Productivity measures underestimate benefits of CAD/CAM systems

Companies continue to achieve productivity improvements through the introduction of computer-aided design and manufacturing systems into their design and engineering operations. But the overall benefits are generally more than meets the eye, an Arthur D. Little, Inc., survey shows.

For one thing, present CAD/CAM system productivity measurements are limited to design-output-per-manhour ratios between CAD/CAM and manual methods, said Daniel J. Borda, who prepared the survey. "One must also remember that the ultimate purpose of these systems is not to produce more engineering output in less time, but to produce a higher quality, more cost-effective end product."

A technically detailed, 100-page report on the survey covers the effect of CAD/CAM systems on organizations and productivity, methods for calculating engineering productivity, productivity ratios for major applications, integration of CAD/CAM in a computer-integrated manufacturing environment, and typical chargeback fees and methods for CAD/CAM services. In addition, the report analyzes some of the technical and management issues that have developed since the firm conducted its first CAD survey two years ago.

According to Borda, the report is based on survey responses of nearly 300 business organizations in the United States and abroad. Titled "CAD and Productivity," it sells for $595 and is available through the Arthur D. Little CIM Group, 25 Acorn Park, Cambridge, MA 02140.

AEC CAD market to exceed $1 billion by 1987

The architecture, engineering, and construction market, the fastest-growing area of CAD use, will reach $1.1 billion by 1987, according to an IDC report based on a survey of users and vendors.

Acceptance of low-cost (under $100,000) systems is an important factor in market growth. Small design firms (80 percent of design firms have less than 10 employees) now regard CAD as a necessary tool. In addition, industrial and government organizations expect to purchase low-cost systems for specific applications, such as space planning and facilities management. By 1987, shipments of low-cost systems will reach $400 million.

Use of CAD in AEC applications differs from use in other major applications in terms of user types, equipment configuration, and system utilization. Over three quarters of surveyed sites reported that most of their CAD users were not dedicated CAD operators. Only 16 percent had organizations specifically dedicated to CAD. As a result, average daily utilization of CAD stations in AEC is only 74 percent of the rate for mechanical design applications.

AEC applications are more likely to employ monochromatic displays and pen plotters than systems for other CAD applications, the survey found. AEC users show interest in using color displays for interference checking and electrostatic printer/plotters for high-speed, high-volume drawing production.

The 74-page report, titled "Use of CAD in the AEC Market," is priced at $1000. For further information contact Deborah Kelly or Neil Kleinman at IDC's Pacific Technology Center, 1448 15th St., Santa Monica, CA 90404; (213) 458-1681.

Siggraph calls for award nominations

Siggraph, the Association for Computing Machinery's Special Interest Group on Computer Graphics, is accepting nominations for its Computer Graphics Achievement Award. The annual award recognizes recent significant accomplishments in the field of computer graphics. The recipient receives a $500 cash prize.

Areas of accomplishment to be considered for this award include both theory and applications, such as the development of algorithms, hardware design, innovative applications of computer graphics, and works of art.

Nominations are due by March 1, 1984, and should include (1) the name and address of the individual(s) being nominated; (2) a description of accomplishment(s) to be considered by the selection committee, along with a statement of the significance of the accomplishment; (3) the nominator's name, address, and telephone number.

The award will be presented in Minneapolis on July 25 at Siggraph '84, which runs July 23-27. For registration information, contact the Siggraph '84 Conference Office, 111 East Wacker Drive, Chicago, IL 60601; (312) 644-6610.