is one of the main cost drivers in our business," explained Noordhoorn. "The combination of CATIA V6 and ENOVIA V6 will certainly help Meyn continually improve its high product quality standards while operating more efficiently and expanding its offerings of innovative products – all decisive competitive advantages."

For more information: www.meyn.com



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