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Lean manufacturing becomes a reality for Paragon International

By Jim Black, CIRAS

Introduction

CIRAS has enjoyed a long relationship with Paragon International, a firm in Nevada, Iowa, that manufactures popcorn poppers and carts, food concession equipment (e.g., nacho warmers and popcorn warmers), and nostalgia items (e.g., gas pumps, barber poles, and soda fountains). In 1999, Paragon asked Jim Black to facilitate a strategic plan to help them prepare for site selection, construction of a new plant, movement of machines and equipment to the new site, and continuation of production in the new facility. After the March 2000 move into the new facilities, the management team investigated other potential services for further improvement of production operations.

Lean Strategic Plan

Black suggested they develop a lean strategic plan to include the directional focus and tasks necessary to transform the company from a traditional 'push' (make to forecast) manufacturer to a lean 'pull' (make to order) manufacturer. In August 2000, the lean strategic plan was completed and with help from Jim Hendrian at Des Moines Area Community College (DMACC), the company obtained 260F funding providing for lean training assistance from CIRAS and other service providers.



Kaizen team

Lean Simulation Event

Management recognized that the understanding and involvement of the production workforce would be vital to success in implementing lean concepts in the shop. To increase awareness of lean, a Lean 101 simulation was conducted for 24 Paragon employees. The simulation involved setting up a mock production facility to produce circuit boards. Paragon employees volunteered to do the various production, quality, material handling, engineering, scheduling, shipping/receiving, and supervision functions in the mock factory.

During the first round, production followed the traditional push or 'make to forecast' model. Autocratic management, high inventory, poor delivery, and chaos and confusion were the rule during this round. Next, workers received training in the principles and concepts of lean manufacturing.

Discussions on possible improvements were held, and workers changed the layout and processes to conform to their new thinking. Another production round produced better results. Following additional classroom training and improvement ideas, another production round was conducted. Each time more knowledge of lean "pull" or "make to order" concepts was shared, the workers made further improvements to their plant. Waste was eliminated, delivery performance improved while inventory was reduced, quality improved, and financial results got better. This reduced chaos and stress.

Value-Stream Mapping Event

The next significant lean activity was the value-stream mapping event held at Paragon International. Three company employees

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CIRAS Mission Statement

The mission of CIRAS is to enhance the performance of Iowa industry, and associated entities, through education and technology-based services.

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Brandon Grell and Brennan Fehr, ISU engineering students, test the wave simulator in the CIRAS lab.

The primary objective of the Economic Development Administration (EDA) University Center Program is technology transfer and technical assistance to Iowa manufacturers. The secondary objective is providing guidance, information, and design assistance to individual entrepreneurs in their efforts to develop new marketable products.

Driven by these objectives, CIRAS has supported the university's manufacturing and community extension outreach programs. For the past several years, EDA resources have been used to enhance technology transfer and accelerate the adoption of manufacturing technology. More recently, the center has been focusing on new product development. The university center has been operated under CIRAS since the program began at Iowa State University 15 years ago.

Funds from EDA have allowed the center to acquire advanced technology equipment, including a coordinate measurement machine for reverse engineering and a rapid prototyping machine. A combination of these technologies and hiring of upper-level engineering and industrial technology students has decreased the turnaround time for project work and increased the number of manufacturers and entrepreneurs assisted. The center also utilizes the many resources available at ISU, such as faculty and research labs located on campus.

EDA technical assistance examples

When small manufacturers from rural communities in Iowa request technical assistance, the center tries to accommodate their needs.

Schafer Systems, an Adair, Iowa, company, sought a way to test the strength of its modular floating dock system and the connections that hold it together. They needed a device that would simulate waves, so the dock


could be tested in extreme conditions. There was no appropriate device on the market. "We started from scratch," said Brandon Grell, a senior in ISU's mechanical engineering department. Using three-dimensional CAD software, Grell and the engineering staff at CIRAS designed an apparatus that generated oscillation while attached to a dock in the water. Resources from the Center for Advanced Technology Development (CATD) and the U.S. Department of Energy Laboratory (Ames Lab) were also used for this project. The Connect-A-Dock wave simulator was assembled and tested at CIRAS and then moved to a body of water at the Schafer Systems facility in Adair.

