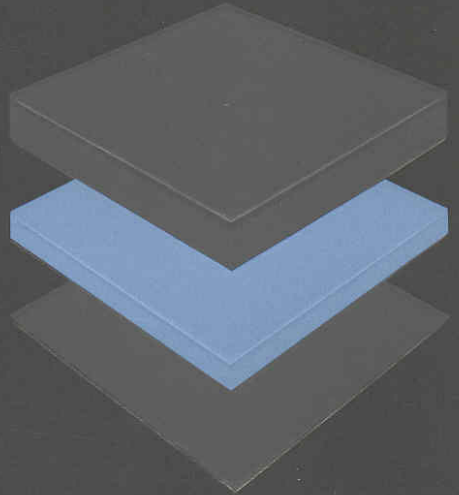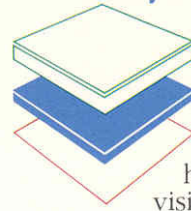**COMPUTERVISION**

CDS 4000
Computervision
Distributed Systems

New Systems For Industry Automation

The CDS 4000 series of computer-aided engineering, design and manufacturing (CAE/CAD/CAM) systems form the heart of Computer-vision's emerging CDS family of integrated systems. As the core series in this new family, CDS 4000 systems feature CAE/CAD/CAM functionality unmatched in the industry, delivered on a state-of-the-art hardware platform. In terms of productivity, cost-effectiveness, quality of results, and expandability, these multi-application, high-performance systems set new standards in industry automation, and provide users with the competitive edge so necessary in today's markets.

Widest Array of Applications

Computervision's recognized strength in CAE/CAD/CAM has derived from its unparalleled success in meeting user needs. In this tradition, CDS 4000 systems combine the best in multiapplication software with the power and versatility of Computervision's tuned CAE/CAD/CAM hardware to provide unsurpassed service to users.
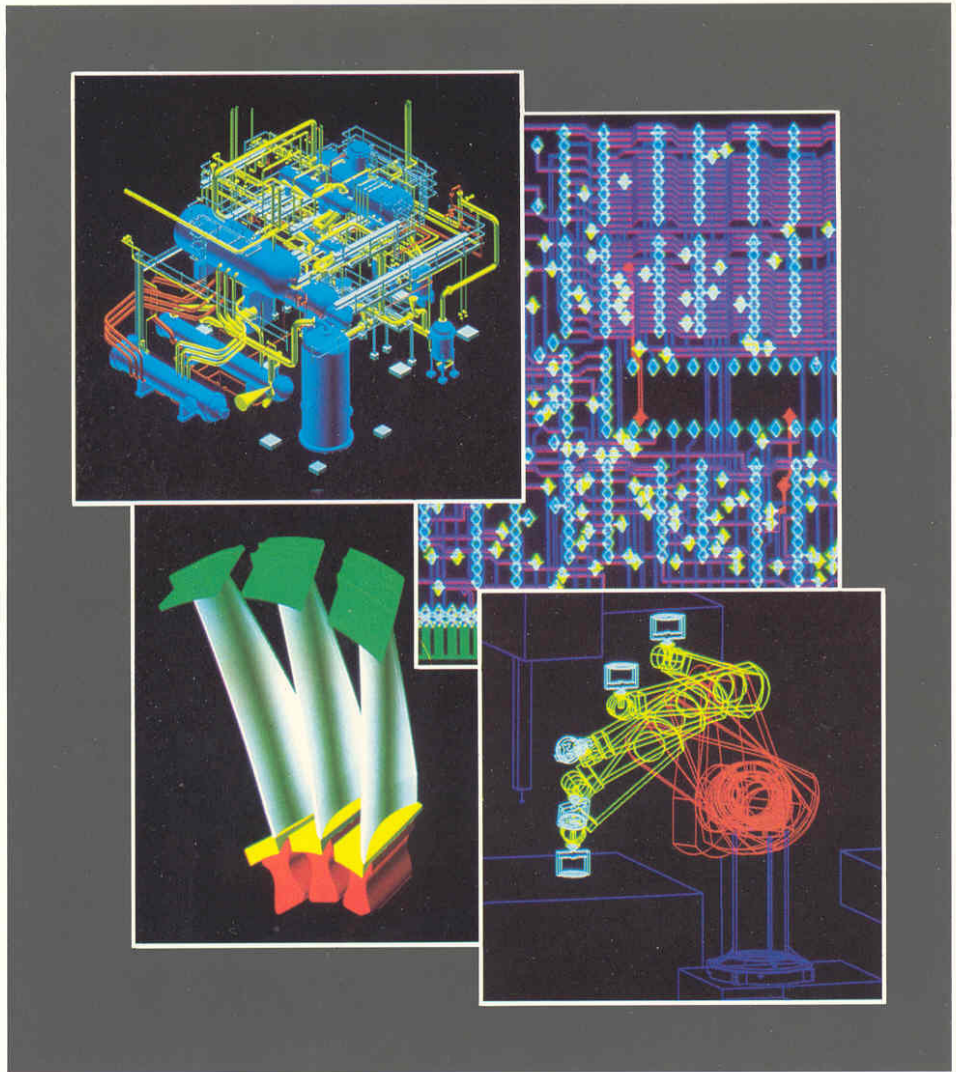
The key to Computervision's success is its software—well over a hundred proprietary packages that answer core industry CAE/CAD/CAM requirements. There is no system on the market that can match CDS 4000 systems for overall breadth and depth of functionality.

