Henry Ford Community College
Technology Improvement Fund
Project Funding Request

Fifteen copies of this application form must be received by the Vice President/Controller's office by 4:00 p.m. on either **the first Friday after Labor Day** (Fall semester) **or the third Friday in January** (Winter semester) in order to be eligible for funding. Applications will only be accepted on this form. Applications must include an Executive Summary which will be shared with the Campus Community. ***(Attach additional sheets for any section needed.)***

Date of Application: Sept. 7, 2012	**Project Type: [x] New [ ]** **New Computer Aided Machining Software**	
Project Director: Guy Pizzino **Department/Division: Manufacturing Productivity Systems / CNC**	**How many students will *directly* benefit from the project? 150-200**	**Total TIF Funds Requested: $18,530**

Problem Statement

Define the problem/idea. *(What do you want to do? Why?)*	Introduce the newest Computer Aided Machining software and certificate program. Why? 1. Because this software will provide a vital link between the manufacturing / CNC department and the CAD department. 2. There is an industry need in this particular manufacturing employee skillset and development of this curriculum will establish HFCC as an instructional leader in this area. 3. Because more and more employers are asking for Technicians with this industry standard software programming skills. 4. Because MasterCam, with 135,000 installations in industrial manufacturing facilities, is more than twice as popular as its nearest competitor.* *According to "American Machinist" eNewsletter

Evidence for Project Validity
(What is the current situation?)

What resources do you have/use now?	Currently we use Keller CNC Plus
Why can't you use your existing resources to do this project?	My yearly supply budget, which is based on lab fees, only allows us to purchase raw materials and maintain our equipment. It does not have the funds for major program improvement projects.
What evidence do you have that this project will be successful? *(cite specific information)* • **Current research** • **Examples from other schools or teachers** • **Letters of support from experts in the field** • **Your own past experience.**	Most of the students in the CAD/CAM program and Manufacturing Productivity Systems / CNC program are hired by companies that use this software. MasterCam classes are offered by Macomb Community College, Oakland County Community College, Eastern Michigan University, and Lawrence Technological University.

Relevance to TIF Committee Guidelines *(Address only those that apply.)*	
INNOVATION: **Is the proposal innovative to the field of Instructional Technology?**	The implementation of MasterCam software and certificate programs at HFCC will allow our students to operate on the cutting edge of manufacturing technology.
Is the proposal innovative to HFCC?	See above
Is the proposal innovative to the specific discipline?	MasterCam is going to be utilized by two disciplines; Manufacturing Productivity Systems / CNC and CAD.
NEED: **Is the proposal essential for the instructional design?**	Since the classes are 60% computer lab and project based, the classes cannot be taught without this software.
Does it create new programs or courses with the potential for increased student enrollment?	Currently, Roger Weekes and I field calls almost daily from employers seeking an institution with a quality education reputation in technology to send employees to receive this software training.
Is it necessary to remain competitive with post-secondary institutions?	It is essential that HFCC offers this software training, because we can continue to remain competitive with other post-secondary institutions within the metropolitan Detroit area. If we do not provide this training, the other institutions mentioned above will continue to service our students, and also service employers who seek workers with this training.
Does it provide skills that are transferable to the workplace?	The advanced computer skills this type of training provides are in high demand and thus highly paid professions.
Does it prepare students for transfer to upper-level curriculum?	We have an articulation agreement signed with EMU. We also have transfer agreements with Lawrence Technical University and Wayne State University for students seeking a four year technology degree. We could have more guest students attending HFCC for this advanced training.

Relevance to TIF Committee Guidelines (continued) *(Address only those that apply.)*	
Does it keep the course or program current in the related technology?	MasterCam training is essential to the programs offered at HFCC because the College would be recognized, not only as a training center for this software, but it would also maintain the College's reputation as an institution on the cutting edge of manufacturing technology.
NATURE OF PROPOSAL: **Is the proposal a component of curricular revision?**	Yes. I am currently writing new lab experiments and curriculum for the new software.
Is it the next logical step in the evolution of the course/curriculum?	Yes. Staying current with industry standard software and technology is essential to student growth and marketability.
Will it help attract students to HFCC?	Since employers continually seek workers with this kind of training, offering MasterCam in the classroom would not only make HFCC manufacturing programs more attractive to employers, but to students as well.
Will it support HFCC community outreach/public relations activities?	
Will it support student retention activities at HFCC?	Absolutely. Placement in high paying jobs is a great retention tool.
Will it become an integral part of the course, program or curriculum?	Yes. It will be replace the software that is currently being used in MPS 160 and MPS 170. It will also be introduced into the CAD/CAM curriculum.