Brown Medical Industries in Spirit Lake, Iowa, manufactures and distributes a wide line of medical devices and appliances, ranging from finger splints to foot orthoses. The company wished to improve the design for a product called Steady Step Walker. Since they had no design documentation on the molded components, CIRAS helped develop an improved design by fabricating a series of physical prototypes. Here, the CIRAS engineering design team utilized the skills of Mike Taylor, a senior mechanical engineering student, who used the FARO arm to reverse engineer the cast design. A file of the design was then transferred into a rapid prototype machine, and the result was a beta prototype that could be used for testing.

The university center has been operated under CIRAS since the program began at Iowa State University 15 years ago.

The EDA/CIRAS connection has succeeded in increasing the university's role in economic development by finding new avenues for economic growth and improving the competitive capabilities of existing manufacturers.

Rural manufacturers find it difficult to hire educated technical workers to meet their needs. In its association with the university center, CIRAS is able to provide Iowa manufacturers, especially those in rural communities, with technical assistance so that hopefully they will not lose their local, national, and global competitiveness. The combined effort will keep these manufacturers located in rural communities and eventually offer higher-paying technical job opportunities.

For more information about the EDA University Center Program, contact John Roberts at 515-294-0932 or jroberts@ciras.iastate.edu. 

Federal memorandum highlights IOF ties to Iowa economy *By Tim Sullivan, CIRAS*



On April 19th, Governor Tom Vilsack and Deputy Assistant Secretary of the U.S. Department of Energy (DOE) Denise Swink signed a memorandum of understanding regarding the Industries of the Future (IOF) program for the state of Iowa. The signing took place in the Governor's office and was followed by a public ceremony. The memorandum declares, in part, "The Parties seek to encourage collaborative relationships among industry, academia, and the national laboratories, including DOE's Ames Laboratory at Iowa State University, to evaluate, develop, demonstrate, and support the adoption of new technologies and management methods."

Over 40 representatives from Iowa businesses engaged in the agricultural and the metal-casting sectors of the economy, such as Pioneer Hi-Bred International and John Deere Foundry, witnessed the signing. This event demonstrated strong evidence that the collaborative relationships will be broad based in Iowa. Other organizations present included Iowa State University Extension, CIRAS, Ames Laboratory, ISU College of Agriculture, Iowa Energy Center, UNI Metal Casting Center, Iowa Department of Economic Development, Iowa Department of Natural Resources, and several others.

"The potential of IOF is difficult to overstate," said Program Manager Tim Sullivan. "CIRAS and ISU Extension are uniquely positioned to assist businesses as they formulate their vision of the future; to provide 'inreach' to the universities, federal labs, centers of excellence, etc.; to acquire the existing resources or to stimulate the needed research; and then to provide the outreach necessary to turn the vision into reality." ■

An excellent design *By Don Brown, CIRAS*

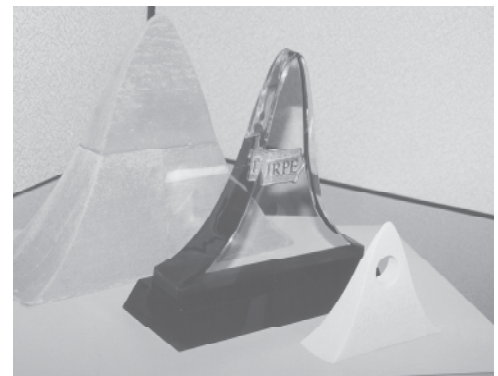
How do you decide what best symbolizes performance excellence? This was a challenge that the Woods Quality Center (WQC) faced when it began considering concepts for the Iowa Recognition for Performance Excellence (IRPE) trophy. A volunteer group, including CIRAS' Don Brown, met to develop trophy concepts. Using a digitized whiteboard to draw and review ideas, the group agreed upon a concept. The CIRAS design team was then requested to make a prototype of the trophy.

The first step to making a prototype was to draw the concept with 3D computer-aided design (CAD) software. Using CIRAS' rapid prototyping equipment, the design team generated a physical model, which led to subsequent modifications and enhancements. A second prototype was made of the new design and given to the WQC for comments. The WQC met with the IRPE board; the physical prototype allowed board members to visualize and provide constructive input. CIRAS then updated the CAD design and produced the final prototype for approval. The engineering information received was used by the WQC to obtain a manufacturer for the cast acrylic trophies.

"This was a good example of a practical 'to scale' model that imparted the actual concept. The client was able to see what the finished product would look and feel like without the expense of a machined model or a cast model," said Don Eichner, CIRAS senior staff engineer.

