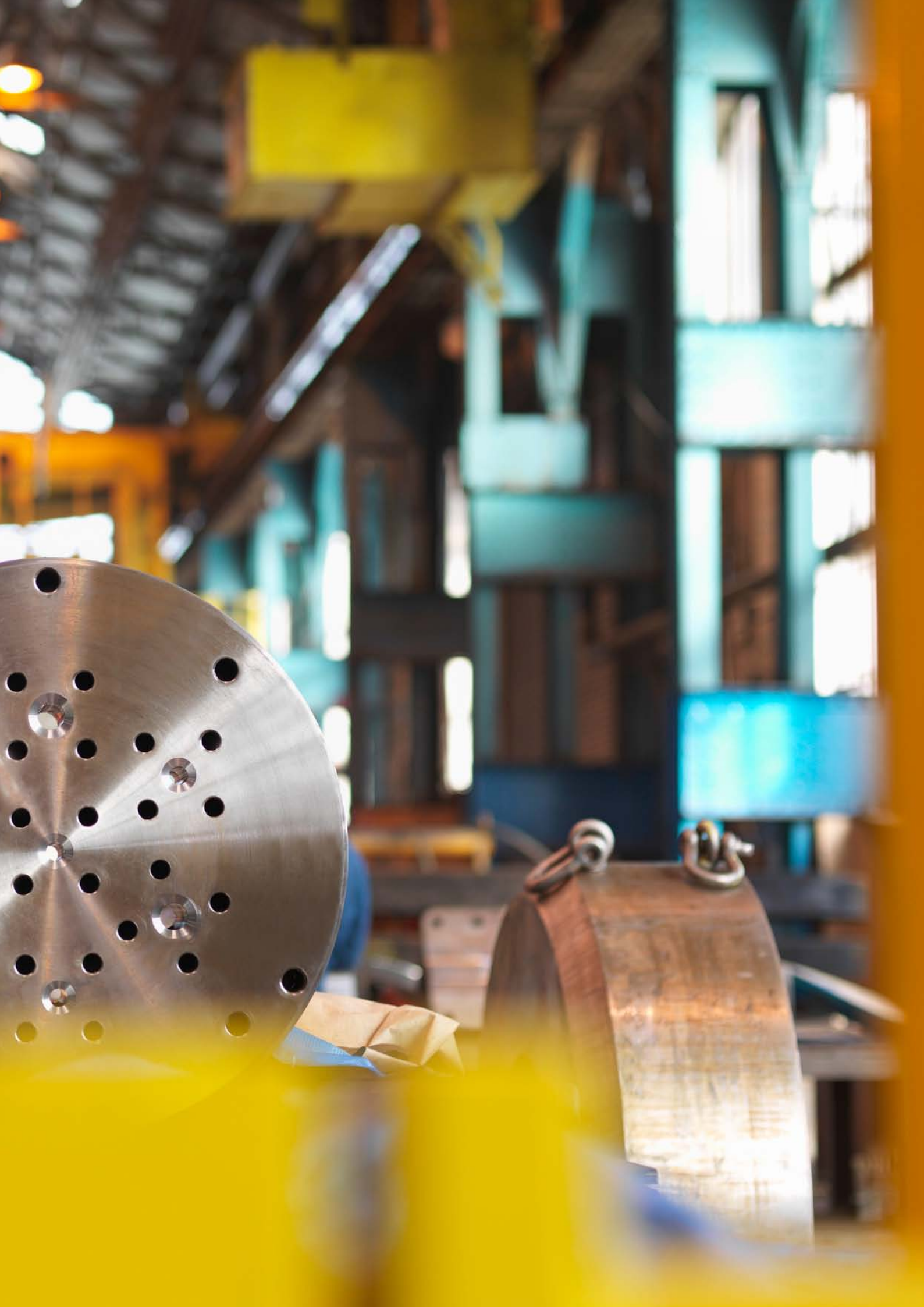
**Solution in Detail**
SAP Product Lifecycle Management

