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Simplify the Complex

4 Examples of How 3D-Visualized Business Information Can Streamline Product Delivery

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There is no denying that business is getting more complex. We see it every day. The globalization of supply and manufacturing is not only making supply chains more complicated, but also increasing the language requirements in many organizations. Companies across all industries are enhancing their product customization and configuration to better suit customers, making the product design and collaboration processes more complex. And big data certainly magnifies the complexity of information management as companies seek simpler ways to interact with and leverage their data. These are just a few examples. So in this environment of accelerating business complexity, what can companies do to continue to grow while simplifying their business processes?

Visualization is one way companies can simplify some of their most complex business

processes. Through the integration of new 3D visualization technology, SAP is creating an environment in which employees across an organization — and across multiple organizations — can seamlessly interact with product data and 3D product imagery to gain a faster understanding of the most complicated business problems.

The time for the visual enterprise is now.

Visualizing Simpler Processes

The goal of SAP's visual enterprise strategy is to remove complexity from certain business processes to streamline product development and speed the go-to-market process for our customers. Let's take a tour of how the 3D visualization technology of SAP Visual Enterprise solutions can simplify business challenges. (See **Figure 1** for an overview of the applications in the SAP Visual Enterprise solution portfolio.)

Application	Main Functions or Uses	Key Benefits to Users
SAP Visual Enterprise Access	Enables users to browse and search assets across the enterprise; provides reporting and version control capabilities	Dashboards and search capabilities make locating and accessing the right assets very intuitive
SAP Visual Enterprise Author	Creates 3D animations, embedded documents, and high-definition imagery	Streamlines the creation of assets with a configurable UI, reduces photo and translation costs, and drives sales
SAP Visual Enterprise Generator	Translates 3D CAD files into a lightweight file format for use in downstream processes	Improves asset management and collaboration and streamlines the product development process
SAP Visual Enterprise Navigator	Enables product fly-through and special query capability; provides visual business intelligence	Improves productivity and collaboration, and helps users associate visual and business data
SAP Visual Enterprise Viewer	Allows users to view and interact with large assets (models and animations) in various formats	Improves collaboration, productivity, and time to market by increasing access to models and animations

FIGURE 1 ▲ The applications that make up the SAP Visual Enterprise solution portfolio

Challenge #1: Globalizing Product Documentation

As the extended enterprise continues to become more global, so too must product documentation. The increasing number of languages spoken across a global enterprise exponentially increases the amount of product documentation required in that organization. Every time a piece of documentation is translated, it introduces the chance for mistakes or misinterpretations.

To minimize complexity in this process, however, companies can incorporate 3D visual steps and diagrams within the documents to describe certain processes, instead of using text-based descriptions (see **Figure 2**). This reduces the amount of language-specific content that needs to be created and translated for employees or users all over the world, and increases the ease with which the process can be understood.

Challenge #2: Making Complex Designs Easier to Understand and Share

As product manufacturers strive to customize their products for specific customer groups, the design documents behind those products have become more intricate and more complex, moving from 2D CAD to 3D models and fully digital prototypes. And while that's a benefit for the design process, the massive amount of complicated associated files can impede internal and external collaboration. An Aberdeen Group report found that "to achieve best-in-class performance, companies must capture non-engineering feedback on designs as requirements for future designs."¹ This can be difficult when the design documents are staggeringly complicated.

With SAP Visual Enterprise solutions, large and complex documents can be viewed and shared in a lighter, more user-friendly format (see **Figure 3**). This capability improves collaboration between departments and dramatically speeds time to market. As the Aberdeen Group report puts it: "As a collaboration solution, visualization offers the capacity to capture downstream insights earlier in product development."

Challenge #3: Simplifying Big Data Analysis

Another area that is getting more complex is data management and analysis. As companies

produce and collect more data — and more types of data — it becomes increasingly difficult to be able to leverage all of that data efficiently.

One way to streamline the analysis of big data while increasing its value in the enterprise is by putting it into a visual context instead of viewing it in a static report. For example, imagine selecting areas of a visualized product and being able to access interactive charts of business data associated with that product with a single click (see **Figure 4** on the next page). Instead of toggling

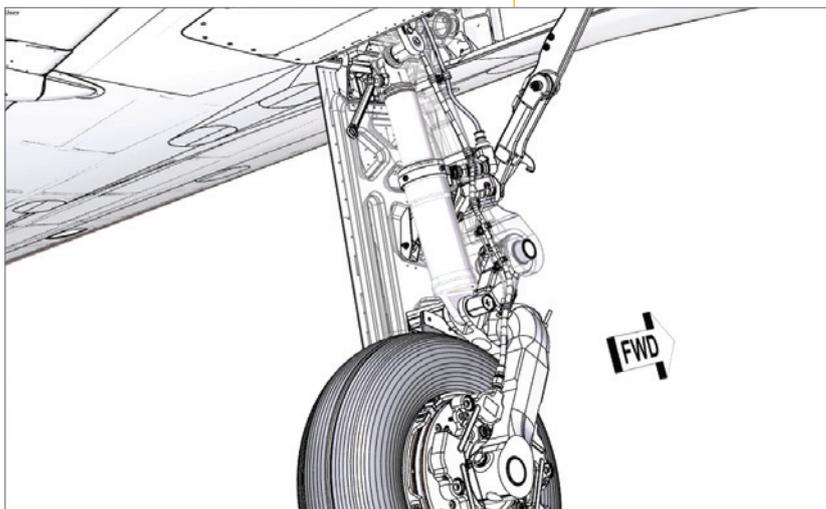


FIGURE 2 ▲ With SAP Visual Enterprise Author, users can access technical documentation visually, with 3D models and visual steps

