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Uhing introduces 3D CAD: new customer service for design or custom development

Design engineers are familiar with this issue: it is often tedious to integrate third-party components into a larger system. By taking the step from 2D to 3D, the Uhing KG makes work easier for the in-house CAD department and also for the customers' design engineers – and uses the new possibilities to promote own innovations and make customer-specific solutions affordable.

Uhing used a 2D CAD software above all capable forming variants for a long time. This system made it easy for design engineers to assemble modules and to reuse them in drawings for other products. The 3D functions of the software used so far were restricted to so-called wire models and proved to be more and more insufficient for complex constructions. To solve this issue, Uhing began looking for a CAD solution capable of perfectly showing even complex systems in 3D.

SolidWorks®, being used by more than 500 000 engineers, scientists, trainers, and students all over the world, was finally chosen. All Uhing drawings are now being migrated to SolidWorks® successively. Drawings for the following rolling ring products are presently available in 3D: KI3-15-6MCR, AKI3-15-6MCRW, RG3-30-2MCRF, ARG3-30-2MCRF, RG4-30-2MCRF and ARG4-30-2MCRF.

“It is part of our service to provide drawings to all customers worldwide so they can optimally integrate them into their own designs,” says Uhing's Marketing Head Wolfgang Weber. “3D has become the standard in design and development environments. Being an innovative enterprise, we think it is natural to use this standard for our own purposes and to also let our customers take advantage of it.”

The 3D data generated by SolidWorks® are perfectly compatible with the CAD systems of the customers of the Mielkendorf-based engineering enterprise. “There are many interfaces to other applications. This makes it easy for our design engineers to export 3D data in the required file format,“ says Uhing's Technical Head Burkhard W. Bohn, explaining the benefits of the new software. Some of these formats are Step AP203, Step AP 214 or IGES, but also Microsoft XAML, 3D XML, TIF or JPEG

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and various Adobe formats. Bohn points out another major advantage: “Our customers can rotate and scale the 3D drawing of our products to make them fit optimally to their respective drawing, both with regard to position and size.”

SolidWorks® allows Uhing design engineers to test components, for example with the finite element method and to visualise stress peaks in cross sections of any shape at a given load. This results in an optimised materials usage and reliability.

But for Uhing and its customers, the advantages of the new CAD solution are not restricted to the engineering sector. In cooperation with the Kiel University of Applied Sciences, the enterprise uses Rapid Prototyping to fast and easily produce prototypes for new products. The partners at the University of Applied Sciences feed the 3D CAD data to a 3D printer using a special powder and a laser sintering method to generate functioning components. For design engineers as well as existing and future Uhing customers, the resulting prototype is a concrete, tangible model of the finished product.

“The comparably low costs for Rapid Prototyping are positively reflected in the overall costs for product development,” says Wolfgang Weber. “Based on this procedure, we can cut down our reaction time for developing new components and products considerably and thus meet the demands for fast solutions voiced by more and more customers.”