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News for the CADKEY/DataCAD Dealer
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Making it in the '90's

CADKEY, INC. To Participate In Multi-faceted Program At NDES '90

CADKEY, INC. and third-party companies, in association with the American Society of Mechanical Engineers, will participate in four panel-discussion seminars during the National Design Engineering Show '90 at McCormick Place, Chicago, Illinois, February 26 to March 1, 1990. These conferences are in addition to CADKEY's **CAD/CAM SOLUTIONS FAIR**, Booth #218, at NDES '90.

NDES Session 35, **CAD: Basics of Operations and Applications**, on Wednesday, February 28, will feature two seminars: **From Decision to Drawing Board** (9:00 to 9:55 a.m.) and **CAD Applications During the Design-Engineering Process** (10:00 to 11:00 a.m.).

NDES Session 36, **Integrating CAD into Corporate Operations**, also on Wednesday, February 28, will also feature two seminars: **Design to Manufacturing: the Translation** (2:00 to 3:20 p.m.) and **The Corporate Decision: Converting to CAD** (3:30 to 5:00 p.m.).

All of these conferences will give attendees opportunities to address their questions directly to industry leaders.

Session 35A, **From Decision to Drawing Board**, will present a discussion about the use of different operating systems in the initial stages of design and prototyping. Steve Malisewski, Director of Applications and Marketing at COMPAQ CORPORATION will lead the discussion of **DOS in Computer-aided Design**. Silicon Graphics, Inc. will present **UNIX in Computer-aided Design**. Livingston Davies, Co-founder and President of CADKEY, INC. will discuss **CAD versus Conventional Design**.

Session 35B, **CAD Applications During the Design-Engineering Process**, will explore the uses and advantages of CAD and CAE in pre-production. Peter Smith, CADKEY's Co-founder and Chairman of the Board, will address **Low-end Modeling Techniques**. Doug Curry, Director of Sales and Marketing at MODERN COMPUTER-AIDED ENGINEERING, INC., will discuss **Model Analysis**. Prototyping will be addressed from two perspectives. Pixar, Inc. will present rendering as **Soft-Prototyping**. And, Tom Mueller, Executive Vice President of PROTOTYPE EXPRESS, INC., will talk about **Stereolithography**.

Session 36A, **Design to Manufacturing: the Translation**, will feature Mark Craig, President of APPLIED COMPUTER SOLUTIONS, INC., on the subject of **Pre-Production Model Analysis**. Gary Magoon, Director of Manufacturing Systems at CADKEY, INC., will discuss **Translators and IGES**. OLMSTEAD ENGINEERING will examine the **CAM Advantage**. Anne Bernhardt, President of PLASTICS & COMPUTER, INC. will discuss **Injection Molding**.

Peter Smith of CADKEY INC. will open Session 36B, **The Corporate Decision: Converting to CAD**, with a discussion of **Two Dimensionality versus Three Dimensionality**. Joel Orr, President of ORR AND ASSOCIATES and immediate past President of the National Computer Graphics Association, will discuss **Selecting the Right CAD Program. Scanning as an Initiation** will also be addressed. Bringing the conference to a down-to-earth conclusion, Vector Aeromotive Corporation will illustrate **Theory in Practice**.

For admission tickets to the conferences and seminars at NDES '90, contact Customer Service, Cahners Exposition Group, P.O. Box 3833, 999 Summer Street, Stamford, Connecticut 06905. Telephone: (800) 255-7798 or (203) 964-0000.

For discounted admission tickets to the exhibit areas of NDES '90, contact Danielle Cote, CADKEY's Events Manager. Telephone (800) 654-3413 or (203) 647-0220. Admission to the exhibit areas does not include admission to NDES '90's conferences and seminars.

Stereolithography And CADKEY(R)

The March/April issue of **3-D WORLD** includes an article by Tom Mueller, Executive Vice President of PROTOTYPE EXPRESS, INC., describing stereolithography and some of its applications with CADKEY 3™ and CADKEY SOLIDS™. PFB Concepts of Arlington Heights, Illinois, will feature a more in-depth presentation of stereolithography by Tom Mueller in the NDES issue of its newsletter, **CADKEY CHICAGO OUTPUT**. Contact PFB Concepts, Inc., also known as CADKEY CHICAGO, for a copy of this newsletter. PFB Concepts, Inc., 2525 East Oakton, Arlington Heights, IL 60005. Telephone: (708) 640-1853. FAX: (708) 640 1868.