SAP Visual Enterprise Viewer

# Share Graphic and Interactive Content Transparently in the Visual Enterprise

The Best-Run Businesses Run SAP™



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# Quick Facts


**Summary**

These days you need to simplify communication for a global audience chronically pressed for time. Making content more visual is a highly effective way to do that. The SAP® Visual Enterprise Viewer application lets you reproduce 3-D drawings and interactive content in desktop documents for easier dissemination internally and externally. While fostering collaboration to keep your competitive edge sharp, you save effort and money by creating complex content once and reusing it as often as you like.


**Business Challenges**

- Help users understand, retain, and reuse interactive and 3-D product data
- Minimize manual or verbal handoffs among departments by emphasizing the visual components of information
- Simplify working with graphic and interactive content from diverse external sources by integrating it right on local laptops

**Key Features**

- **Sophisticated viewing** – Obtain visual content enriched with metadata that clearly improves work performance
- **Transmitting interactive content** – Embed interactive content and animations in training, repair, and installation materials
- **Implementing manipulation and collaboration tools** – Empower business users to browse parts lists, display models, change rendering modes, join discussions, redline text, and add comments

**Business Benefits**

- **Foster a truly visual enterprise** by encouraging the use of graphics and interactive content
- **Improve the quality of communication** by incorporating easily absorbed and retained visual elements that eliminate the need for intermediate discussion
- **Save time and money** by making high-impact content readily accessible and reusable
- **Promote collaboration** by simplifying and accelerating communication across departments

**For More Information**

To learn more, contact your SAP representative or visit us online at www.sap.com/solutions/business-suite/plm/visual-enterprise.

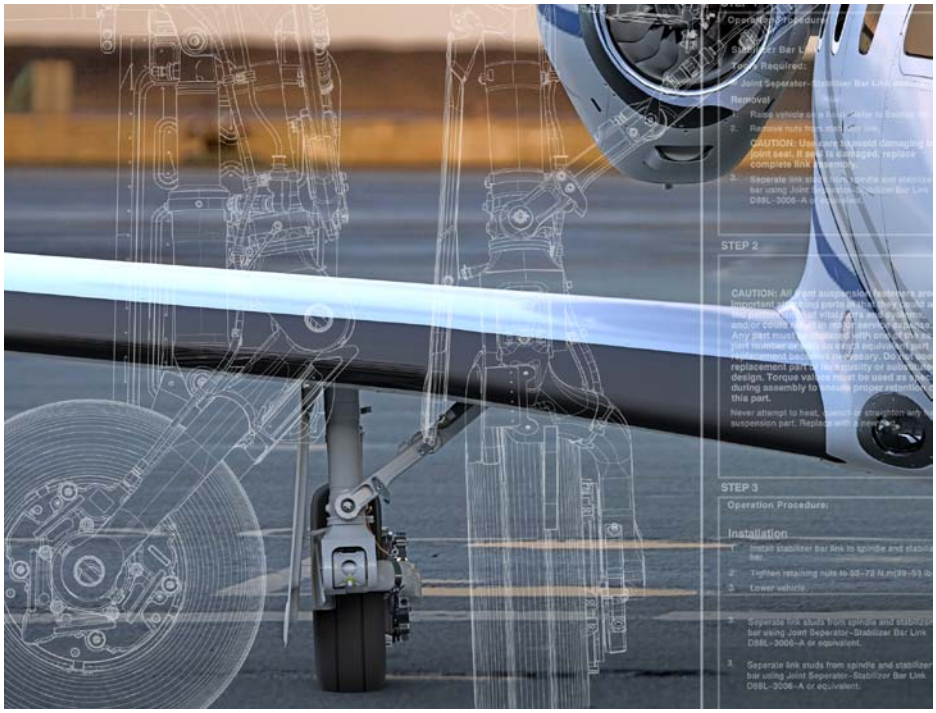
# View and Reuse 3-D Product Data from Every Desktop

The SAP® Visual Enterprise Viewer application lets you freely distribute sophisticated viewing, collaboration, publishing, and markup capabilities across your organization. All employees can access and leverage visually rich and highly interactive product data directly in such standard desktop formats as Microsoft PowerPoint, Microsoft Word, and Microsoft Excel. And they can handily republish to Adobe PDF, creating their own documents and presentations with the shared visual and interactive content.