The IRPE follows the criteria and framework of the Malcolm Baldrige National Quality Award. The process recognizes Iowa organizations (manufacturing, service, retail, government, health care, education, and not-for-profit) that demonstrate performance excellence and improvement through self-assessment. The award recognition is designed to be noncompetitive.

CIRAS partnered with WQC and the Iowa Business Council to assist in the implementation of this process. CIRAS field specialists Rudy Pruszko and Don Brown are approved IRPE examiners working with the tiered applications. CIRAS received the IRPE Award in October 2000 for completing Option 1-Self Assessment.



Organizations or businesses interested in participating in the IRPE may contact the Woods Quality Center, 319-399-6583; Rudy Pruszko, 319-556-5110; or Don Brown, 319-398-1272. For assistance with design and rapid prototyping, contact Steve Devlin, 515-294-5416, sdevlin@ciras.iastate.edu. ■

EDE and ISU engineering department jointly deliver B.S.E.E. degree

By Rebecca Kellogg, Engineering Distance Education



May 2000 B.S.E.E. graduation reception. From left to right: Engineering Dean James Melsa, Al Reiter, Tim Gorton, Mike Brice, Edwin Jones, Robert Tibor.

In May 2001, two more electrical engineering graduates were added to Iowa State University's alumni roll. In itself, this may not seem significant, but these graduates have earned their B.S. in electrical engineering without attending a single course on campus. Instead, they opted to get their degree via facilities provided by the Engineering Distance Education (EDE) program in collaboration with ISU's College of Engineering. As a result, Kevin Kline and Dave Griffey, both employees at Rockwell Collins in Cedar Rapids, will join the ranks of Mike Brice and Tim Gorton, also Rockwell employees, and Al Reiter of the Iowa Prison Industries in Anamosa, who earned their B.S.E.E. degrees through the distance education program in May 2000.

The B.S.E.E. distance education program was initiated in 1996 when industry leaders in the Cedar Rapids area articulated a need for professional development for their "working technical professionals." After a careful assessment of industry needs and undergraduate curriculum requirements, the College of Engineering and the Department of Electrical Engineering partnered with Kirkwood Community College and the ISU Outreach Center to implement a B.S.E.E. degree program.

Since then, the program has expanded beyond the Cedar Rapids area to include students in and around Marshalltown and Burlington. Nearly all distance education courses have been delivered over the Iowa Communications Network (ICN), which provides two-way audio and visual communication between off-campus students and both on-campus students and the faculty.


Students are admitted to the distance education B.S.E.E. program after they have completed approximately 65 credit hours of coursework at local community colleges or four-year institutions. ISU will also accept up to 90 credits from accredited

engineering programs. Two-year technical school credits or certificates do not transfer towards the B.S.E.E. degree.

Once accepted into the program, students take their remaining courses through Iowa State University. The undergraduate degree program comprises courses in electrical and computer engineering together with some courses in advanced mathematics. On an average, two courses are offered each semester and one during the summer session. Students can complete their degree in four calendar years if all prerequisites are met upon entry.

Studying for an electrical engineering undergraduate degree through distance education is a mixed bag of opportunities and challenges. The program allows students to pursue their degree without relocating to Ames while they continue to maintain employment. This arrangement is convenient for students who cannot afford to take the traditional on-campus approach. Students in the EDE program, however, must be prepared to take additional responsibility for their learning. For example, most of the instruction takes place in a guided environment and is remote from the facilities and assistance afforded to traditional students. Also, it isn't always convenient to visit the professor or ask questions. In spite of these few challenges, EDE graduates insist that the program is worth the effort. They acknowledge that managing outside commitments and time constraints is important for success in a distance education program. Additionally, company and family support were considered important factors to student success.

When asked to comment on how the degree impacted their career, our graduates shared with us news of their promotions and exciting projects for which they were responsible. Each of them has gained an internal promotion with substantial additional responsibilities. They also cited their increased marketability and career advancement capabilities.

ISU began a new rotation this summer. It is offering Computer Engineering 210—Introduction to Digital Design, a Web enhanced delivery mode. Students are encouraged to contact the Department of Electrical and Computer Engineering or Engineering Distance Education if they are ready to begin work toward their degree. For additional information about the B.S.E.E. program, please see EDE's Web site at <http://www.eng.iastate.edu/ede/homepage.html> or contact us at 1-800-854-1675. 