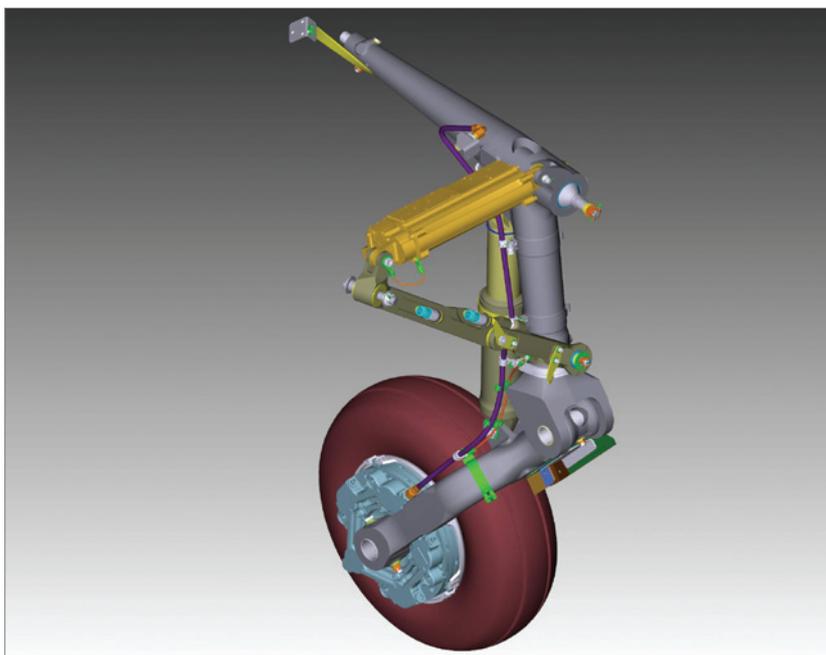


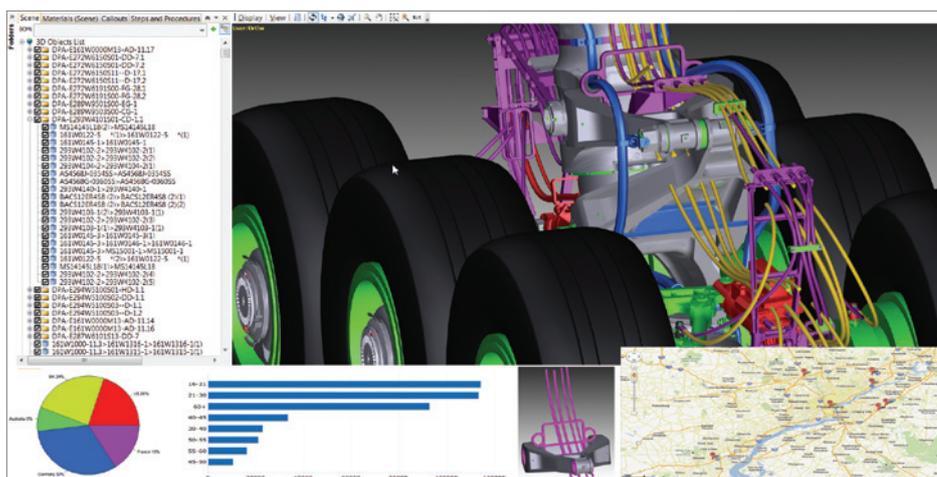
FIGURE 3 ▲ SAP Visual Enterprise Viewer presents CAD data as easily understandable product graphics for better collaboration

¹ Aberdeen Group, "Visualization and the Enterprise Value of 3D Product Models" (June 2010).

FIGURE 4 ▶ Leveraging visual analytics, users can access business data with a simple click



FIGURE 5 ▶ A user can fly through a 3D model and quickly identify where certain components are located



between a design image and a massive report from a business system, all of the associated data — regardless of the source — is available in the same system as the image.

Challenge #4: Streamlining Supply Chain Processes

Supply chains are becoming increasingly complex with suppliers located all over the world. When a specific supplier goes out of business or falls below a certain quality threshold, a manufacturer wants to know where within its product the supplier’s components are being used. In the visual enterprise, that manufacturer will be able to fly through the product in a 3D model and find all of the parts that a supplier provides for a given product (see **Figure 5**). This will allow the manufacturer to adjust its manufacturing line efficiently.

Or, envision a plant manager looking at a 3D model of his plant while accessing throughput data to see exactly where product bottlenecks are happening, with associated charts and business intelligence adding additional insight. The plant manager could also view which areas of the plant have the most accidents, or find out how certain loading procedures affect efficiency in different locations.

The Bottom Line

These are just a few examples that show SAP Visual Enterprise solutions at work, simplifying complex business challenges to speed product delivery. SAP is now building these solutions across the enterprise to fully integrate visualization, business data, and business processes; any process or any product that involves physical assets can be improved through this integration. ■