## BOOST UNDERSTANDING, RETENTION, AND REUSE

In this age of information overload, a picture is worth well more than a thousand words. The addition of visual content clearly enhances communication, especially when you're sharing complex concepts and processes. Add to conceptual complexity the challenge of presenting information in multiple languages in a global enterprise, and you'll be even more grateful for visual content. With the SAP Visual Enterprise Viewer application, everyone who could benefit from viewing, publishing, and reusing 2-D and 3-D visual information to complete their own tasks can easily do so. Whether you're using a laptop in accounting or a smartphone in the field, being able to see and copy the details in a CAD drawing, like the one in Figure 1, is no longer a wish. It's a reality. And all it takes is a lean software application running right on a user's current machine – no new hardware required.

**Figure 1: A CAD Drawing Embedded in a Photo**

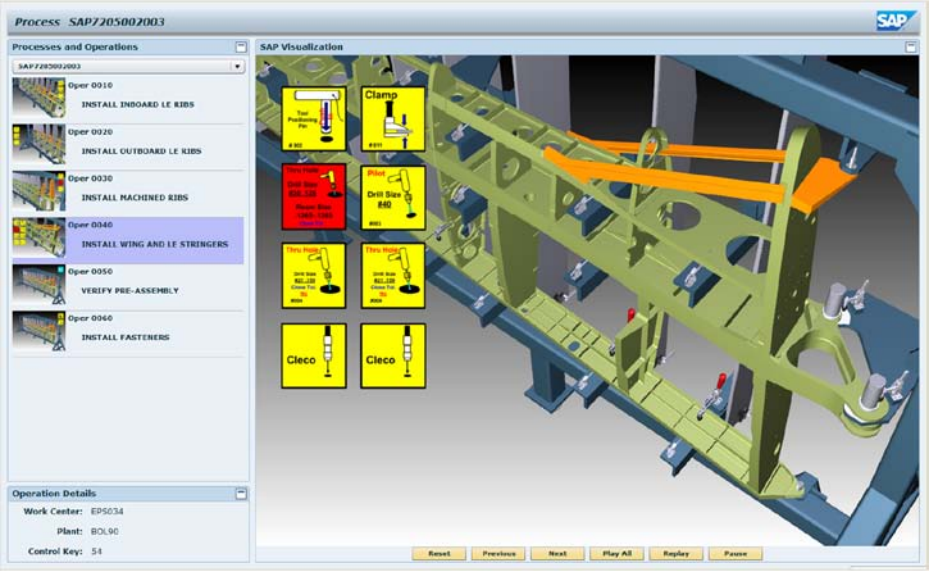


SAP solutions that support the visual enterprise are more than mere tools of convenience. They aim to change the way people use product design information internally and externally. The viewer software is designed to help nonengineering professionals fully utilize complex 2-D and 3-D product graphics without engineering systems knowledge or resources. The software integrates with industry-standard desktop applications and file formats like those in Microsoft Office to enable business users to embed product graphics into all forms of documentation. Now your employees and your audience can understand the content intuitively, which is a quick and reliable mode of intake and retention. And each recipient can reuse the visual and interactive content to help others understand with the same immediacy.

