IOWA STATE UNIVERSITY Center for Industrial Research and Service

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CIRAS Support When You Need It Most

Founded in 1974, Dobson Pipe Organ Builders is a renowned American organ builder known for crafting high-quality pipe organs headquartered in Lake City, Iowa. They have organs in 29 states and the District of Columbia, England, and Australia.

A few days after a June 2021 fire destroyed the Dobson Pipe Organ Builders workshop, Deana Hoeg-Ryan called Derek Thompson, a CIRAS strategic advisor. The Lake City company's office staff had relocated to a nearby house but didn't have any equipment.

"I knew CIRAS had helped us in the past and called Derek to see if there's anything he could do," said Hoeg-Ryan, Dobson's business manager. "I told him, 'We have this, house, and we have nothing to put in it. No desks, no computers. Can you help us?' He asked me when we needed it, and I told him as soon as possible."

Thompson immediately tapped into the resources of CIRAS.

"Two days later, he brought desks, file cabinets, lamps, everything. It was amazing," said Hoeg-Ryan.

Dobson has benefited from CIRAS assistance for several years:

- Helped set up a capstone project with Iowa State engineering students to determine whether a CNC router was worth the investment. Based on the project's findings, the company bought the equipment.
- Supported Dobson in receiving an Iowa Economic Development Authority grant to purchase equipment.

Continued on page 2

Dobson employee machining pallets, which are made of vertical grain (quarter-sawn) western red cedar.

<complex-block>

IMPACT: Support in

several vital areas after

a 2021 fire destroyed the Dobson factory.

NEWS



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Since 1963, we have delivered proven services to enhance the performance of industry. Our approach—Engage. Educate. Embed.—creates specific solutions that allow each business and its community to prosper and grow.

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CIRAS Support continued from page 1



Assisted with safety implementation and strategic planning.



 Completed a 5S project, a five-step methodology that creates a more organized and productive workspace.

"We keep discovering new things CIRAS can do for us," said John Panning, who has worked for Dobson since 1984 and bought the business from its founder in 2012. "They've helped with our website, strategic planning, hiring. They've touched just about everything we do."

The relationship demonstrates the impact CIRAS can have in Iowa.

"With our statewide team and partners, we have expertise to help you in every aspect of running your business," Thompson said. "Dobson is an excellent example of how an lowa manufacturer can tap into and benefit from that range of capabilities."

One of the first connections after the fire was for CIRAS to help Dobson partner with Calhoun County REC to assist in writing a low interest loan for \$1.5M through the Iowa Area Development Group.

After the fire, Hoeg-Ryan had to rebuild her job-costing records while dealing with the daunting insurance claim process. She contacted Thompson again, this time with an email with the subject line: SOS.

"I told him I was struggling here, had insurance to deal with, and needed help. He called me immediately," she said.

Thompson connected her with Sean Galleger, a retired CIRAS account manager and third-party resource with financial expertise. Working closely with Hoeg-Ryan, Galleger spent months gathering the information needed to file claims and assisting with negotiations.

"The minute I reached out to Derek, I felt such a weight off my shoulders," Hoeg-Ryan said. "He told me, 'We've got this, and we will help you.' He connected me with Sean, who I now consider a good friend."



Above: Construction of the new building; anticipated completion in fall of 2024 on original building site. **Above Right:** Every pipe must be meticulously adjusted for the desired strength, speech, and tone, then cut to the correct length for proper tuning. **Right:** Installed Dobson Pipe Organ.

Dobson is looking to the future with plans for their new building and an evolving workforce.

"They need woodworkers who can build very precise, exquisite organ systems. They also need staff with an ear for the sounds of an organ who can go tune organs on site," said Thompson. "We're helping them develop a workforce strategic plan to identify and recruit workers who fit their unique needs."

"We have 16 employees, and one-quarter of our staff is retiring within three years," said Hoeg-Ryan. "Many of our people have been with us for 30 years or more, so we're trying to get ahead of it and get people in place so they can learn from the people leaving."

