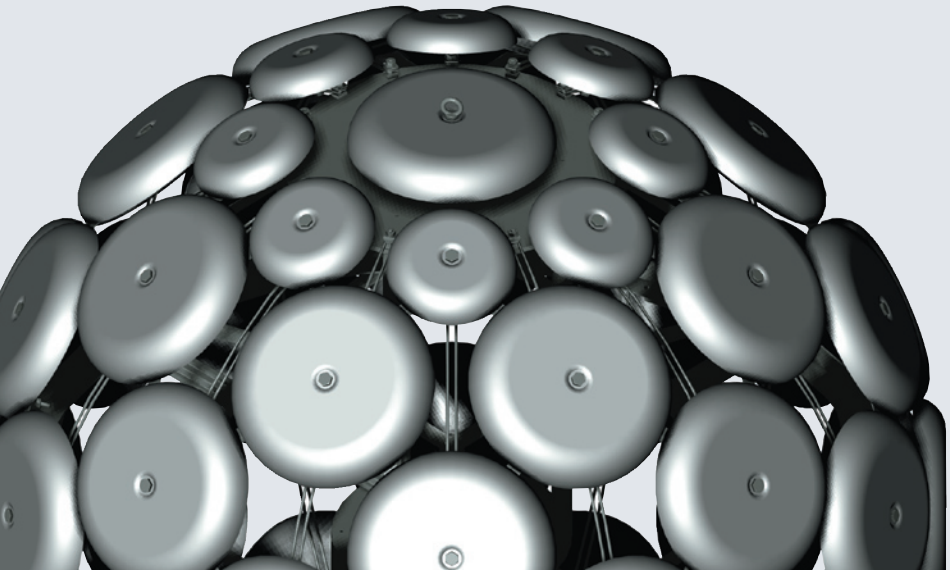
HIGHVOLT Prüftechnik Dresden GmbH

HIGHVOLT ASSEMBLES NEW PRODUCT LINE WITH SOLIDWORKS



The improved visualization of large assemblies in SolidWorks software has enabled HIGHVOLT engineers to compress design cycles and accelerate system development.

- Launched a new product line without incurring additional costs
- Reduced design cycles by 35 to 40 percent for the company's traditional products
- Met needs for faster and more effective management of large assemblies
- Enabled creation of detailed and complete engineering drawings

HIGHVOLT Prüftechnik Dresden GmbH designs, manufactures, and implements high-voltage testing systems, equipment, and components. A member of the Reinhausen Group, HIGHVOLT is a world leader in the highly specialized high-voltage and heavy electrical current engineering market. In the late 1990s, HIGHVOLT management recognized the need to improve productivity, reduce design costs, and develop new products in order to maintain the company's market leadership.

The 2D AutoCAD® design software that engineers had been using was not well-suited for the efficient handling of large assemblies that are common to HIGHVOLT systems and a standard requirement of the company's new arc-suppression coils product line.

"When we launched a new line of arc-suppression coils last year, we realized we needed better productivity in the design department," explains Ullrich Clemens, engineering manager for HIGHVOLT. "By moving to 3D, we believed we could improve productivity and shorten design cycles, producing more devices without requiring additional resources."

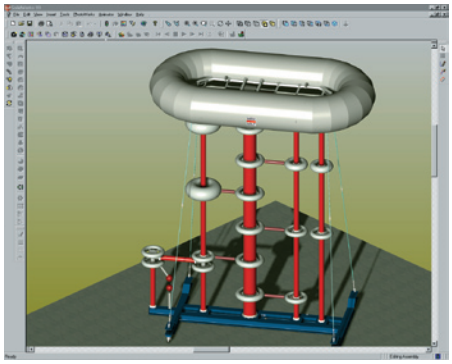
The productivity gains available from using 3D design software became even more apparent upon the development of specifications for the new arc-suppression coils. Clemens recalls, "We needed to create many new parts, assemblies, and drawings. Often, the parts are similar but with varying dimensions, which indicated the need for a parametric 3D design environment."

