

CAViDS in Kalamazoo Gazette August 9, 2007 (Front Page)

New WMU vehicle to focus on ... vehicles

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Western Michigan University's engineering college has a new center focused on vehicle research that so far has attracted work from the U.S. Army and businesses like Dana Corp.

The Center for Advanced Vehicle Design and Simulation is intended to be a kind of one-stop-shop for companies and governments seeking engineering expertise to solve problems or advance their automotive innovations.

"We will be known ... as the vehicle unit -- that if you have any questions on anything that relates to that, they can come to us and we'll find good people within the university to help," said Bill Liou, director of the center and a WMU engineering professor.

The center is being called CAViDS.

"There is not a center like this around in this part of Michigan," Liou said. "So we're in a good position to grow."

One of the center's projects involves a \$1 million contract with the U.S. Department of Defense to develop computer-simulation-based technology that can be used to predict reliability in ground vehicles such as the Humvee military vehicles used in Iraq.

That simulation work for the U.S. Army Tank Automotive Research Development Engineering Center will help demonstrate, for instance, the best time to repair and replace parts on a Humvee.

Learning that "prolongs the life of the (vehicle) and hopefully it will take our soldiers out of harm's way," said Tim Greene, dean of the College of Engineering and Applied Sciences, where CAViDS is based.

The practice of academia teaming up with industry or government for product development or advancement is not a novel concept. But Greene said, "One thing CAViDS does is provide a front door to the university's resources."

"One of the frustrations companies have with all universities is the ability to see into the university to find out where the resources are to solve their problems because universities and industry are organized differently," Greene said.

The engineering college has mechanical, manufacturing, industrial, electrical, aeronautical and computer design engineers, among others. CAViDS customers may be able to take advantage of their expertise, and in some cases their research.

In a report to the WMU Board of Trustees, CAViDS' creators noted that WMU is well-placed "at the heart" of the country's automotive industry and that applied research is the engineering college's strength.

Last fall, several companies that have national and international reach signed on to be part of the CAViDS consortium. They include Dana, Eaton Corp., L-3 Communications, Mann+Hummel. Two divisions of the U.S. government are also affiliated with the consortium.

Eaton became involved because "while we have people here that are trying to stay abreast of technology, obviously in the academic world they are definitely exposed to it at higher level," said Dale Kwasniewski, an engineering manager for Eaton's truck components operations. "So therefore we want to leverage some of the new technology that might be just emerging."

He said, "Look at technology as the enabler. This is what enables us to solve a problem or to offer more value."

At the same time the faculty researchers benefit from working with industry professionals, said Prasenjit Adhikari, vice president of engineering in Dana's commercial vehicle systems group.

"They can see what industry's really working with and what some of the real-world problems are," he said. "It helps them in recalibrating their research programs."

As CAViDS matures or as other customers surface, the center has possibilities beyond the college of engineering, Greene said.

"Where we go beyond that I'm not sure, but I can see us getting into some of the ergonomics and human-factors issues (of automotive design and research)," Greene said.

That could mean tapping the expertise in other WMU colleges.