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# First CSU commercialization effort helps manufacturers fine-tune machinery

By SHANNON MORTLAND  
4:30 am, August 25, 2008

In its first effort at commercializing its own research, Cleveland State University is attempting to replace 1920s technology to make it easier and cheaper for manufacturers to operate.

The university has received \$1 million from venture capital firm Early Stage Partners to take to market what Zhiqiang Gao, head of Cleveland State's Center for Advanced Control Technologies and creator of the technology, is calling the new "brain" of manufacturing machinery.

"This can replace the heart of the control in almost every (manufacturing) machine and piece of equipment around the world," said Jim Dawson, president of ADRC Technologies Inc., the Hudson company formed two years ago to market the CSU technology.

The new technology actually is a software code that can be installed in machinery that will enable manufacturers to tune their machines quickly and easily by using one knob. It would eliminate the process of calculating difficult control algorithms and fine-tuning a machine by turning and pushing multiple knobs and buttons, Dr. Gao said.

The original tuning method, which was developed in the 1920s and has remained largely unchanged, is costly, difficult and time-consuming, Dr. Gao said. It sometimes takes two people to tune a machine, he said.

Using computer technology and sensors, the technology will enable manufacturers to tune their machines faster and less often, Mr. Dawson said. In addition, the technology makes the tuning process so easy that anybody can do it, therefore eliminating the need for high-priced engineers to perform that function, he said.

Jim Petras, who is part of the four-person team that heads Early Stage Partners, said his group is excited about the Cleveland State technology because it could attract worldwide attention.

"It's a very scalable technology. It has global applications and can save people a lot of money," Mr. Petras said.

Manufacturers for decades have been trying to tune their machinery, Dr. Gao said. Until now, the replacement technology created has been expensive and focused mostly on use in space, he said.

Dr. Gao said he became familiar with the problem in the early 1990s when he began working with manufacturing companies such as Rockwell Automation Inc., Energizer Battery Co. and Invacare Corp. to help them find individual solutions to tuning their machines. As a result, he said he began working on a one-size-fits-all solution.

ADRC initially plans to promote the technology to manufacturers in Northeast Ohio, Mr. Dawson said. In an effort to get local companies to test the technology, ADRC likely will let companies use the technology without any upfront costs he said

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Those companies instead would be asked to enter into an agreement under which ADRC would be given a portion of any cost savings the company realizes due to the use of the CSU technology, Mr. Dawson said. In early tests, the technology shows cost savings of at least 15%, he said.

"We would like to get in with a number of large manufacturers so it can be rolled out across their factories in the United States," Mr. Dawson said.

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