Dobson is rebuilding on its same Lake City town square site but going to a one-story facility from one that previously had four levels. The company turned to CIRAS to help with the layout of the workshop and the incorporation of Lean principles in their work and safety processes.

"We've been working on our new workshop layout from an efficiency standpoint, trying to minimize movement from one point to another and making the shop run as efficiently as possible," Panning said. "A lot of space is dedicated to woodworking and specialized metalwork. You also need a large space for assembling the organ to make sure everything fits together properly. We want to bring everyone into the process and make them owners."

If all goes as planned, Dobson will be in its new building by August 2024, just in time to celebrate the company's 50th anniversary. That is sure to be music to everyone's ears.

For more information, contact Derek Thompson at thompson@iastate.edu or 515-419-2163.







Above: Dobson Pipe Organ Builders groundbreaking on July 5, 2023. **Right**: Derek Thompson, CIRAS; Deana Hoeg-Ryan, Dobson Business Manager; and John Panning, Dobson Owner at the groundbreaking ceremony.



The Power of a Refined BidMatch Profile

Star Equipment, a Des Moines-based company that sells, rents, and services construction equipment, parts, and supplies experienced significant government work growth thanks to CIRAS. They finetuned their BidMatch profile, which the company uses to find and compete for jobs.

"We're getting a better look at what municipal and government agencies require and how we might fill their needs," said Cherish Graham, sales coordinator at Star Equipment. "Not only has this brought in work, but it's also saved time. I wouldn't have been able to research all the avenues on my own."

STAR EQUIPMENT

FOUNDED: 1968 EMPLOYEES: 70 OVERVIEW: Provides new and pre-owned construction equipment IMPACT: Secured several government contracts. Graham and Ben Hammann, who prepare bids for the company, credit their success to their updated BidMatch profile. Star Equipment recently won contracts with the Iowa Department of Transportation, the City of Des Moines, Polk County, Iowa State University, and the City of Ames.

BidMatch is a service available to CIRAS clients that alerts businesses to opportunities related to their products and services. The system searches thousands of websites

for local, state, and federal government contracting work, saving companies time. The first step to using the system is working with CIRAS to set up a bid profile specific to the company.

"When I met with them last spring, they weren't getting opportunities to bid, so I reviewed their profile and fine-tuned it using keywords and phrases more consistent with the work they do," said Kelly Freel, a government contracting specialist with the CIRAS APEX Accelerator. "Some profiles don't fully articulate what the supplier has to offer, or changes within the company. It's important to review the bid profile at least once a year to remain competitive."

CIRAS maintains and edits BidMatch profiles for clients and may recommend clients register directly with a target agency to ensure an opportunity is not missed. This is an example where a small change can make a big difference in contracting success.

TAR Equipment LTD. E

For more information, contact Kelly Freel at kmfreel@iastate.edu or 515-620-6265.

KENTUCKY LEAN TOUR

Elevate your Lean learning and development—be part of the ILC Kentucky Lean Tour 2024!

Join us in Lexington, Kentucky, May 14–16, 2024, for an immersive Lean leadership experience.

What to Expect:

- Lean Workshops: These are led by Mike Hoseus, author of "Toyota Culture," offering 16+ hours of transformative sessions.
- Learning Tours: Explore industry leaders like Toyota and Hitachi Astemo.
- Networking: Connect with ILC members.
- Exclusive Dining: Wrap up with a special tour and dining event.
- Enhance Your Lean Knowledge through Workshops: Purpose, Process, Problem-Solving, People.

books and studied the practices, but the presentations and tours gave me insights on how to apply Lean principles I couldn't have gotten any other way."

"I've read the

—Kevin Young, Continuous Improvement Manager at HNI, tour participant

For more, contact Emily Betz at betze@iastate.edu or 515-567-0216.



DON'T MISS OUT: Exclusively for ILC members. Not a member? Join now!