EDE welcomes new multimedia specialist

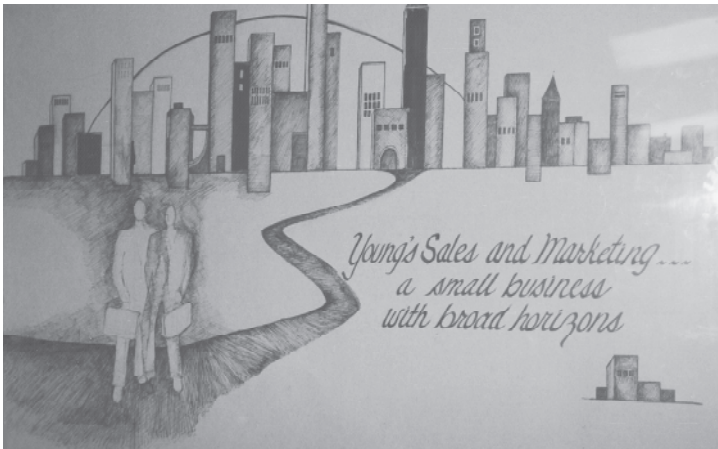
Joe Monahan joined EDE in January 2001. An Iowa native, Joe comes to Ames from Arizona, where he was employed as a director for the animation department of a local college. Prior to this, he worked at Arizona State University's Instruction

Support and Information Technology Center producing 3D graphics and animations, digital video, Web sites, and interactive multimedia. Joe also taught and produced computer graphics and animation for three years in Phoenix.

Joe graduated from the University of Iowa and is currently completing his graduate degree in the area of developing country studies. He is engaged to Dr. Barbara Ohlund, a new assistant professor.

Small Des Moines company finds success in meat industry

By Helen Randall, HKR Communications



A large piece of artwork hangs in the conference room of Braunn-Young's Sales and Marketing, Inc., in Des Moines. The picture depicts a business skyline, a meandering pathway, and some business professionals heading down the path toward the skyline. The caption simply states:

"Young's Sales and Marketing . . . a small business with broad horizons."

The statement seems to summarize the impression left by CEO Bob Young and son Tommy Young, who is the vice president of the company, as they talk about the path their company is currently embarking upon. Braunn-Young's is a highly diverse business enterprise that offers services and products in meat processing and sales, cleaning products, construction, and the electrical/security contracting industry. This article focuses on the company's meat industry expansion efforts and initiatives taken to remain competitive in the midst of fluctuating meat market demands.

Braunn-Young's buys meat in quarters and processes the product into ground beef and ground pork for clients in food system institutions, such as those that exist in schools across the country. The company is considering purchasing equipment and a meat processing facility in Detroit. Until that deal is finalized, it will continue to contract with its existing processing facility.

Part of what makes Braunn-Young's business path interesting, noted Bruce Coney, director of the Iowa Procurement Outreach Center (IPOC), is that the meat industry previously did not involve many minority- or women-owned businesses, such as Braunn-Young's. "Moving ahead in the industry has taken time, and the company has slowly worked through the steps to build a good standing," said Coney.

Braunn-Young's was first certified for such contracts in 1993, according to Young, and received its initial contract to supply ground beef to a school lunch program in 1995. "The USDA gives you a load, you deliver, and you've got a track record," he said. "It's a prove-me thing in the industry." The load shows

the company can secure products, meet the processing and packaging specs, and get them to the buyer on time.

Since the 1995 contract, Braunn-Young's has supplied its products to school systems in Missouri, South Dakota, Ohio, and Iowa. "We need a plant now in order to make a dent in other markets," said Young. These markets include commercial/retail and military. Already the company is approved to sell to commissaries and hopes to put together a deal yet this year.

The Youngs decided to focus on the meat industry for some obvious reasons. "The meat industry was a wide-open concern for small businesses. Not a lot of them were involved, especially in Iowa," said Young. Those that were involved went out of business because they had difficulty getting raw material. Their problem stemmed from bidding against the larger producers/processors, according to Young.

Young is aware of the need to bolster the company's assets against supply and demand uncertainties. "You've got to be prepared to take a hit sometime or the other with all of the safety

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Tommy (standing) and Bobby Young

Small Des Moines company

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issues and recalls. There is no safe haven,” admits Young. The company plans for these hits, he said, but so far has been able to avoid them.