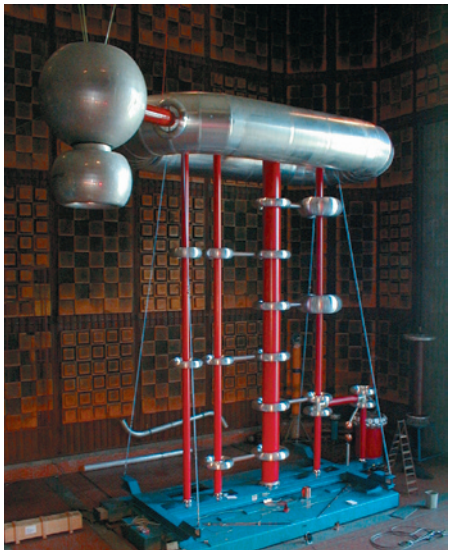
After a rigorous, multistep evaluation of a variety of 3D CAD packages, including SolidWorks®, Pro/ENGINEER®, Mechanical Desktop®, and Solid Edge®, HIGHVOLT decided to standardize on SolidWorks.

SolidWorks

“ Management and sales personnel have a better understanding of the product when they can see it in 3D.”

Ullrich Clemens, Engineering Manager





Approximately 12 meters high, the DC Test System GP 20/1500 is used for dielectric tests and breakdown tests of HV components.

Working with large assemblies and production-level drawings

HIGHVOLT selected SolidWorks software not only because it provides the fastest return on investment (ROI) but also because it excels at managing large assemblies and supports production-level engineering drawings. The average HIGHVOLT large assembly comprises about 3,500 components (3,100 parts and 400 subassemblies). For example, the company’s high-voltage resonant reactor, which was designed in SolidWorks, is actually one large assembly with more than 10,000 components and 60 subassemblies.

“The large-assembly capabilities in SolidWorks enable us to produce a model faster for discussion with customers,” Clemens explains. “It’s also easier to make design changes. In 2D, a design change required a change be made to every view, detail, and section. With SolidWorks, we make a single change to the model and all of the views, details, and sections update automatically.”

Using the assembly configuration feature within SolidWorks, which provides the ability to capture multiple variations of an assembly in a single associative database, HIGHVOLT has been able to design 50 different arc-suppression coils. These systems have similar designs but utilize parts with different dimensions. The company also relies on production-level engineering drawings to produce components, mount assemblies, and build systems.

Maximizing engineering resources

Using SolidWorks, HIGHVOLT is shortening design cycles and releasing more products without additional resources. Clemens says that since moving to 3D, the company completes projects in 60 to 65 percent of the time needed in a 2D design environment. Clemens attributes these time savings to the ease with which HIGHVOLT engineers were able to transition to SolidWorks and the positive impact of working in 3D, particularly the improvement in working with large assemblies.

Bringing products to market faster

By standardizing on SolidWorks, HIGHVOLT has shortened design cycles on its traditional systems by 35 to 40 percent, maximized engineering resources, and launched a new product line without incurring additional cost.

HIGHVOLT has realized a secondary benefit in the ability to create high-quality 3D images easily with PhotoWorks™ rendering software, which is integrated with SolidWorks. Photorealistic renderings allow HIGHVOLT to present a detailed concept before a single component is built. In addition, using SolidWorks eDrawings®, HIGHVOLT can present complex drawings in a manner that is easy to understand and interpret. The first email-enabled CAD drawing file that is ultracompact, eDrawings provides a number of innovative features, including single-click animations that bring CAD drawings to life.

“Management and sales personnel have a better understanding of the product when they can see it in 3D,” Clemens adds. “But the most important benefit is bringing products to market faster and designing more products in the same amount of time. That’s why we moved to SolidWorks.”

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