Star Equipment building in Des Moines, IA.

Dickson Turns to CIRAS for Automation Support

Investing in new technology can be risky. The financial outlay can be high, and confidence that the technology will deliver an adequate return on investment can be low.

Similar to numerous manufacturers, Dickson Industries, a Des Moines-based company specializing in custom food packaging and textiles, had the potential to increase its sales. However, like other Iowa businesses, it grappled with a challenging workforce environment that posed difficulties for its expansion.

"We were looking at automation of some tasks, not because we wanted to replace workers but because we wanted to supplement what they were doing," said David Dickson, president of Dickson Industries.

CIRAS evaluated the process in question—creating the fabric casing commonly used for turkeys, hams, and other meats. Dickson had several stations that processed and cut the netting, and they weren't able to hire enough workers to keep up with orders. They worked with CIRAS to study the

current process, determine desired changes, develop specifications for needed automation, and connect Dickson with potential system integrators to provide the automated system.

This wasn't the first time that Dickson worked with CIRAS. They collaborated with CIRAS before to get a coveted food quality and safety certification, and they liked that CIRAS's priority was supporting them as an Iowa manufacturer. "We knew they had a vested interest in the success of the project," Dickson said.

CIRAS was able to come in with fresh eyes and the expertise needed to analyze the tasks that needed to be automated. That included documenting how workers took an extra step to wipe off accumulated liquid after each netting cut and how the netting cuts needed to vary in size.

"We help companies think through the variations and nuances of the process and how to mitigate potential risks. This approach and documentation are key to helping a system integrator provide a successful automation project for the company," said Andrew Friend, CIRAS project manager.

CIRAS helped Dickson vet vendors and estimate equipment, pricing, and the impact on the company's immediate business and long-term goals. The project included automating the fabric cutting and movement through the process with numerous sensors to help manage the process. These changes will allow the current operator to manage multiple systems.

The project with Dickson is an excellent example of what CIRAS does for lowa manufacturers, Friend says. "We help them grow their capacity when maintaining a workforce is not easy. And we de-risk technology adoption for companies so they can be confident as they change and adapt to market needs."

For more information, contact Andrew Friend at afriend@iastate.edu or 515-520-2803.

"We were looking at automation of some tasks not because we wanted to replace workers but because we wanted to supplement what they were doing."

> **DICKSON INDUSTRIES** ESTABLISHED: 1946 EMPLOYEES: 45 **OVERVIEW:** Producer of quality knit fabrics, garments, and textile products. **IMPACT:** Implementing automation and process management, supported by sensors, to empower the existing operator to oversee multiple systems simultaneously. Estimated financial impact over \$1.2 million and retained eight jobs.

Dickson employee supervising automation process for fabric casing.

Over the Past Five Years

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IMPACT More than \$3.1 billion CONNECTIONS More than 4,600 distinct lowa clients served by CIRAS and our partners

JOBS More than 38,000 jobs created or retained



In partnership with the Iowa SBDC and CIRAS, Senator Joni Ernst hosted the **Senator Ernst's Entrepreneur Expo** in Ames on September 22. This event connected Iowa's small businesses with procurement and technology decision-makers from Washington, D.C. Attendees gained insights into government contracting and innovation programs. The CIRAS APEX Accelerator team contributed to panel discussions, workshops, and networking. The second annual event is scheduled for 2024.

- Agri-Industrial Plastics in Fairfield maximized its Iowa Lean Consortium membership through participation in the Continuous Improvement Cohort pilot group. Chris Meyers, director of Quality & Continuous Improvement, stated, "We gained valuable connections and learned from speakers about the impact of continuous improvement. We look forward to sharing Agri-Plastics' implemented ideas."
- The Metrix Co. of Dubuque partnered with Northeast Iowa Community College and CIRAS for strategic guidance and coaching, resulting in a united management team actively pursuing the company's vision. Metrix anticipates a financial impact of more than \$500,000. CEO Dan Schoen acknowledges, "Thanks to our partnership with CIRAS, our leadership team is now efficient, collaborative, and results oriented."