## FACILITATE COLLABORATION AMONG FUNCTIONAL GROUPS

A potential challenge in product lifecycle management is the handoff from engineering and manufacturing to marketing and sales. The bill of materials, for example, typically has to be translated in some fashion for customer-facing functions. Each group speaks its own "language," but in today's light-speed global economy, mutual understanding is essential to shrinking time to market. We've learned a lot in the last decade about the value and the means of collaboration. Let the SAP Visual Enterprise Viewer application help you leap to the next level by facilitating communication without words, which eliminates the need for any kind of translation. Imagine the time and cost savings you gain by embedding interactive repair instructions and graphics in manuals for service technicians, as illustrated in Figure 2. Or consider the revenue you could drive by sending 3-D Web applications in HTML format to a salesperson's smartphone.

**Figure 2: Interactive Repair Instructions for Service Technicians in the Field**



# Reduce Potential Complexity to Push-Button Simplicity

### IMPORT FROM A LONG LIST OF STANDARD FORMATS

Product information and other visual content can be produced, stored, and transferred in a number of proprietary formats these days. SAP Visual Enterprise Viewer enables the importing of over 45 industry-standard formats directly into business-user documents. The sample in Figure 3 is imported from Adobe Flex.

Supported formats include Google SketchUp and content with the filename extensions identified in the table below.

**Figure 3: Drawing Imported from Adobe Flex**

| Filename extension | Typical source of file |
|---|---|
| .3ds | Autodesk 3-D Studio |
| .3dm | Cadent by Cadent Inc. |
| .dxf | Autodesk AutoCAD |
| .fbx | Autodesk Kaydara |
| .lwo | NewTek Lightwave 3-D |
| .lws | NewTek Lightwave 3-D |
| .obj | Relocatable object code from a compiler |
| .rh | C++ program |
| .u3d | Ultimate 3-D Engine |
| .wrl | Virtual reality modeling language |

### CHECK OUT THE OTHER APPLICATIONS FOR THE VISUAL ENTERPRISE

The **SAP® Visual Enterprise Author** application helps you create visual content that integrates product data distributed among systems for computer-aided design, product lifecycle management, and enterprise resource planning. Create 3-D animations and render rich visual content into common desktop documents, file formats, and business applications for secure downstream use anytime, anywhere.

The **SAP Visual Enterprise Navigator** application helps you produce extremely large, high-performance, 3-D models in stand-alone mode or when integrated with other applications. It creates streaming files that support flexible queries involving spatial relationships, metadata, and visual properties simultaneously. You can quickly examine multiple configurations at once and explore massive models for entire airplanes, ships, or manufacturing plants.

The **SAP Visual Enterprise Generator** application serves on the front end as the automation engine of the visual enterprise, performing the heavy work of transforming massive engineering design files into ultralightweight visualizations of data. To support downstream processes, the application combines business data with high-resolution imagery, dynamically creating complex graphics, media files, or documents.

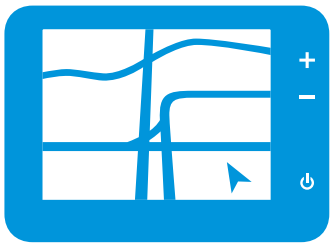
## MANIPULATE GRAPHICS IN AN AMAZING NUMBER OF WAYS

With SAP Visual Enterprise Viewer, you can display and interact with 2-D and 3-D graphics directly in the application, in Microsoft Office applications, or on the Web. You can, for example:

- Pull objects apart directly in a 3-D scene
- Display parts lists associated with a 3-D scene
- View multilevel bills of materials
- Display model views and portfolios
- Display part and assembly metadata
- Browse parts by means of a built-in metadata browser
- View cross-sections
- Change rendering modes
- Zoom, pan, and rotate
- Measure angles as well as arc centers, surfaces, edges, and other distances
- Add comments and redlining for effective thread-based collaboration
- Play back procedures and 3-D animations

From documents in Microsoft Office version 2007 and later, you can share published content outward as well. You can send e-mail messages with attached content from C++ program files and print any graphic directly on your desktop. And you can locally view 2-D and 3-D Web-based applications published by the SAP Visual Enterprise Author application or the SAP Visual Enterprise Generator application.