Resources		
Where will the project hardware be installed?	T-131 computer lab in the Patterson Tech. Building	
Who will do the job? • **List the personnel** • **List their duties**	AxSys Inc. of Wixom Michigan will provide and install the software. Guy Pizzino and Roger Weekes are writing the curriculum.	
Do you have commitment from your administration for personnel support? *(Be specific, include documentation)*		
Is release time required to complete this project? **If yes, has it been approved at this time by your Associate Dean?**	**[ ] Yes [x] No** **[ ] Yes [ ] No**	*TIF does not fund release time. If you are requesting release time, it must be approved by the appropriate administrators prior to proposal submission.*

Evaluation *(How will you know if it worked?)*	
How will you demonstrate to the college that this was an effective use of funds? *(How will you evaluate the goals listed in as Expected Outcomes?)*	I will survey our students and consult my Technical Advisory Committee.
How will you determine the success or shortcomings of the project?	I will survey our students and Technical Advisory Committee. After this equipment and curriculum is implemented, and once it is marketed, we should see an increase in student enrollments.

Budget *(You must also include an itemized budget statement.)*	
What do you need to complete this project? *(Be specific about equipment, software, and training.)*	Software specified in quote.
What is the TOTAL COST? ***You must attach an itemized cost analysis with this proposal***	See quote. $18,530
How recent is your quote?	August 23, 2012, effective until September 22, 2012.
Are changes to the college infrastructure necessary to support this project?	**[ ] Yes [x] No** *If "yes" provide an explanation from the Directors of Data & Voice and Buildings & Grounds, and from the Administrator in charge of the affected room(s).*
What other monetary commitments exist? *(Department /Division/External)* *Please be specific; include documentation wherever possible.*	Perkins Funding in replacing the computers in the T-131 computer lab.
If other sources of funding are not available, why? • **Doesn't have the support?** • **Not viewed as feasible?** • **Not a priority?** • **Other?**	See above. Perkins is supporting only new lab equipment.

If your proposal is Non-Instructional (Library Services, Learning Lab, Counseling, Placement Services), please skip this section and complete the information in the Non-Instructional section.

Instructional Proposals

Complete this section if this is an Instructional Proposal, directly impacting student teaching and learning.

Expected Outcomes *(Project Objectives)*	
What is your current teaching method? How will this project fit into your current plan?	The current method is lecture/lab with lab projects making up 70% of the classroom experience. Spending the majority of class time in real world problem solving scenarios is the how technology students excel. The implementation of this software will further enhance student engagement with this format.
How will this improve student learning? *(list specific goals)*	As a result of this project students will: ➢ Demonstrate proficiency in writing programs that use the latest industry standard software. ➢ Demonstrate proficiency in interaction with various computer based programs and manufacturing equipment. ➢ Demonstrate proficiency in troubleshooting computer program problem areas and the ability to rectify these situations. ➢ Prepare and organize a written lab report (machine control package) used to emphasize the importance of written and graphical communication. ➢ The student will be more qualified high skilled high paying jobs.

Instructional Proposals (continued)

State how the project addresses the Seven Principles of Good Practice in Undergraduate Education.

(*Address only the relevant criteria.*)	
Supports student-faculty contact	Since the course is concentrated around lab time primarily, student-faculty contact is integral to student success in the class. Classroom time is almost exclusively dedicated to problem solving in real world manufacturing scenarios that require individualized interaction between student and instructor.
Supports cooperation among students	Students will work together in small groups and on assembly components that will require communication with other student groups.
Supports active learning	Students are given lab projects that expose them to real world manufacturing problems. Problem solving is developed through hands-on interaction with the new software and current manufacturing equipment.
Supports prompt feedback	Lab experiments will either work according to the machining specifications or students will have to debug their programs.
Supports time on task	Students will have access to a student copy of the software. This will allow them to develop some of the programing skills for the lab offline at home. However, they must come into the lab and run the programs on the CNC equipment to prove out objectives.
Supports high expectations	Once the program has been debugged and is working correctly, the students must prepare an individual lab report that explains all the necessary steps and conditions encountered during the entirety of the project.
Supports diverse talents and ways of learning	Since this course is focused on a great deal of student-instructor interaction, as well as student-student interaction, this format supports individualized instruction which significantly benefits diverse talents and different ways of learning.

