SAP 3D Visual Enterprise

CIMdata Commentary

Key takeaways:

- Making better-informed decisions produces better business results.
- Presenting product- and business-related information three-dimensionally makes digital content more accessible and understandable to users.

This is a visual world. Using 3D graphical images of products in development or of facilities being managed makes digital content more accessible and understandable to users, because most people find 3D visual representations easier to comprehend than tabular data, lengthy textual descriptions, or drawings. When joined with other business data associated with an item being viewed, stakeholders gain stronger insights relative to the everyday assessments and judgments they must make to deliver value. Such visual decision making can improve productivity and otherwise increase the corporate bottom line—i.e., making better-informed decisions produces better business results.

The SAP 3D Visual Enterprise solution affords SAP and non-SAP customers alike the ability to interact with 3D images of their products, business information, and facilities in order to accelerate decision making within and across the full range of business domains. Decisions are based on more perceptive views of relationships across the business, which facilitates optimized productivity and improves product quality.

Product developers and facility managers struggle continuously with large volumes of complex data. Locating needed data at any point in the business process let alone understanding its relationships with other product and business data can be a slow and daunting task. A non-graphical data interface forces product developers and facility managers to interact with long lists of text and numeric records in their data management solutions. At best this adds to schedule delays and inflated costs. At worst, missed insights into data relationships buried within large quantities of text and numbers can adversely affect the quality and cost of decision making. Applying 3D graphical data to more traditional text-and-numeric data interfaces helps users to better understand and manipulate the data. Graphical interfaces align with the broad trend of user interaction seen within the commercial marketplace (e.g., smart phones and mobile devices).

In today's challenging marketplace, products and facilities are growing in both complexity and in the volume of data needed to support that complexity. At any point within the flow of the product development process, the ability to visualize 3D images of components and assemblies that make up the product or facility helps users better understand and deal with the mass of data. They can use the images to better direct action or explore relationships between components.

The level of sophistication in today's products is a direct outcome of teams of designers across multiple disciplines contributing their expertise in mechanical, electrical, and software engineering. Often contributors to the design are dispersed geographically and reside in different supply chain companies. Progress on a product design requires close collaboration within and between the development teams. With the potential overload of data being exchanged, the inclusion of 3D and even 2D visual content can enhance that communication.

In engineering, stakeholders often face the challenge of exchanging and sharing design model data authored in different applications. The transfer of information across these multi-

CAD environments can easily impede collaboration. SAP 3D Visual Enterprise supports a broad range of 2D and 3D data formats for designs that may be included by diverse development teams, alleviating multi-CAD roadblocks. In addition, project and program managers can more readily engage non-CAD users in the development process through the use of the 3D Visual Enterprise Viewer.

In the manufacturing or construction realms, 3D product graphics can be used by senior product manufacturing engineers to instruct workers directly on the factory floor or through mobile devices at construction sites. They can also take advantage of 3D visual displays as they prepare their process plans, leveraging the rich graphics to explore complex product options and configurations. The impact of the visual representations can often help them recognize potential manufacturing problems or common manufacturing sequences that can be reused. Without those visual cues missed opportunities can potentially result in negative impacts on product quality, higher manufacturing costs, and lower profitability.

Benefits extend to sales and marketing organizations that are under tremendous pressure to produce revenue in a highly competitive worldwide marketplace. Leading-edge marketers use 3D graphic images of virtual products to help guide requirements discussions for new product sales. Capabilities provided by SAP 3D Visual Enterprise allow these non-CAD users to easily work with images and photorealistic displays of the product. The 3D visual presentation of virtual product data gives potential customers a more comfortable and better understanding of what the solution provider can deliver. The 3D images give companies an advantage that can help close the sale.

In addition, given the worldwide demographics of most companies, as new products and product configurations are delivered, massive training problems arise for field support staff. Many personnel speak different languages and the preparation of training manuals in each language can easily delay product distribution and adversely impact sales ramp-up. However, with 3D visual depictions of products, step-by-step installation and repair documentation can be authored with a greatly reduced, if not fully eliminated, need for text.

All industry segments are experiencing an increase in product sophistication and in the growth of supporting data behind the resultant complexity. Development tools with conventional user interfaces with lists of text, 2D drawings, and numbers fail to provide proper insight into the information needed to advance product development in a timely manner. Visual decision making is proving to be the mechanism to reenergize these tools.

The SAP 3D Visual Enterprise solution gives clients a best-in-class implementation for presenting 2D, 3D, and other business-related information in applications and documents across the full product lifecycle. Users are well served by the technical expertise and business acumen that SAP provides in SAP 3D Visual Enterprise.

About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international conferences. To learn more about CIMdata's services, visit our website at http://www.CIMdata.com or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.