From simple 2-D design and drafting to complex 3-D surface modeling and engineering analysis, CDS 4000 systems provide the most comprehensive set of computer-aided engineering, design, and manufacturing tools available, including Computervision's very successful CADDS® 4X multiapplication software.

CDS 4000 systems employ a single, centralized, fully integrated data base, so that all users, regardless of function, can access and work with the most up-to-date product information. This greatly enhances a firm's CAE/CAD/CAM capabilities and opens the door to full computer-integrated manufacturing (CIM).

The utility of much of Computervision's sophisticated software is not defined in terms of any single industry. Rather, these offerings provide utility across several industries. Imagedesign™ software, for example, delivers superior product visualization capabilities not only in the design of mechanical parts but also in the creation of architectural renderings.

To serve individual industries—aerospace, defense, automotive, electronic and office equipment, architecture, engineering and construction, mechanical machinery and equipment, fabricated metals, and others—Computervision is further tuning selected software packages to provide increased capabilities in more focused industry-application areas.

Mechanical Design and Drafting

The CDS 4000 series of integrated CAE/CAD/CAM systems support the full range of Computervision mechanical design and engineering applications. Engineers can quickly and accurately model and analyze sophisticated three-dimensional components and systems, and generate industry-standard engineering drawings—all on line. CDS 4000 mechanical design software offerings include Finite Element Modeling and Analysis, Advanced Surface Design™, Solidesign™ and Imagedesign programs.

Computer-Integrated Manufacturing

CDS 4000 CIM productivity tools for automated factory environments include group technology, process planning, NC (numerically controlled) tool-path generation, tape production, and codes for driving robots. CDS 4000 CIM software offerings include Robographix™, NC Vision™, CV Migraphics, CV Miplan, Dynanest™, Autopunch™, Autonest™ and CAMACS™ programs.

Electronic Design

CDS 4000 systems provide all the capabilities to create and test designs for electronics, electrical schematics, and integrated and printed circuits. Sophisticated software guides the user from schematic development to the generation of detailed artwork. CDS 4000 electronic design offerings include CVSPICE, PC Design Autoplacement®, Electrical Schematic Design-Rules Checking, PC Design Autoroute®, and Fine Line Router programs.

Architecture, Engineering and Construction

CDS 4000 systems facilitate the design, documentation, fabrication and construction of major projects in architecture, engineering, process and power, utility and shipbuilding industries. CDS 4000 AEC software offerings include Plant Design, Building Design and Management, Mapping, HVAC, Site Engineering, Steel Detailing, Visualization, and Area Information Management programs.

Flexibility of CDS 4000 Open Systems

CDS 4000 systems are open systems, allowing users to meet specific software needs through the third-party market and through in-house expertise. CDS 4000 users can license third-party packages that include SAP 6/SAP 7 (COSMOS*) and ADLPIPE.

VARPRO™ 2, Computervision's powerful high-level user language, permits users that do not possess extensive programming skills to create unique applications. For those interested in developing or porting their own software, CDS 4000 features a virtual memory operating system with industry-standard ANSI FORTRAN 77 as the programming language.

Because they feature a wide array of communications links, and support IGES and other data transfer standards, CDS 4000 systems can easily be embedded in a firm's corporate information environment.

Other Outstanding Software and Hardware Features

Besides the best applications software in the industry and the programming advantages of an open system, CDS 4000 systems offer many other outstanding features.

