CIRAS 2005 ANNUAL REPORT

University Extension | IOWA STATE UNIVERSITY | College of Engineering

CIRAS Mission Statement: *The mission of CIRAS is to enhance the performance of Iowa industry through education and technology-based services.*

From the Director

From 2000 to 2003, the U.S. experienced the largest drop in manufacturing employment since the end of World War II. In Iowa alone, 29,000 or 12 percent of manufacturing jobs were lost. The state has rebounded some since 2003: Iowa added 7,000 manufacturing positions at a time when the rest of the nation cut another 21,000 jobs in this sector.

Despite the loss of manufacturing jobs, U.S. consumption of manufactured goods continues to grow. This need is met by increases in both U.S. productivity and the trade imbalance. Nationally, manufacturing imports grew by 19% from 2000 to 2004 compared to manufacturing exports, which increased by 3%. Iowa fared better than the rest of the nation; state exports grew by 41% from 2000 to 2004.

Clearly, the world economy is in transition, and just as clearly CIRAS must make changes to provide timely services to its clients. For the past 20 years we have used the resources of the EDA University Center to provide one-on-one assistance to small rural manufacturers. This past year we expanded this program through a partnership with Iowa State economists to investigate regional clusters so that we can more effectively target the assistance that we provide.

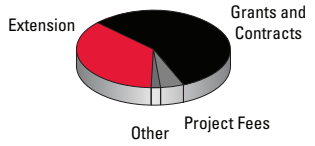
We will soon be releasing a study on energy-related best practices for the food industry. Our industrial research work will continue to grow so that we can disseminate industry best practices to a much larger audience than we can with more individualized assistance.

CIRAS has also recently assumed responsibility for managing the NIST Manufacturing Extension Partnership (MEP) in Iowa. The integration of MEP with CIRAS will save administrative costs that can now be used to enhance services to Iowa manufacturers.

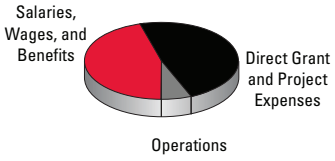
It appears that the slide in manufacturing employment in Iowa has ended, but we must remain vigilant in our efforts to assist manufacturers. Increasing the dissemination of best practices, developing stronger partnerships with key state and national groups, enhancing access to university resources, and continuing to lean our internal operations will be central themes as we move forward at this critical time.

Ronald A. Cox

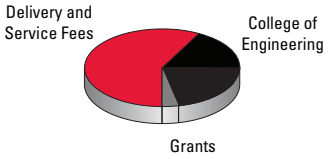
CIRAS Income
Total Income = $3,549,805



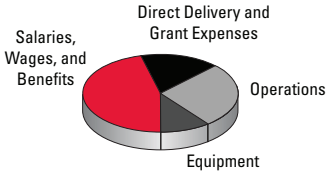
CIRAS Expenses
Total Expenses = $3,479,340



EDE Income
Total Income = $618,267



EDE Expenses
Total Expenses = $537,163



Iowa Manufacturing Profile

Iowa is home to 6,351 manufacturing establishments. The three areas below reflect how the manufacturing sector plays out as a portion of the state's total economic activity:

Labor Force.....15%

Work Earnings.....19%

Gross State Product.....20%

CIRAS Staff

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- Jim Black
- Kathleen Bryan
- Bruce Coney
- Ronald Cox
- Steve Devlin
- Jill Euken
- Paul Gormley
- Dawn Hines
- Alex Kisslinger
- Jeffrey Mohr
- Sharmon Norris
- Merle Pochop
- Rudy Pruszko
- John Roberts
- Carol Smith
- Timothy Sullivan
- Chris Thach
- John Van Engelenhoven
- Steven Vanderlinden
- Michael Willett
- Steve Winter

Engineering Distance Education

- Leah Barton
- Hiro Iino
- Paul Jewell
- Joe Monahan
- Pam Shill

2004–2005 Highlights

Bioeconomy

- Experts from Iowa State University, CIRAS, USDA, and industry have hosted a series of workshops on the production of biodiesel fuel at Iowa Energy Center's biomass energy conversion facility in Nevada. Attendees hailed from 17 countries and 38 states, including staff from all of the biodiesel plants in Iowa. One attendee is spearheading the building of a biodiesel plant in Sac County, and another is moving forward with a new plant in north central Iowa.
- CIRAS is working with the USDA to develop and implement the Federal Biobased Products Preferred Procurement Program. Established by the 2002 Farm Bill, this program is designed to open potential federal markets for biobased products. Some of the products recently designated include a biodiesel fuel additive, penetrating oils, and mobile equipment hydraulic fluids. Each of these products is currently being produced by Iowa companies.

