



This article appeared in the Jul • Aug • Sep 2012 issue of *SAPinsider* (<http://sapinsider.wispubs.com>) and appears here with permission from the publisher, WIS Publishing.



How Visualization Will Transform the Enterprise

An Insider's Look at the Value 3D Technology Brings to SAP Users...and Beyond

Exclusive Interview with Thomas Ohnemus, SAP AG

When SAP acquired 3D visualization software provider Right Hemisphere in 2011, some SAP customers and market watchers assumed that the acquisition focused solely on enhancing product lifecycle management (PLM). After all, SAP has SAP PLM, and Right Hemisphere technology leverages 3D models throughout the product life cycle. But SAP has much bigger plans for this technology, putting it at the center of its broader “visual enterprise” strategy.

In this interview, Thomas Ohnemus, Vice President of Solution Marketing for SAP PLM, SAP Manufacturing, and SAP Enterprise Asset Management (SAP EAM), shares inside details about how SAP is integrating visualization technologies into SAP's solution landscape, and how the benefits are realized across the value chain. Some of the areas where 3D shows up may surprise you.

Q: What were the major drivers behind SAP's acquisition of a solution provider of visualization technologies?

A: To answer this question, I have to step back and highlight some of the broader business trends our customers are facing. First, global companies are under immense pressure to produce products faster, bring them to market more quickly, and service those products in a timelier manner. This certainly impacts the product designers at a company, but it also impacts manufacturing, supply chain, service, and even sales and marketing.

Second, the amount of data available to help companies in this process is expanding at a tremendous rate. To put that in perspective, the amount of information we now generate in two days equals the amount of information generated from the dawn of humankind to 2003. And that's only going to increase as more “digital natives” — those who are growing up in a digital world — continue to generate digital information in their daily lives.

SAP's mission is to help our customers manage all of this information so that they can make smarter business decisions quickly. Usability and an intuitive user interface are key factors in that endeavor. We strive to make the increasing amount of data easier to handle. The Business Objects acquisition was part of that, and so was the Right Hemisphere acquisition. We want to enable the end user to manage data not only in a data set or in a flat chart, but in a 3D model so they can easily access, analyze, and act on the information. As a leading provider in the 3D visualization space and a longtime SAP partner, Right Hemisphere was a natural choice.

Q: How is SAP leveraging the visualization technology in its solution portfolio?

A: I want to be clear that, going forward, 3D visualization will be a key part of representing business data in the SAP user interface. Visualization technology is ideal for managing complex 3D models that are based on massive amounts of information. In the past, this information was mostly contained in a company's CAD systems. Now, we're integrating this capability with SAP Business Suite to create SAP Visual Enterprise solutions. The real value begins with the core information delivery strategy, which allows us to automatically link every component in a 3D model to the right data from SAP Business Suite.

We began this integration with SAP PLM, which was the most natural place to start. We have linked the 3D models created from a CAD system to the product records created in SAP PLM. With SAP Visual Enterprise solutions, users can now visualize a product in a 3D format, rotate it, fly through it, disassemble it virtually, and click on any component to see the SAP Business Suite data behind it, including quality information, inventory levels, supplier data, cost, and product specifications (see **Figure 1**).

But this is not just a PLM-focused acquisition. We strongly believe that 3D visualization can be



Thomas Ohnemus

Vice President of Solution Marketing
SAP PLM, SAP Manufacturing, SAP EAM
SAP AG

leveraged downstream by many other parts of the value chain — in manufacturing, procurement, service, and sales and marketing. In fact, our next release of SAP Visual Enterprise solutions will provide visualization capabilities for manufacturing.

The easiest way to understand the value of visualization in manufacturing is by providing an example. Imagine that a shop-floor worker at a manufacturing plant has to assemble the landing gear of an airplane. Typically, that worker would rely on text-based assembly instructions and 2D illustrations. By linking the landing gear's product records with 3D visualization technology through SAP Visual Enterprise solutions, that worker will have a series of images or a video with links to vital data to help him assemble the item step by step. The 3D visualization provides the latest information on

assembly instructions, including, for example, the necessary tools, the right torque, proper lubrication, and worker safety guidelines.

The value in that connected interface is multifaceted. First, it provides clarity in presenting the assembly process to the worker. Second, there is less language translation required, because the animations are visually detailed and require little to no text. And lastly, it can show the worker how the product being assembled relates to a larger product, if necessary, with fly-through and zooming capabilities.

Q: How do these developments help streamline communication and make companies more efficient?

A: All of this functionality will help companies leverage the wealth of data they have in their systems and streamline communication



FIGURE 1 ◀ SAP Visual Enterprise solutions integrate visual and business content, enabling users to view 3D images and associated data

SAP Visual Enterprise solutions with deep integration to SAP PLM are already available. The manufacturing integration will be released shortly, and the service and sales capabilities are under way as well.

among different departments. Instead of having to request the data on various components from another department, it's right there for the user to see in a shared, easily accessible image. Imagine, for example, that a service technician is fixing a machine onsite and has this functionality with him on a tablet device. If

he determines that he needs to reorder a certain part, he can pull up the specs, find out if it is in stock, or find a replacement part instantly. In addition, 3D videos show him the steps for disassembling and replacing the broken part. This functionality is in the works now and will improve service levels and significantly expedite the service process.

This efficiency extends to other areas that rely on data from SAP Business Suite, including sales and marketing. We are currently working on an integration with SAP Customer Relationship Management (SAP CRM) that allows sales and marketing departments to directly use engineering models to produce detailed, high-resolution, 3D renderings of products. For example, a marketing team can create a photo-realistic image of a custom-designed jet based on the various components and configurations selected by a potential customer (see **Figure 2**). This high-resolution rendering will help the customer better understand what a product may look like before they

buy it and before the supplier builds it. Using this approach, products are made visible to the market sooner and without the costly development of prototypes.

After the custom product is built, the SAP CRM integration will also benefit the service technician who is later called to maintain it. The technician will be able to pull up the customer's "as-built" configuration and order information, enabling him to be more efficient during the maintenance process.

Q: How significant a role will mobility play in helping users access this powerful combination of 3D visualization and business data?

A: Mobility is key to bringing this value to many of the examples we have discussed, including the manufacturing, service, and sales scenarios. Those functions by nature are mobile; using a desktop to provide visualization capabilities to a sales rep in the field, a service technician at a customer site, or a shop-floor worker assembling a product would not bring the same benefit as putting it in the palms of their hands. The combination of 3D capabilities and business data must be mobile, and it is a central part of our visual enterprise strategy.

Q: In the long term, are there more conceptual areas in which 3D visualization technology could benefit businesses, even beyond the realm of the current SAP customer?

A: From a purely technological perspective, this 3D visualization technology could certainly be useful in the medical and life sciences field. Imagine being able to view a 3D model of an injured knee and click on the various "components" in that knee to learn which medicines might be appropriate or to assess the predicted outcomes for a given surgical procedure. This is an area where this combination of data and 3D visualization could bring immediate value.

Overall, we think a broader trend will become a major priority for all software companies and users: helping people make better use of the information available to them in a much easier way. Combining visualization with business information is a major step toward helping companies do that, and the new releases we're working on will prove this in the near future. ■

FIGURE 2 ▼ Sales and marketing teams can create custom, photo-realistic renderings based on client specifications