SIGNATURES:

**Project Director	9/7/12 Date	*Associate Dean/Dept. Head	09/07/2012 Date	*Vice President/Dean	9/7/12 Date
**Director of Building & Grounds	9/7/12 Date	**Director of Data & Voice	9/7/2012 Date		

*For notification purposes only
** For project feasibility

NO INFRASTRUCTURE CHANGES

Non-Instructional Proposals

Complete this section if this is a Non-Instructional Proposal, related to college areas that serve and support student instructional progress. ***(Non-Instructional areas include Library Services, the Learning Lab, Counseling, and Placement Services.)***

Expected Outcomes *(Project Objectives)*	
What will this project accomplish that you can't accomplish now?	
How does the project enrich or support the learning, teaching, or communication technology needs of students? *(list specific examples)*	*As a result of this project, service to students will be improved through:*

SIGNATURES:

**Project Director	Date	*Associate Dean/Dept. Head	Date	*Vice President/Dean	Date
**Director of Building & Grounds	Date	**Director of Data & Voice	Date		

* For notification purposes only
** For project feasibility

Henry Ford Community College

Technology Improvement Fund
Project Funding Request

Executive Summary

DATE OF APPLICATION:	PROJECT TYPE:
Sept. 7, 2012	New MasterCam Software
NAME OF PROJECT DIRECTOR OR PRESENTER:	**DEPARTMENT/DIVISION:**
Guy Pizzino	Manufacturing Productivity Systems / CNC
COST OF PROPOSED PROJECT:	**# OF STUDENTS SERVED ANNUALLY:**
$18,530	150-200

SUMMARY

Currently we are using a software package that holds a very small share of the industrial marketplace. By moving to MasterCam, Henry Ford Community College will position itself at the forefront of the latest technology in the manufacturing field. Employers are having difficulty filling job openings with this employment skill, and HFCC will be able to provide a vital link between these employers and potential employees. These job opportunities are highly skilled and highly paid and it is our obligation as an instructional institution to provide this up-to-date technology to our student body.

(Attach additional sheets if needed.)

AxSys Incorporated
29627 West Tech Drive
Wixom, MI 48393
(248) 926-8810 Fax (248) 926-9085