Varsity Group of Urbandale sought SAM.gov assistance from CIRAS, securing a \$25,000 government contract. Kevin Moreland, marketing specialist, praises CIRAS for simplifying the process and being readily available, stating, "CIRAS comes with our highest recommendation."

Demco, in Boyden, has collaborated with CIRAS and Iowa State University since 2018 on capstone projects. In 2023, they recruited students at the Iowa State Engineering career fair, crediting their success to collaboration with CIRAS. Chris Dailey, manufacturing engineer, emphasized early student engagement, praising CIRAS for enabling valuable experimentation in small businesses.

PYROGRAPHICS

FOUNDED: 1994 | EMPLOYEES: 18 OVERVIEW: Commercial screen printing for drinkware.

IMPACT: Received a \$20,000 grant to utilize lasers to increase speed and accuracy in a printing process.

DOUGLAS MACHINE AND ENGINEERING

FOUNDED: 1946 | EMPLOYEES: 24

OVERVIEW: CNC fabrication services; robotic and automation integration.

IMPACT: Received \$50,000 from IEDA to update the electronics in a boring mill and another \$25,000 grant to update CAD software.

CIRAS and Manufacturing 4.0 Grants Help Iowa Manufacturers Adopt New Technology and Grow

More than ever, lowa manufacturing is turning to technology to stay globally competitive. However, with limited time and resources, finding the right technology is a challenge.

CIRAS, recognizing that challenge, partnered with the Iowa Economic Development Authority (IEDA) to drive technology implementation in small manufacturers. Eligible companies could apply for up to \$75,000 in IEDA Manufacturing 4.0 Technology investment grants, which could be used to purchase equipment to increase productivity, efficiency, and competitiveness.

CIRAS made it so easy and to the point that we had to do it.

"

Companies were required to match the grant amount.

As a prerequisite for a grant application, IEDA required an assessment from CIRAS to evaluate

potential changes and impacts these funds would help create. Soon after the program was launched, it became evident that interest would far surpass predictions. In response, CIRAS swiftly adapted to prevent application delays. This involved engaging the majority of CIRAS staff and key partners to expand capacity. The grant program expanded to encompass multiple phases, with more than 330 assessments, nearly ten times over initial estimates.

lowa companies are seeing the impact.

"CIRAS told us about the grant," said Dan Svec of Pyrographics in Des Moines. His company, which creates custom merchandise like mugs and glassware, received \$20,000 to utilize lasers to increase speed and accuracy in a printing process.

"It was something we knew already, but they brought in a lot of expertise and narrowed down what type of technology we needed. CIRAS made it so easy and to the point that we had to do it," Svec said. That's what he sees at his company, which, like most manufacturers, struggles to maintain an adequate workforce. "Our investment in technology already is paying for itself in labor savings."

Loras Schaul, owner of Douglas Machine and Engineering in Davenport, said "with the assistance from CIRAS, the company received \$50,000 from IEDA to update the electronics in a boring mill and another \$25,000 grant to update CAD software. "CIRAS informed us of how the program could improve our existing equipment. They made it easy. I probably only invested three or four hours of time into the process."

"We help businesses see things they might have missed and suggest ways technology can make their processes better," said Andrew Friend, CIRAS Industry 4.0 lead. Even after the IEDA grant, CIRAS keeps doing free virtual assessments for manufacturers to find areas for improvement. Making lowa manufacturers more efficient with technology is crucial, especially now. The pandemic led to high product demand, but manufacturers struggled to hire enough employees. "It's not about replacing people with machines; it's about making the most of the people they have so they can grow," said Friend.

For more information, contact Andrew Friend at afriend@iastate.edu or 515-520-2803.





Top: Pyrographics laser assisting with printing process. **Bottom:** Douglas Machine and Engineering retrofit on large DeVieg machine.