CDS 4000 systems employ a 32-bit advanced design processor uniquely designed for computationally intensive tasks such as image processing and engineering analysis. Some of the unique features of the processor include:

☐ In-line floating point processor optimized for high-performance, double-precision (64-bit) calculations
☐ 16k-byte cache memory
☐ Microcoded instructions for commonly executed mathematical functions

Computervision's superlative display technology provides high spatial resolution for presentation of realistic shaded images, as well as instantaneous pan, zoom, and X-ray capabilities. A dedicated display processor for each workstation delivers superior graphics to each user in the CDS 4000 multiuser environment.

CDS 4000 systems are very user friendly. They allow users to tailor applications through such powerful features as user-definable dynamic menus and on-line documentation.

The Best Solution Today —and Tomorrow

The CDS 4000 series of integrated CAE/CAD/CAM systems provide—immediately—the full range and depth of Computervision applications functionality. There is no need to further delay design automation waiting for a better system—these are the most versatile and most productive CAE/CAD/CAM systems on the market.

As the first systems in the emerging CDS family, CDS 4000 systems also provide entry into the world of increased capabilities that future CDS systems will provide as they come on line—capabilities that will enhance and fully complement those of CDS 4000, Computervision's core CAE/CAD/CAM system platform.

Other members of the CDS family will take the product information generated in the CDS 4000 environment into two other CAD/CAM environments—the desktop/intelligent workstation environment and the decision support/product data management environment.

Employing an industry-standard UNIX operating system and 68010 microprocessor technology, desktop/intelligent workstation systems will allow engineers and designers to be extremely productive in certain focused applications. These systems will support simple 2-D tasks, such as drafting, schematic capture, and space planning, and will also perform such functions as word processing and electronic mail. In addition, they will allow engineers to intelligently exchange data with other systems in the CDS family, providing them access to the full range of CDS family capabilities. For complex tasks, such as creating 3-D models or performing engineering analyses, for example, users of the intelligent workstation systems will be able to access and utilize the capabilities of CDS 4000 systems.

The decision support/product data-management series of systems will allow users with very large design data bases to more profitably manage the wealth of product information generated on Computervision CAE/CAD/CAM systems. Users will be able not only to create but also to manage, manipulate, and communicate massive amounts of product design and manufacturing information. The data-base management capabilities of these systems will enable users to take full advantage of sophisticated manufacturing functions such as group technology, process planning and computer-integrated manufacturing.

As new CDS family systems become available, Computervision will provide clear growth paths so that users can later integrate into their CAE/CAD/CAM operations either the more focused, intelligent workstation system or the decision support/product data management system—or both—while preserving investment in hardware, software, data base, training and methodology.

The Computervision Difference

System installation is but one milestone in automating a firm's design and manufacturing functions. It is during the entire automation process, from long before system installation to long afterward, that users enjoy "the Computervision difference."

Fast, thorough response from marketing and sales groups to inquiries regarding such issues as system configurations, installation planning, training plans and schedules, and system growth paths.

A total system approach to CAE/CAD/CAM, in which Computervision integrates hardware and software into systems tuned specifically to meet the challenges of industry automation.

Installation and testing by a Computervision field engineer.