Quotation

To: Henry Ford Community College

Address: 5101 Evergreen Road

Dearborn, MI. 48128

Attention: Guy Pizzino

QUOTE NUMBER
PH12 08 23 1333

QUOTE DATE
Aug 23, 2012
THIS QUOTE IS EFFECTIVE UNTIL: 9/22/2012

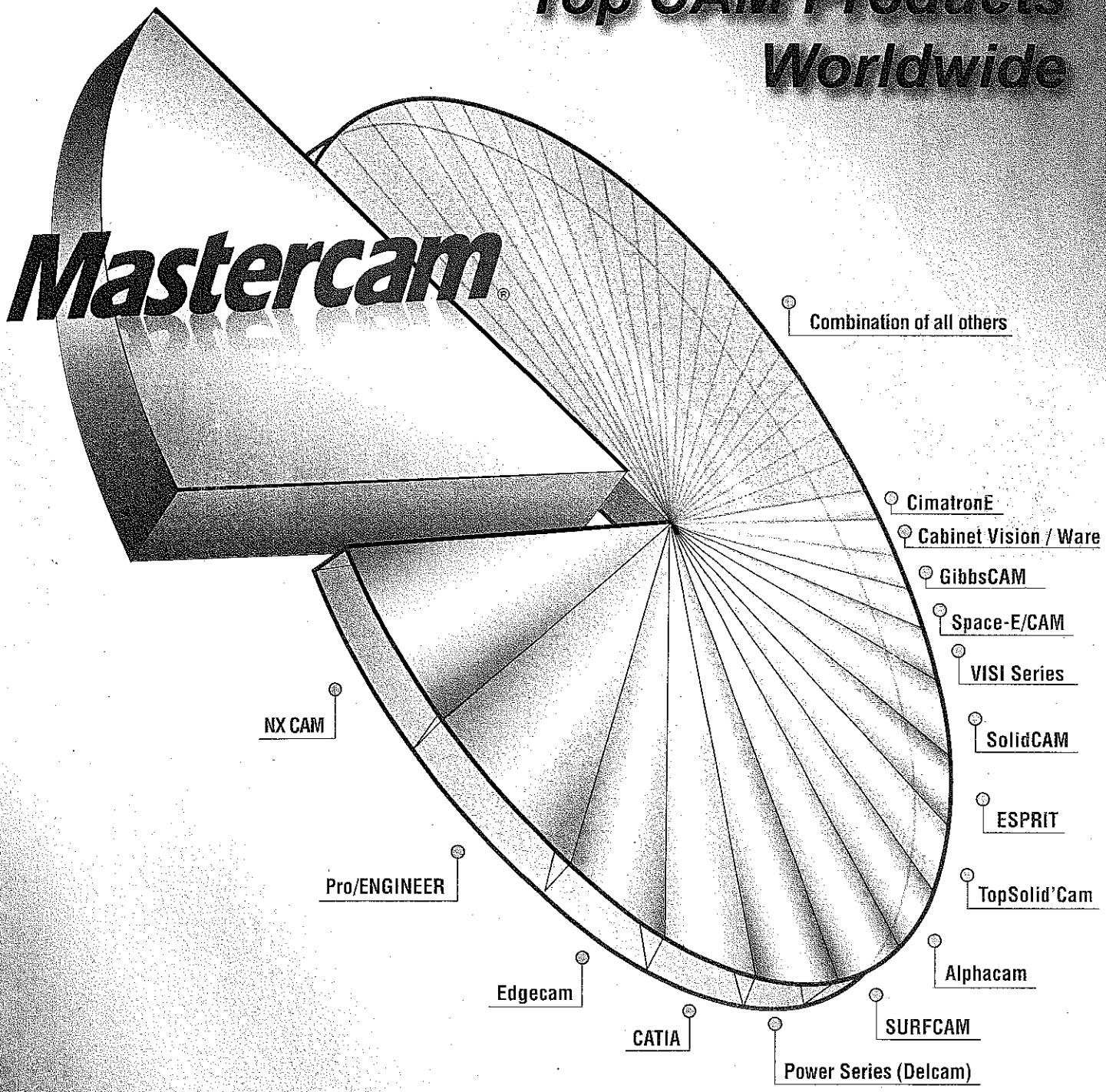
DELIVERY		TERMS
ASAP		100% Delivery

ITEM	DESCRIPTION	QTY		
SW-MCEDU1	Mastercam Educational Software Suite Initial CPU License. Includes:Design, Engrave, Lathe, Mill Level 3 (includes Rotary 4-axis),Rast2Vec, Router Pro, Solids, True Shape Nesting, Wire EDM Data Translators: ASCII, CADL, DWG, DXF, EPS, IGES, Inventor (IPT), Parasolids, SolidWorks (SLDPRT), SAT (ACIS Solids), Solid Edge (PAR & PSM), STEP, STL, VDA, PRO/E (read only), Software Maintenance for (1) Year.	1	$1,500	$1,500
SW-MCEDU2	Mastercam Educational Software Suite Subsequent CPU License. Includes:Design, Engrave, Lathe, Mill Level 3 (includes Rotary 4-axis),Rast2Vec, Router Pro, Solids, True Shape Nesting, Wire EDM Data Translators: ASCII, CADL, DWG, DXF, EPS, IGES, Inventor (IPT), Parasolids, SolidWorks (SLDPRT), SAT (ACIS Solids), Solid Edge (PAR & PSM), STEP, STL, VDA, PRO/E (read only), Software Maintenance for (1) Year.	19	$870	$16,530
SW-MCEDU-INST	Mastercam Educational Instructor License. Includes Mastercam Educational Software Suite	2	$250	$500
QUICKPART	Mastercam Quick Part for Education	18	$500	$9,000
			SUB TOTAL	**$27,530**
	SPECIAL HENRY FORD EDUCATIONAL DISCOUNT			($9,000)
			TOTAL	**$18,530**

THIS QUOTATION IS MADE BASED ON THE TERMS DETAILED HEREIN AND DOES NOT INCLUDE SHIPPING & HANDLING. SOFTWARE LICENSES AND SECURITY DEVICES REMAIN THE PROPERTY OF AXSYS INC. UNTIL PAYMENT IN FULL IS RECEIVED. PRICES ARE SUBJECT TO CHANGE. A PURCHASE ORDER SHALL NOT BE DEEMED ACCEPTED UNTIL AXSYS HAS ISSUED ACKNOWLEDGMENT.