In a recent initiative, the company has applied to enter the federal Mentor/Protégé Program where a larger company mentors a smaller business for three years, helping it learn better business practices, best ways to produce and distribute products, and expand assets. Then it lets the smaller firm stand on its own—hopefully in better business shape. The larger company is reimbursed for its efforts by the federal government. Braunn-Young’s will learn business strategies and tactics to expand its production and sales of meat products. IPOC assisted in putting together the necessary documents required for the program.

“The Mentor/Protégé Program may be a useful tool for Iowa companies in other industries as well,” said Coney. Acceptance into the Mentor/Protégé Program would be a real breakthrough,” he added.

Bob and Tommy Young said they envision big sales and growing business in the next few years. Although animal/meat production has been hit hard because of the weather in some parts of the country—primarily due to drought factors—the company believes that its supplier networks will continue to provide meat products, which

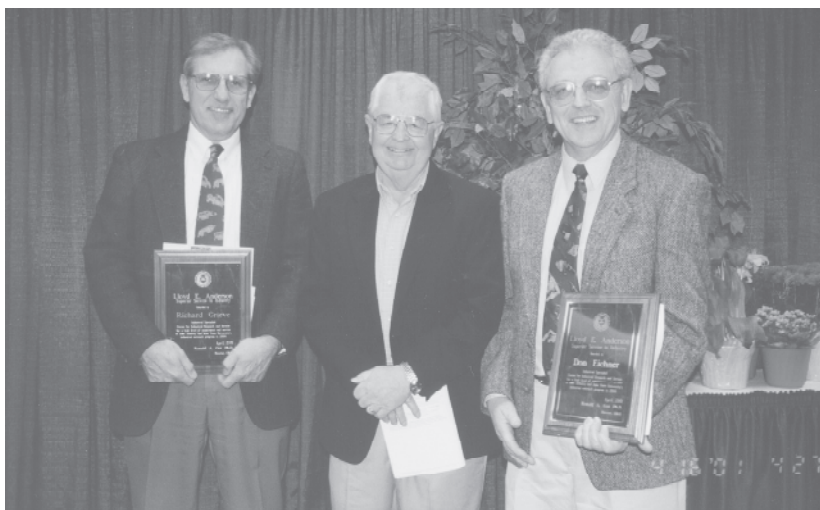
will remain in high demand. IPOC and Coney have been instrumental over the years in helping Braunn-Young’s obtain contracts, assist in the paperwork required for federal contracts, and meet key players in the industry.

“Bruce has even traveled with us on his weekends off to help us make contacts,” said Tommy Young, who is confident that CIRAS and IPOC will continue to be of further assistance as the company grows. “They open doors for us.” He said the company will also look to ISU outreach services for assistance in technology—both in software and computers and the latest processing equipment for the new plant, as well as continued development of new market opportunities. ■

IPOC assists small companies to expand their markets and procure federal contracts. IPOC is located in the CIRAS offices at Iowa State University. If you would like more information, contact Bruce Coney or Kathy Bryan at (800) 458-4465 or e-mail at IPOC@ciras.iastate.edu.

CIRAS staff receives award

By Joanne Hansson, CIRAS



From the left: Richard Grieve, Lloyd Anderson, Don Eichner

development, engineering management, and manufacturing engineering. Grieve was interim director for CIRAS for three years prior to his retirement in December 2000.

Eichner worked as a project engineer for CIRAS since 1990, specializing in computer-integrated manufacturing, productivity improvement, and product design and development. Eichner’s 12 years of experience as a faculty member in the mechanical engineering department at ISU led to the hiring of students at CIRAS for hands-on engineering work with Iowa industry. Eichner retired from CIRAS in May 2001. ■

Two retired CIRAS staff were recognized for their dedication and longtime service to industry and manufacturing needs. Richard Grieve, CIRAS interim director, and Don Eichner, CIRAS senior staff engineer, were recipients of the Lloyd E. Anderson Superior Service to Industry Award. Lloyd E. Anderson, who worked at ISU for over 30 years, is a well-known friend of Iowa industry. He established the structure that has allowed CIRAS to provide its services to Iowa industries. This award recognizes faculty and staff at ISU who have provided continued assistance to industry with their products and processes.