TRAINING SCHEDULE AT CADKEY, INC.

We have Training dates at CADKEY's World Headquarters in Manchester, Connecticut, scheduled through April 1990. Please call Lisa Varvelli in the Product Support Department to register, (203) 647-0220.

Course	Feb.	Mar.	Apr.
Introduction to CADKEY 3	12-14	12-14	2-4
Advanced Geometric Modeling	15-16	15-16	5-6
Introduction to CADL		5-7	
CADKEY SOLIDS	19-20		19-20
CADKEY Dealer Training	5-7	19-21	
DataCAD Dealer Training	26-28	26-28	

SALES FORUM

A CAD-savvy Architect Switches To DataCAD(R)

When Ron Torborg, Vice President of Schenkel & Shultz, Architects/Engineers, of Fort Wayne, Indiana, first came upon DataCAD(R) in September 1988, he had no intention of changing his company's CAD system. As head of the CAD Department and a member of the Board of Directors, he knew that the company's CAD system had performed satisfactorily. Moreover, Ron believes very firmly that a company's use of a CAD system will only be as successful as the company's commitment to it. Ron Torborg does not change commitments lightly.

However, after buying a single DataCAD system as an experiment, Ron became intrigued with DataCAD's functionality and ease of use. A little more than a year later, on a single day in November 1989, Schenkel & Shultz switched all of the company's production work from their minicomputer-based CAD system to DataCAD...in spite of the fact that they still had three more years to pay on the lease of their Computervision CADDS4X™ system!

Schenkel & Shultz is an established architectural and engineering firm, with a branch office in Orlando, Florida, that provides its customers with complete services in architecture, space planning, interior design, construction-related mechanical engineering, electrical engineering, structural, civil and fire-protection engineering.

For six years, Schenkel & Shultz had been using a leased minicomputer-based Computervision 200X™ system, and later Computervision CADDstations™ running CADDS4X™ software, ultimately with six stations in constant daily use. Although there were normal frustrations with the system, work was getting done on time. The company used the CAD system for 90% of its production work. The system had allowed Schenkel & Shultz to replace

drafting boards and increase its earnings. And, the company had invested considerable time and talent in creating its own, customized, architectural software modules in house to make the annotation of working drawings easier and faster. Besides, Ron had seen other PC-based, A/E/C CAD systems, and had found them seriously lacking. Furthermore, Schenkel & Shultz had recently initiated new, five-year lease agreements for the latest Computervision equipment.

Time Saved: One Reason To Consider A New System

How did Ron Torborg justify, to himself and to his partners at Schenkel and Shultz, unplugging their original CAD system, storing it in a closet, and replacing it with DataCAD ... especially since the company would still have to pay a $5,000 monthly fee on its lease for the next three years?

In learning to use DataCAD, Ron got the feeling that DataCAD's functionality and ease of use increased his productivity dramatically. He bought one more DataCAD system and trained one other designer at Schenkel & Shultz to use DataCAD.

To verify whether his perception that DataCAD appeared to make him more productive was really true, Ron did an informal time study comparing routine tasks that occur daily in working with a CAD system. Ron's time study was not a formal benchmark between the CADDS4X system and DataCAD. Nevertheless, he tracked the following routine tasks:

-- Booting the system each morning.
-- Accessing and filing drawings.
-- Making sub-drawings and symbols.
-- System crashes.
-- System downtime for maintenance.
-- Updating base plans for engineering drawings.
-- Zooming on drawings.
-- Inserting details.

Ron then calculated the time that would be saved each day by the operators of the six CAD stations in use each day. The study showed that DataCAD would save an average of 16.95 hours of work time per day in comparison with CADDS4X.

Although this statistic began to lead Ron in the direction of thinking about a new CAD system, by itself it was not enough to justify such a move. He had to consider the functionalities and reliability of both CAD systems, and two particularly critical elements in use daily: Schenkel & Shultz's customized modules for annotating working drawings, and plotting at least 40 drawings through the night, in a batch mode, without anyone attending the system. "These two things are critical to us," Ron said.

