

CAD software

FARO Technologies' CAM2 Measure X1 software allows users to load and render large files quicker than other CAD programs, it claims. The program's CAD engine



allows multiple measurement files to reference a single CAD file rather than requiring each file to contain the part data. Because the software efficiently loads and manages the assemblies, the gains in processing time are not limited by the computer's processor speed, according to the company. Other features include the ability to handle entire CAD files rather than separate sections, improved versatility from an advanced CAD translator, on-screen labels that offer action-ready data, feature constraints that set parameters for precise arc measurement, and custom tool macros that improve efficiency.

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CAD/CAM design

Design Methodologies for CAD/CAM from **Delphi** consist of horizontal modeling (HM) and digital process design (DPD) methods that require no additional software and improve global collaboration, product launches, product life-cycle management, and decrease design



cycle times, according to the company. HM allows CAD/CAM designs to be dissected and changed independently without altering the entire design because the sequences are placed alongside each other rather than on top. Benefits include elimination of CAD data re-creation throughout a project and shorter design-to-manufacturer cycle times. DPD links product models via a master model to process sheets and individual 3-D in-process models, allowing reordering, engineering change orders, and knowledge-based engineering changes to be instantly updated, regardless of location.

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Data translation

The DWGgateway data translation tool from **SolidWorks** enables AutoCAD software users to open and edit any .dwg file. Potential benefits include elimination of the need to upgrade AutoCAD software to work on newer versions of files



and the associated time and costs savings. The DWGgateway component installs itself into AutoCAD software in one or two minutes and enables versions back to AutoCAD R14 to read, edit, and save AutoCAD (.dwg and .dxf) 2-D files created by more recent versions of the software, including AutoCAD 2005. The component also allows those AutoCAD versions to produce files in older formats back to AutoCAD release 2.5, avoiding potential incompatible version error messages.

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Integrated solution

ANSYS has partnered with **RoboBAT** to integrate structural engineering solutions that streamline customer's product-develop-

ment processes. Integrating RoboBAT's Engineering System Open Platform software with ANSYS' Workbench expands users' access to structural engineering applications and increases productivity, according to the company. Users have access to more than 100 engineering applications and have the ability to write their own modules as stand-alone or integrated with Workbench models. Benefits of the integrated environments include lack of wasted data translation time from file formats, organized project data from the file management system, easy structure assessment, improved project management, and a control location for users to conduct calculations and analyses in the pre-design phase as well as access databases of reference materials and code-check various structures against international standards.

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Development environment

AdaCore's integrated development environment with GPS (GNAT Programming Studio) 3.0 is designed to streamline Ada and multi-language software development from the initial coding stage through testing, debugging, system integration, and maintenance. Features of GPS 3.0 include multi-language support, automatic documentation



generation, support for remote debugging, an outline view, improved project editing, and support on a range of host environments for native and cross-development platforms including **UNIX**, Windows,

and GNU/Linux. A unified visual interface serves as a control panel to access tools from AdaCore's GNAT Pro development environment as well as from third parties to improve development and maintenance, making the tool suitable for complex systems requiring tool chain integration, ease of use, customization, and code navigation tools.

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Pneumatic selection

Version 3.0 of Model Selection Software from **SMC** can be run directly from the company's Website and allows users to input pneumatic system requirements and view an output of the system characteristics as well as the recommended product series. The software also considers initial and operating costs and selects equipment that minimizes the total cost of the pneumatic system. For complex models, version 3.0 allows users to simulate circuits with multiple cylinders and valves. The software also provides dynamic system characteristics such as displacement, velocity, acceleration, and system pressure.

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CFD software

The latest version of **Exa** PowerFLOW CFD software includes the ability to simulate rotating geometry, fan model physics, and a complete set of case control applications. The PowerVIZ visualiza-

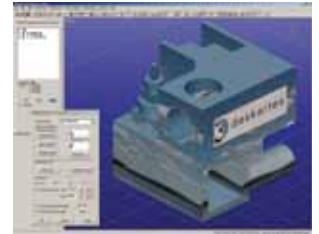
tion package includes the ability to simultaneously view multiple projects for comparisons and analyses as well as the ability to input user-defined equations. Other 3.5 product features include an improved fan model with the ability to choose between models and specify inline fan model operation, PowerPREP geometry preparation software with an interactive interface for surface mesh adjustment, PowerCASE case preparation software that handles large cases, and the PowerEXPORT graphical user interface that simplifies the exportation of simulation data into a finite-element mesh.

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3-D printing tool

DeskArtes' Spectral Expert handles STL (structured translator language) and VRML (virtual reality modeling language) editing for 3-D color printing and animation. Different CAD packages offer VRML file output to show textures and colors on 3-D models. Functions of the Spectral Expert editing tool include output for STL and VRML, model texture and color editing, automatic model verification and repair, manual model repair and edit, model splitting and connecting, and platform definition and positioning. The tool will view, transform, and measure for 3-D models and will convert VRML 1.0 geometry to VRML 2.0 geometry.

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