Growth paths to accommodate evolving user needs with system enhancements or expansion.
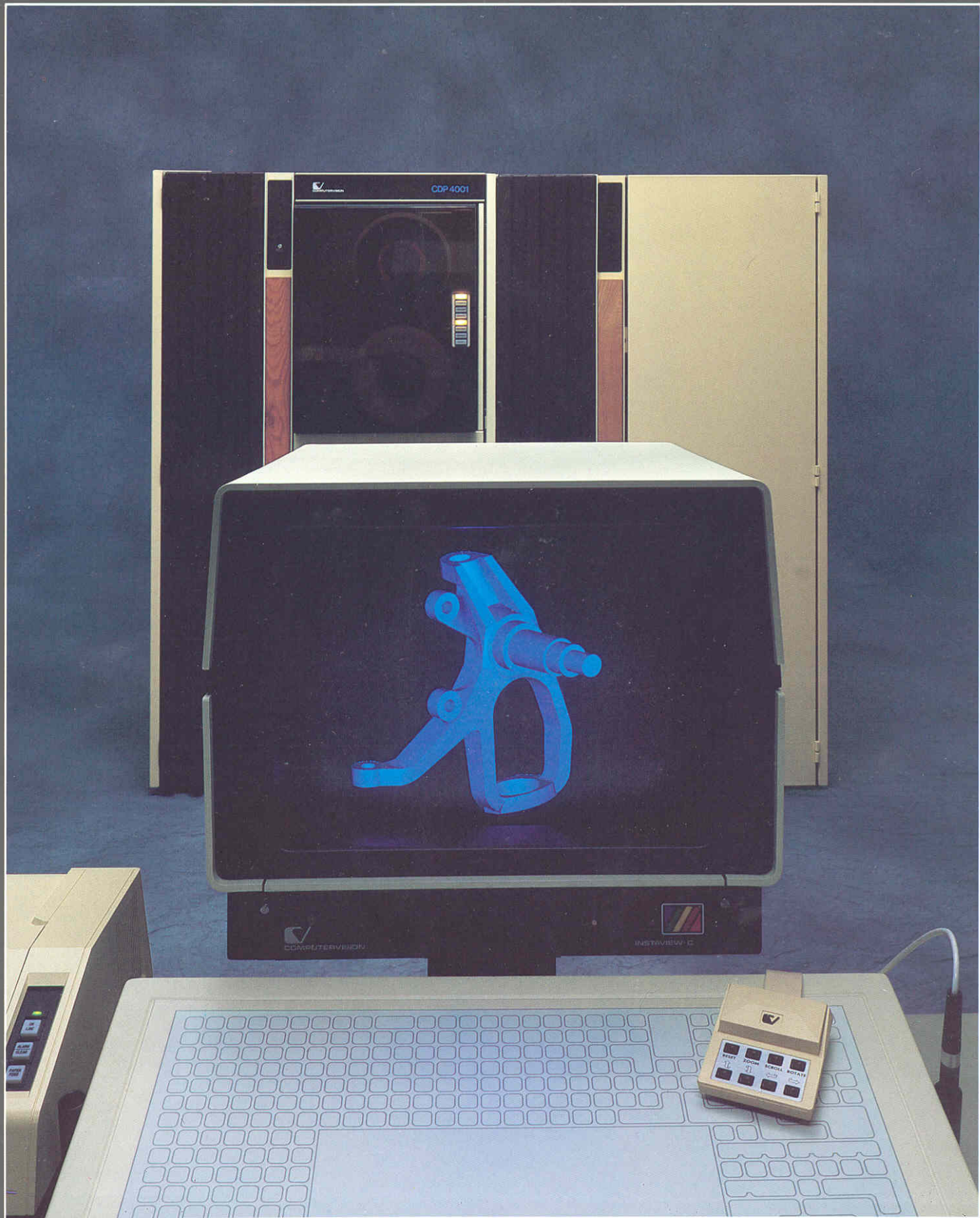
Educational services to help users achieve immediate productivity. Users can choose from dozens of standard training courses, or arrange for special courses. Audiovisual training materials are also available.

On-site guidance and consultation by Computervision's experienced applications engineers to help users take full advantage of their systems.

Maintenance services that offer a range of flexible maintenance contracts, parts centers located throughout the world, and the Computervision Response Center to provide fast, effective response to problems and questions.

Thorough, easy-to-read on-line documentation, guides, and manuals.

Most important of all, CDS 4000 system users benefit from Computervision's years of leadership and innovation in CAE/CAD/CAM. Computervision is the most successful name in the industry because of a commitment to excellence—in research and development, in products, in service, and in the people who stand behind the products.

COMPUTERVISION

Computervision Corporation

201 Burlington Road
Bedford, Massachusetts 01730
617/275-1800

Customer Center
100 Crosby Drive
Bedford, MA 01730
617/275-1800

U.S. Regional Offices
Culver City, California
213/642-0922
Arlington Heights, Illinois
312/870-3070
Edison, New Jersey
201/225-0300
Irving, Texas
214/258-8900

Computervision Canada Inc.
Rexdale, Ontario
416/675-9399

European Support Center
Computervision Centre
Hayes, Middlesex, England
44/1-561-2626

International Regional Offices
Argentina
Buenos Aires 54/1-49-4159
Australia
Sydney 61/2-439-8400
Belgium
Brussels 32/2-673-4160
Brazil
Sao Paulo 55/11-852-1859
England
Basingstoke 44/256-58133
Finland
Helsinki 358/0-562-40-88
France
Paris 33/1-360-4097
Hong Kong
Kowloon 852/5-755-813
Italy
Milan 39/2-753-2551
Japan
Tokyo 81/3-342-3411
The Netherlands
Alphen 31/1-720-91961
Norway
Oslo 47/2-243092
Spain
Madrid 34/1-404-2263
Sweden
Stockholm 46/8-988180
Switzerland
Zurich 41/1-491-2782
West Germany
Munich 49/89-41610