Functionality And Speed: Two More Reasons To Consider A New System

"DataCAD proved to have functionalities equal to, and in some instances superior to those of the CADDS4X system," Ron continued. "DataCAD was also faster in performing these functions." With respect to reliability, DataCAD proved to be significantly more reliable. "The single occurrence of a malfunction on the DataCAD system was solved with a single telephone call for technical support," Ron added.

Ron discovered that DataCAD's DCAL(R) (DataCAD Applications Language) allowed Schenkel & Shultz easily to rewrite and improve their in-house-developed software modules to facilitate the annotation of working drawings. "DCAL is a truly functional and flexible programming language," Ron said. "We needed a *real* programming language for our annotation modules."

Meeting Specific Needs: Another Reason To Consider A New System

The one area in which CADDS4X appeared to retain an edge over DataCAD was plotting drawings. DataCAD appeared to be slower and could not plot multiple plots without previously having created individual plot files. Schenkel & Shultz uses an electrostatic plotter. To take advantage of the plotter's speed, Schenkel & Shultz needed

to be able to plot directly from drawing files, through the night, without having already created plot files, and without anyone attending the system. This operation was critically important.

A telephone conversation with Michael Piekarz, DataCAD Third-party Products Manager, led to the recommendation that Ron try SuperKey™ with DataCAD to plot in batch mode overnight. SuperKey, a product of Borland International of Scotts Valley, California, is a RAM-resident utility that allows a user to create a single-keystroke macro of up to 64K of commands.

Ron tried SuperKey, and it worked. Using DCAL, he wrote a text file of the keystrokes required to plot each drawing according to Schenkel & Shultz's standards, and listed the names of all the drawings to be plotted that night. The DCAL text file becomes the SuperKey macro. After exiting DataCAD, a DOS batch-file command activates SuperKey and starts the SuperKey macro. Once the plotting had started, he went home. When he came to work the next morning, all of the plots had been successfully completed.

This convinced Ron that Schenkel & Shultz needed to replace their CADDS4X system with DataCAD. Now he had to figure out how to justify the switch financially.

Money Saved: Still Another Reason To Consider A New System

Returning the leased Computervision equipment was out of the question. Schenkel & Shultz would have to complete the monthly, $5,000 lease payments. However, by cancelling the $4,000-per-month maintenance contract on the leased equipment, Ron found the money to pay for six 80386-compatible personal computers and six copies of DataCAD. By paying for the new DataCAD systems with cash, depreciating the investment over five years, and taking into account that DataCAD's speed would allow the firm to get measurably more work done, Ron concluded that the DataCAD systems would cost Schenkel & Shultz $1,000 less on a monthly basis than the Computervision system's maintenance charges. And, this would be true even if the designers' level of productivity remained the same. Moreover, the actual increase in production due to DataCAD's speed would offset the monthly lease payments for the system that would no longer be in use.

One Final Need

Now there remained only one problem: how would they be able to access the hundreds of drawings that existed already on the CADDS4X system? A software translator called PCXI(R) (pronounced: "pixie"), manufactured by KRB, INC. of Winter Park, Florida, converts data from CADDS4X's format into DXF format usable by DataCAD. So, they could keep their original system's file server in service and retire the rest of the equipment.

Results

In November 1989, Schenkel & Shultz made the switch. They decided to purchase eight DataCAD systems. Their DataCAD dealer, Entre Computer Center of Fort Wayne, configured and tested all the new systems ahead of time, and installed them all on a single Thursday afternoon. The dealer began the installation at 4:00 p.m. By 4:20 p.m. all eight systems were up and running. At 4:30 p.m., the designers began training on DataCAD. By the following Tuesday, everyone was doing production work on DataCAD. One week later, all of the designers were working as fast or faster than they had ever worked on the original CAD system.

Editor's Note: The DCAL implementation of Schenkel & Shultz's in-house-developed software to make the annotation of working drawings easier and faster, has now become a third-party product called **KEYNOTE™, DataCAD MACROS for the Annotation of Working Drawings**. For additional information about KEYNOTE, contact Schenkel & Shultz, Inc., Architects/Engineers, 3702 Rupp Drive, Fort Wayne, IN 46815. Telephone: (219) 484-9080. FAX: (219) 483-9313.

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