Engineering

- The Iowa State Structural Laboratory, CIRAS, and IPRT assisted Mastercraft Furniture, Council Bluffs, in evaluating various couch frame designs and their relative load capacity. As a result of the project, Mastercraft Furniture saved $150,000 and invested $140,000 in new equipment.
- CIRAS engineers assisted Hoffman Precast Inc., an Ames manufacturer of concrete panels and foundations, with design modifications to their products. The improved designs saved the company $12,500 annually and helped create two new jobs.

Procurement

- CIRAS assisted a manufacturer in Central City through a severe downturn in sales to military customers. The company obtained new business through CIRAS marketing and bid preparation assistance that supported their focus on obtaining subcontracting opportunities with other military contract awardees. Their subcontract awards have surged to $1.4 million in the past six months.
- Assistance with a bid response to the Department of Defense was provided to Brownells in Montezuma. The company was awarded a contract from the U.S. Army to produce hundreds of thousands of small arms ammunition magazines. The award will be nearly $3 million.

Productivity

- CIRAS engineers assisted Cummins Great Plains, Des Moines, in rearranging racks to free up floor space for an additional engine upfit line. The new rack arrangement allowed Cummins Great Plains to increase the number of engines processed per month. Changes made to the plant yielded $100,000 in savings.
- Co-Line Welding, Inc., in Sully was approaching the busy season for a product they produce for another business. CIRAS worked with the company to improve the productivity of the work cells by using constraint management methods and revising the local and global measurements used. As a result, Co-Line reported a $700,000 increase in sales with no additional operating expenses, a decrease in inventory of $200,000, and $270,000 in cost savings and investment avoidance.
- CIRAS conducted three Kaizen events and a Six Sigma project for Graham Manufacturing in Mason City. Three company employees were trained to facilitate future Kaizen projects for the company. Projects improved process flow and reduced quality problems, resulting in over $500,000 in savings for the company.
- Gerdau Ameristeel's steel mill in Wilton received the Steel Manufacturers Association 2005 Recycler of the Year Award for manufacturing improvements that resulted in $1.7 million savings for the company and significant contributions to the environment. CIRAS received assistance on the project from the Iowa Energy Center and the U.S. Department of Energy.

Quality

- Spillville Mill decided to implement ISO 9001:2000 for continual improvement of business management and production practices. CIRAS was brought in to provide internal auditor and management training, assist with establishing an implementation plan and writing the quality manual, and conduct a pre-certification audit. The mill was certified to ISO 9001:2000 in 2005.

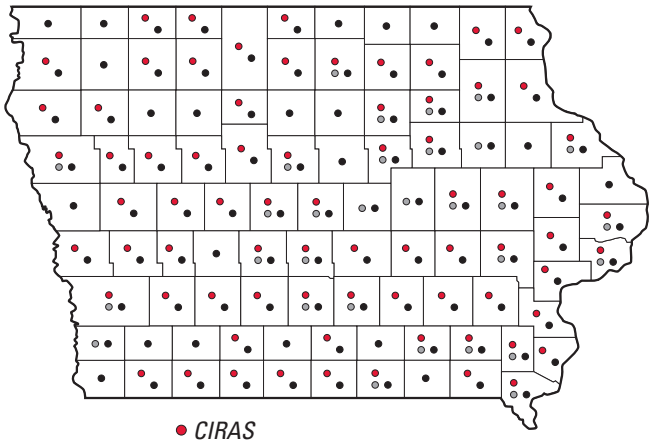
Industrial Research

- CIRAS and the Iowa State University Department of Economics partnered with the Economic Development Administration to conduct a regional economic study on manufacturing in five southeast-Iowa counties: Louisa, Muscatine, Des Moines, Henry, and Lee. As a result, the Southeast Iowa Regional Economic Development Consortium intends to utilize the results to develop a marketing plan, create an entrepreneur program, and work to expand opportunities for existing companies.

Continuing Education

- This past year Engineering Distance Education delivered 85 engineering courses to 783 students, 500 of whom were located in the state of Iowa. These courses allowed off-campus students to earn master's degrees in systems engineering, electrical and computer engineering, mechanical engineering, and information assurance.
- Extension staff from Iowa State's College of Engineering offered continuing education courses and workshops that were attended by 2,328 engineers.

Project Activity



- *CIRAS*
- *EDE*
- *Engineering Continuing Education*

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