Grieve served the Iowa manufacturing community through CIRAS for 13 years. He specialized in product design and

Lean manufacturing

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participated in value-stream mapping training, which included key lessons on how to map the manufacturing processes to show current state (which shows both value-adding and non-value-adding activities), discussion on how to eliminate non-value-adding activities, and the development of the future state map showing only the value-stream (value-adding) activities. The most important outcomes of this event were an understanding of how much leaner the manufacturing processes could become, key implementation tasks, and a sense of priority on what sequence of action would generate the largest possible impact.

WHAT IS LEAN MANUFACTURING?

The Manufacturing Extension Partnership Lean Network defines "Lean enterprise" or "Lean manufacturing" as:

"A systematic approach to identifying and eliminating waste (non-value-added activities) through continuous improvement by flowing the product at the pull of the customer in pursuit of perfection."

Kaizen Team

Company management examined the future state map and concluded that the most important initial areas for implementation focus should include

- Implementation of a quality system covering line non-conformities, complaints, and returns
- Reduction of total inventory through implementation of kanbans (replenishment signals)
- Increasing flexibility of work through implementation of standard work
- Improving effectiveness of workers through implementation of 5-S (sort, straighten, scrub, standardize, and spread) and visual management

The company accepted Black's recommendation to utilize a Kaizen (continuous improvement) team (see team picture on cover) to address the four objectives stated above.

Project Outcomes

1. Implementation of a quality system
 - Paragon has implemented a system for identifying and tracking defects.



Kanban of wire assemblies

- The team has taken corrective action on line quality issues and installed poka yokes (mistake proofing devices) to assure consistency.
2. Reduction of total inventory
 - The team installed kanbans (see photo above) for wiring assemblies, kettles, base, and chassis.
 - Materials Manager Julie Allbee describes kanbans as "not just an inventory tool, but also a visual signal when to stop producing. By helping employees to visualize the concept of flow, they can also see the benefits of cross training and flexibility."
3. Increasing flexibility of work
 - The team developed a standard work manual for their Model TP-6 and TP-8 popcorn popper assembly line. The manual includes tasks, digital photographs to clarify tasks, and time standards. This has been used to improve cross training and flexibility.
 - Plant Manager Dave Swegle thinks the standard work has had the greatest impact for Paragon. "Standard work gives us a benchmark for determining work content as a training tool, and provides a consistent process to improve quality."
4. Improving effectiveness of workers
 - The team has improved the layout of their line in numerous ways, making part and tool locations visible to minimize movement and hunting.
 - Some visual management techniques have been implemented, such as taped zones on the floor for the kettle kanban carts.

According to Margaret Wilson, President of Paragon International, "any manufacturing company would benefit from application of lean manufacturing principles. It is a different approach to looking at things that will better train workers, improve product quality, save money, and improve customer satisfaction."

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Lean manufacturing

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For more information about lean manufacturing elements, check out the following web links:

<http://www.ciras.iastate.edu/CIRASNews/2000Summer.pdf>

http://www.ciras.iastate.edu/OnlinePublications/Management/management_guideK.htm

<http://www.ciras.iastate.edu/CIRASNews/spring97/index.html>

<http://www.ciras.iastate.edu/CIRASNews/fall97/digi.html>

Jim Black may be contacted at 515-294-1507 or jblack@circas.iastate.edu.



Jim Black has just received a Lean Manufacturing Certificate from the University of Kentucky in Lexington. Requirements included completing six three-credit courses and final exams in lean manufacturing courses that included

- *Principles and Practices of Lean Manufacturing*
- *Operations Management Principles for Lean Manufacturing*
- *Organizational Learning for Lean Thinking*
- *Lean Manufacturing Engineering for the Shop Floor*
- *Lean Manufacturing Shop Floor Management*
- *Leadership for Lean Enterprise*

CIRAS has been developing the capability to deliver lean manufacturing services in conjunction with Iowa community colleges and the Iowa Manufacturing Extension Partnership. Black is co-chairman of the Iowa Lean Policy Team, which represents the above-named partners, and is also team leader for the CIRAS productivity improvement team.

Portable technology facilitates on-site testing

by Sunanda Vittal, *Engineering Communications and Marketing*
Reprinted from *CIRAS@Work*, Vol. 1, No. 4, Winter 2001

Thanks to CIRAS resources and the company assistance programs and research facilities available through Iowa State University, on-site testing of heavy machinery and equipment is a convenient, cost-effective option.

In a recent project with Sukup Manufacturing in Sheffield, Iowa, a combination of CIRAS know-how and state-of-the-art technology from Iowa State worked effectively in educating clients on testing methods and their use in product design.

