

the next six months.

Cornelius said CIMS has many strengths, ranging from a strong engineering knowledge to coming up with technologies that are environmentally correct.

"They really come up with interesting ideas," Cornelius said.

## The future

Nasr said a continued focus at CIMS will be on remanufacturing and alternative energy.

Last year, CIMS received a \$465,000 grant by the Henry Luce Foundation to create a doctoral program in sustainability. CIMS leaders are targeting the first class to begin in fall 2008.

The sustainability Ph.D. program is a component of RIT's new Sustainability Institute initiative, a comprehensive research, education and outreach program addressing sustainable product design, closed-loop product management, renewable energy and other important areas of sustainability.

The graduate program is one of the first of its kind and will integrate economic, environmental and social issues into the development and design of business products and processes.

Other funding for more efforts at CIMS came in October with a \$1.35 million federal infusion of capital to open the area's first fuel-cell testing laboratory. The facility will be available to local companies interested in testing the reliability and durability of their fuel-cell products.

Last July, CIMS received its single largest grant with \$4 million in federal funding to research alternative fuel sources and issues related to life cycle engineering. The initiative focuses on expanding the use of alternative fuels, extending the life cycle of vehicles and promoting the use of remanufactured components.

Kent Gardner, president of the Rochester-based Center for Governmental Research Inc., said CIMS has a tangible role in the local economy. He is working on a study for CIMS examining the potential contributions the Sustainability Institute would have.

"When you look at literature from universities, there is a lot of talk about their role in the community, but when you dig down, you don't always find a lot," Gardner said. "CIMS is different. It has real contracts with real companies and is having an impact."

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## CIMS has built industry ties in its first decade

By ANDREA DECKERT

As an entrepreneur in Rochester, Robert Mendenhall learned about Rochester Institute of Technology's Center for Integrated Manufacturing Studies through networking in the community.

Mendenhall, chief operating officer of American Aerogel Corp., said CIMS first assisted his firm a few years ago with production optimization, helping with a proprietary process of recycling ingredients during the manufacturing process.

The 10-person company—a thermal insulation material supplier—has done many small projects with CIMS since and is likely to start a joint project shortly, provided funding is in place.

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## CIMS

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"CIMS seems to have adopted the private industry mantra 'Make it easy for your customers to buy from you,'" Mendenhall said.

A decade after the grand opening of the \$40 million facility, CIMS has used state and federal grants, company contributions and its own resources to assist companies in technology transfer, training and process improvement.

Over the years, CIMS has worked with some 1,700 companies on more than 1,800 technical assistance projects.

Based on surveys of participating firms from 1998 to 2006, for each \$1 million invested through CIMS' efforts, 110 positions were either retained or created within participating firms.

Nabil Nasr, CIMS director since 2002, believes the center has been a success because those affiliated with it have delivered results.

"Many research centers at universities don't make it, many technology centers at universities don't make it or are heavily subsidized," Nasr said. "That's not us. We have a lot to show."

Nasr said the center is self-sustaining and in the black. CIMS has grown some 25 percent annually over the past few years and last year, it logged roughly \$10.5 million in revenue.

## The start

In 1988, industry and RIT leaders began devising a facility to help small and midsize businesses compete in the global marketplace. The center has been in existence in some form since 1992 but received a home in late 1996 when the facility opened. Its grand opening was in May 1997.

A combination of federal, state and private funds paid for construction, but the



File photo

RIT's CIMS has grown some 25 percent annually over the past few years, said Director Nabil Nasr, right, who said the group is self-sustaining and in the black.

facility must pay its own operating costs. The center has six manufacturing bays, more than 20 labs—with focuses ranging from ergonomics to automated manufacturing systems—and a 10-room, 400-seat conference and training facility.

One of RIT's real-world, rather than strictly academic, organizations, CIMS has 65 staffers and also uses the services of RIT faculty and students.

It has five business units: the Center for Excellence in Lean Enterprise, Corporate Education and Training, Manufacturing Technologies, the National Cen-

ter for Remanufacturing and Resource Recovery, and the Printing Applications Laboratory.

Clients have included Eastman Kodak Co., Xerox Corp., Mack Trucks Inc., the Office of Naval Research, the Environmental Protection Agency and the Department of Energy.

Its projects have included remanufacturing a worn-out Navy ship, developing a toner cartridge testing lab and devising new methods to clean old auto parts.

One of its most notable efforts is the Defense Systems Modernization and Sustainment Program, where CIMS works with the U.S. Navy, Marine Corps and other branches of the military to enhance efficiency, effectiveness and readiness of military equipment and systems through life cycle engineering and remanufacturing processes.

CIMS began working with the Rochester-Genesee Regional Transportation Authority in January 2006 after approaching the transportation provider about using some of its vehicles to develop voice recognition technology for the military. Working with the RGRTA maintenance department, CIMS staff was able to improve the technology now being tested among military personnel, said Jeff Heintz, a CIMS engineer.

CIMS and RGRTA next teamed to improve military vehicles' health with a multimillion-dollar smart-sensor initiative that would allow users to determine ve-

hicle failures before they occur.

RGRTA CEO Mark Aesch said CIMS has been instrumental in helping the transportation provider put together its \$15 million Technical Initiative for Driving Excellence. The TIDE program is comprised of 10 technological programs that will be implemented over a three-year period to improve RGRTA.

A consultant will be hired this summer to begin the initiative, Aesch said.

CIMS helped write TIDE's vision paper, technical specifications and evaluated responses from those interested in the project.

RGRTA has worked with CIMS since last January on two other programs funded by the Office of Naval Research: a vehicle-monitoring technology that provides engine diagnostic information in real time and a voice recognition system that walks maintenance staff through vehicle inspections and repairs.

Aesch described CIMS as a "treasure trove of technical talent."

"Having this level of talent in our community really puts us in a strong position," he said, adding technology being developed for the military puts the area ahead of others. "There are transportation authorities across the country that would give their left arm for this level of technology."

Lester Cornelius, president of Optical Technologies Corp. in Long Island City, Queens County, first met Nasr at a conference on remanufacturing in Albany in the late 1990s.

He began working with CIMS roughly seven years ago to manufacture a device that would inspect the wiper blades in toner cartridges, Cornelius said. The process later was commercialized and Optical Technologies holds the license, sharing revenues with CIMS.

The two now are working on the commercialization of another printer component that should be ready for market in

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