SAP Visual Enterprise Viewer enables you to import over 45 industry-standard formats for visual content directly into business-user documents.



# Look Ahead to a Transparent Enterprise

### CHECK THESE TECHNICAL REQUIREMENTS BEFORE YOU START

SAP Visual Enterprise Viewer supports the following operating systems in both 32-bit and 64-bit versions:

- Microsoft Windows XP service pack 3
- Microsoft Vista
- Microsoft Windows 7

For best results, we recommend the latest Windows operating system.

The application requires the following minimum hardware configuration on each user's machine:

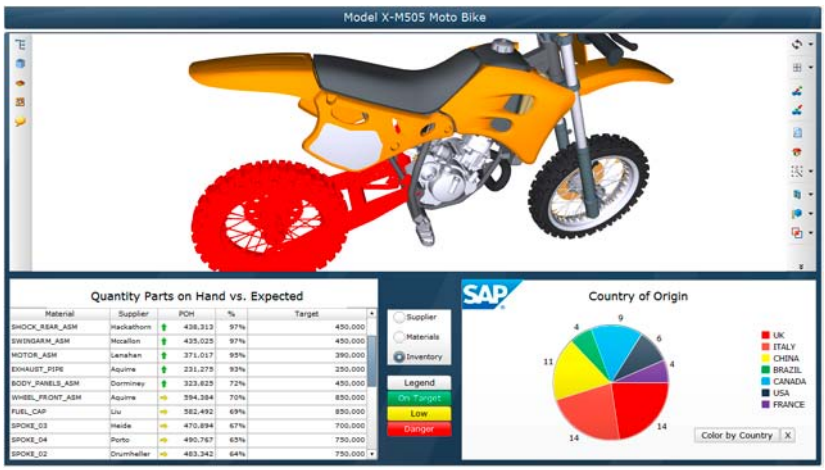
- Pentium 4 with a 1-gigahertz processor
- 512 MB of random access memory (RAM)
- Graphics card supporting 24-bit color and using the latest drivers

You will want additional RAM for large models and intricate textures. For best results, we recommend a Pentium 4 with a 2-gigahertz processor, 3 gigabytes of RAM, and a graphics card with the latest drivers, 128 megabytes of RAM, and support for Microsoft DirectX or OpenGL standards.

Additional requirements are summarized in this table.

| Task you want to perform | Software or hardware requirements |
|---|---|
| High dynamic range rendering | Graphics card for OpenGL 2 and Shader Model 3 |
| HTML viewing | Microsoft Internet Explorer 6 or later |
| Publishing to Microsoft Office documents | Microsoft Office for Windows 2002 or later |
| Publishing to Adobe PDF format | Adobe Acrobat 7.0.9 or later |
| Visual compare | Graphics card for Microsoft DirectX 9 and Shader Model 2 |

**Figure 4: Parts Display with Inventory and Sourcing Information**




### NURTURE EVOLVING LANGUAGE INDEPENDENCE

The SAP Visual Enterprise Viewer application helps you interact with 3-D product imagery in radically new ways that are far simpler than manually copying or scanning. You create your complex content only once and share it everywhere with fewer and fewer hardware and software limitations. As the globe shrinks and you expand across national borders, you come closer to language independence.

The big data that companies everywhere are beginning to encounter is easier to analyze and understand when enhanced by visual context. Imagine selecting areas of a product and seeing interactive charts of associated business data pop up immediately. Or exploring graphically which areas of your manufacturing line are most at risk for accidents, or which supply lines are vulnerable to flooding, or which loading procedures at a plant can be streamlined. Or finding all the parts in a product component and viewing their availability and country of origin, as shown in Figure 4. And you can achieve all this with far fewer words than even a year ago. The possibilities are endless.

### FIND OUT MORE

To learn more about software for the visual enterprise, call your SAP representative or visit us on the Web at www.sap.com/solutions/business-suite/plm/visual-enterprise.

www.sap.com/contactsap

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