Sukup, which specializes in agricultural machinery, wanted to test the support structure of its newest product—a stacked continuous-flow grain dryer system.

Over 20 feet in height and length, the system features two dryer units positioned one on top of another. Its innovative patent-pending grain crossover system is designed to minimize over-drying of grain as it moves from one module to another.

Moving the product to a testing lab would have involved elaborate planning and transportation costs. Instead, Sukup did the next best thing. It contacted CIRAS Field Specialist John Van Engelenhoven for assistance, who in turn initiated a convenient, cost-efficient testing process.

First, to help finance the project, Van Engelenhoven connected Sukup with the Center for Advanced Technology and Development (CATD), ISU's technology transfer center.

CATD, which assists Iowa companies in developing and commercializing new technologies, proposed a cost-sharing plan that suited the company's budget.

Next, Van Engelenhoven called on resources available in the Engineering Research Lab at ISU's civil and construction engineering department. Equipped with a

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portable data logger and a compact high-tech electrical device, called a strain gage, ERL Manager Doug Wood, along with a CIRAS team, traveled to Sheffield to perform on-site testing of the structure.

“Strain gages are small electrical grids that when attached to a material can determine its strain level as well as its limitations in withstanding certain loads,” said Wood.

Strain gages come in different varieties and sizes ranging from 4 inches to 1/125 inch, explained Wood. The device is comprised of electric wires fixed on a grid that contract and elongate with the deformation of the material. It measures the electric resistance as the wires react to external forces, like pressure, temperature, and structural change in the material.

In this instance, the strain gage was attached to the exterior of the stacked dryer at numerous locations. A laptop and data logger connected to the gages automatically logged in readings for different parameters—from the loading to unloading of the corn. Additionally, the dryer system was subjected to a simulated lateral load pressure test to determine its resistance to high wind elements.

“Using instruments like the strain gage, the Engineering Research Lab has, in the past, performed other stress tests on a variety of equipment, from wheelchair suspension systems and gymnastic equipment to big wheel trolleys and playground equipment,” said Wood.

“In other words, if a company needed research testing while they’re designing a new product or even mechanical testing for an existing product, contacting CIRAS can lead to a variety of solutions,” added Wood.

Another advantage the CIRAS team provided to the project through CATD assistance was accessing useful benchmarking data of equipment codes and testing standards that have been applied to similar structures in the past.

“The company now has a clearer picture of how much stress their grain dryers will experience under common usage conditions such as carrying substantial grain loads and withstanding extreme weather conditions such as high winds,” said Beth Taylor, CATD project manager. “This information will be useful as the firm goes on to design other new products,” added Taylor.

Testing a new product for reliability and efficiency is a necessary step that companies undertake to assure customers of their commitment to excellence. CIRAS understands this obligation on the part of manufacturers all too well, which is why its ability to access the latest technology combined with its resource management capabilities invariably gets the job done. ■

Ron Cox is the new CIRAS director



Ronald Cox was recently named director of the Center for Industrial Research and Service (CIRAS), the industrial outreach arm of Iowa State University Extension. Cox previously spent four years as a CIRAS field agent in the Mason City area, where he provided technical assistance to manufacturers

in the areas of product design and testing, plant ventilation, productivity, and root cause analysis.

Prior to joining ISU, Dr. Cox was vice president of engineering for a manufacturer of cooling towers. There he led engineering design, testing, and manufacturing activities and he piloted quality assurance and plant productivity initiatives. Cox also has industrial experience in the aerospace industry, where he worked on transonic aircraft wing designs and wind-tunnel testing of advanced aircraft. ■

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CIRAS Advisory Council elects new chair, names new members

John Feeley, Schaeff Incorporated, Sioux City, was elected chair of the council, succeeding **Margaret Wilson**, Paragon International, Nevada. **Pete Kaser**, Ampel, is vice chair. Four new members joined the CIRAS Advisory Council this year. They are:



Darrel Edeker, Plant Manager, Marshalltown Trowel Company, Marshalltown



Tony Wayne, Chief Financial Officer, The Wittern Group, Inc., Des Moines



Stewart Fluent, Vice President, Radec Engineering Services, Inc., Denver



Steve Webber, Plant Manager, Webber Metal Products, Inc., Cascade

At the same time, three members completed their terms. They are **Cindy Derby**, Family Tree, Albia, **Ken Heitritter**, Vessel Systems, Inc., Dubuque, and **Kevin Harberts**, Iowa Metal Spinners, Waterloo. The Advisory Council serves to guide and counsel CIRAS while providing continuing liaison between CIRAS' clients and resources.