Al Morad for Ryan Howard

Top CAM Products Worldwide



Mastercam®

When Second Best Won't Cut It.

cnc software, inc. 5717 Wollochet Dr. NW, Suite 2A, Gig Harbor, WA 98335 USA
1-800-ASK-MCAM | (253) 858-6677 | Fax (253) 858-6737 | www.mastercam.com | info@mastercamedu.com

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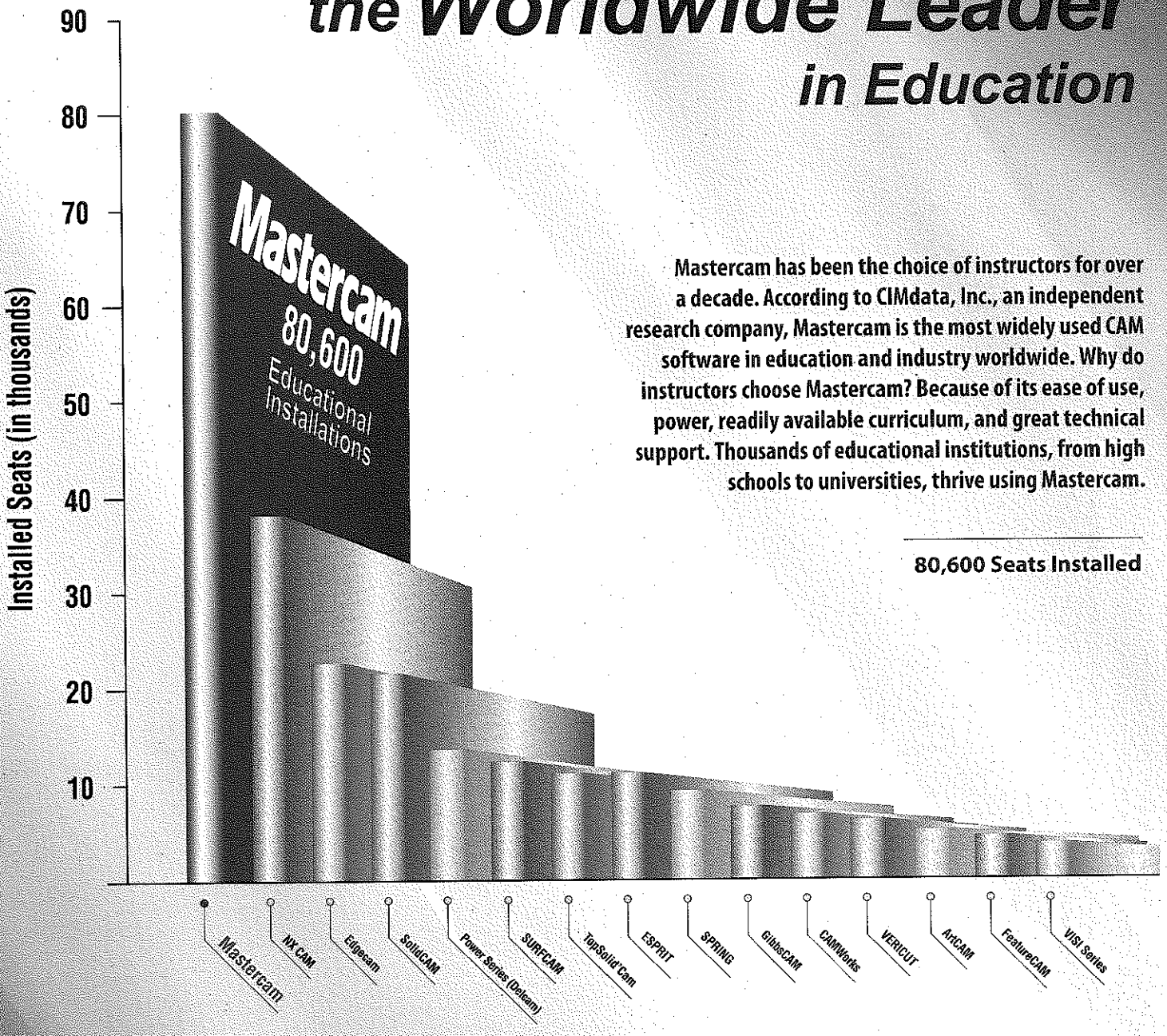

Mastercam has been the choice of instructors for over a decade. According to CIMdata, Inc., an independent research company, Mastercam is the most widely used CAM software in education and industry worldwide. Why do instructors choose Mastercam? Because of its ease of use, power, readily available curriculum, and great technical support. Thousands of educational institutions, from high schools to universities, thrive using Mastercam.

80,600 Seats Installed

Top CAM Products Worldwide Educational Seats

Source: CIMdata, Inc. 2010 Software Assessment. CIMdata is an independent research firm specializing in the NC industry.