Give us your rating

CIRAS is currently working on adding a CAD/CAM database to the CIRAS Web site, and are looking for people who have had experience with this software to rate it. Please log in to www.ciras.iastate.edu/, click on "CAD/CAM Database" beneath the Product Design and Testing group, and enter a rating between one and five (five being the best) for any software you have had experience with. We appreciate your assistance in providing the most comprehensive information to our users.

Students continue to work and learn at CIRAS

Since 1987, CIRAS has employed students to help provide service to Iowa manufacturers. Students from various disciplines at ISU work ten to fifteen hours per week during the school year. These student workers enable CIRAS to serve more companies on a long-term basis. CIRAS has long encouraged Iowa manufacturers to hire students through internships and co-op programs. The motivating factor for this encouragement is CIRAS' own experience with student employees. The number of students at CIRAS has increased from one in 1987 to fourteen this summer. CIRAS clients have reacted positively to working with students. The professional setting gives the students a "real-world" setting fostering good communication and teamwork, as well as practical applications for their technical skills.



Students pictured: (Back rows left to right) **Nick Burns**, Industrial Engineering; **Jhonson Sahlan**, Industrial Engineering; **Mike Larson**, Mechanical Engineering; **Shane Whitty**, Mechanical Engineering; **Willie Griebel**, Aerospace Engineering; **Travis Johnson**, Mechanical Engineering; **Jason Reber**, Mechanical Engineering; **Brennan Fehr**, Mechanical Engineering; **Steve Frankeberger**, Electrical Engineering; **Matt O'Banion**, Mechanical Engineering. (Front row) **Martha Pope**, Political Science and International Studies; **Carissa Roenfeldt**, Marketing and Exercise Science. (Not pictured) **Curt McFadden**, Mechanical Engineering.

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CALENDAR

June 13, 2001, 10:00 am–12:00 noon

SoftSelect Systems/Selecting Manufacturing Software

ISU Industry Outreach Center, Cedar Falls. This is a free workshop introducing SoftSelect Systems for use in manufacturing software selection. For more information, contact Mike Willett, 319-266-3260, mwillett@ciras.iastate.edu.

June 13, 2001, 1:00 pm–4:00 pm

Steve Vanderlinden, CIRAS, will be on hand for free consultation on business financial management.

ISU Industry Outreach Center, Cedar Falls. For more information, contact Mike Willett, 319-266-3260, mwillett@ciras.iastate.edu.

June 20, 2001, 9:00 am–4:00 pm

Quality Systems Consultation

ISU Industry Outreach Center, Cedar Falls. Don Brown, CIRAS, will be available to answer questions about ISO/QS 9000 or 2000 certification. For more information or to schedule an appointment, call Don, 319-398-1272, dbrown@ciras.iastate.edu.

June 21, 2001, 8:00 am–9:15 am

Eastern Iowa Networking Breakfast

ISU Industry Outreach Center, Cedar Falls. Cost \$9.00. To register, contact Dawn, 319-266-3390.

June 28, 2001, 12:00 noon

Rapid Prototyping Workshop and Consultation

ISU Industry Outreach Center, Cedar Falls. Steve Devlin, CIRAS, will present a workshop and demonstration on rapid prototyping. One-on-one consultation will follow the event. Cost \$40. For reservations, call Dawn, 319-266-3390.

July 11, 2001

SBA and Federal GSA Workshop

Botanical Center, Des Moines. Full-day workshop featuring SBA programs and an overview of GSA programs. Cost \$50 (includes lunch). Contact Kathy Bryan, 800-458-4465, kbryan@ciras.iastate.edu.

July 12, 2001, 7:30 am

Central Iowa Networking Breakfast Mini-Expo

Representatives from GSA in Kansas City will be available to discuss bidding opportunities. Cost \$9.00. Pre-registration is required. Contact Kathy Bryan, 800-458-4465, kbryan@ciras.iastate.edu.

July 20, 2001, 10:00 am–12:00 noon

Solid Edge CAD Software demonstration

Howe Hall Auditorium. No charge. RSVP to Steve Devlin, sdevlin@ciras.iastate.edu.