FOR THE RECORD

Public partnerships provide resources that help CIRAS achieve its goal to "enhance the performance of industry through applied research, education, and technical assistance." Here's a list of recent awards and how they're being used to help CIRAS in its work with lowa companies.

CIRAS Support Comes From

Manufacturing Extension Partnership (MEP) program helps companies grow by implementing new technical and management practices.

Funding: U.S. Department of Commerce \$2.5M in FY24

APEX Accelerator assists

companies in navigating the contracting processes for federal, state, and local governments.

Funding:

U.S. Department of Defense Office of Small Business Programs \$819,000 in FY23

EDA University Center program

provides resources to help construction companies navigate the complexities of emerging technologies.

Funding: U.S. Department of Commerce \$150,000 in FY23

Technology Assistance Program (TAP) provides expertise to lowa businesses to reduce their risk of

deploying technologies.

Funding:

Iowa Legislature, Economic Development Appropriations Bill \$1.4M in FY24

Disadvantaged Business Enterprise (DBE) Supportive Services program helps business enterprises find success in competing for and performing on lowa DOT contracts.

Funding: Iowa Department of Transportation \$131,000 in FY23

New CIRAS Advisory Board Members



Lori Schaefer-Weaton President, Agri-Industrial Plastics Fairfield, IA



Dereck Lewis CEO, Thelma's Treats Des Moines, IA

Upcoming Event List

Al: Navigating the Future of Work with Al

February 14, March 20, May 22, June 12, Virtual

Are you looking for insights into the risks and rewards of AI utilization? Join us for this series in which we dig into the impact of AI on business and the workforce.

Human Resources Strategies

March 6, May 15, July 17, September 25, November 13, Virtual Join CIRAS and Kyle Roed for our 2024 virtual-event series tailored for HR professionals. The six informative sessions each priced at \$25. Choose one or all to gain practical insights and expert knowledge, enhance your HR skills, and connect with other HR professionals.

Iowa State Technical Assistance Lab Roadshow March 21, Des Moines, IA

Join CIRAS to explore how Iowa State University lab resources can help Iowa manufacturing generate cost savings, increase development speed, provide root cause analysis, and enhance product quality.

How to Use Technology to Boost the Productivity of Your Limited Workforce April 16, Ankeny, IA

Learn from CIRAS experts, technology distributors and integrators, and Iowa manufacturing peers about practical solutions and witness technology in action.



Visit www.ciras.iastate.edu/eventsworkshops for details on these and other events.

BLUE-9

FOUNDED: 2014 | EMPLOYEES: 5

OVERVIEW: Produces dog training and behavior products. **IMPACT:** Retained sales amount of \$250,000 from new supplier connection.

Making Vital Supply Connections

David Blake, whose company Blue-9 Pet Products makes dog training and behavior products, needed a rubber mat.

The specially designed mat is used on the KLIMB[®], a platform used to train hunting/sport dogs. Blake's mat maker was going out of business, leaving Blue-9 in need of a new vendor. He found one in South Dakota through CIRAS's Manufacturing Extension Partnership (MEP) National Network[™], which uses people and technology to scout for Iowa businesses.

"Most products manufacturers are looking for are not commercially available off the shelf," said Melissa Burant, CIRAS project manager. "We work to find solutions that are wholesale, direct to the manufacturer."

Blake worked in the cellphone industry for several years but had a mold-making hobby. One day, a law enforcement officer asked him to create a small table for dog training. That suggestion led to KLIMB®, a patented product on which Blake built Blue-9. Blake worked with the Iowa Economic Development Authority on funding and with CIRAS on product testing and proof of commercialization. CIRAS also advised Blue-9 on website development and digital marketing. Founded in 2014, the company now has annual sales in the multimillions and its products are sold throughout the world.

The grippy rubber mat is used on the top of a training table to help sport dogs release and land faster. It's a must-have component for a top-selling Blue-9

product. Busy running a successful business, Blue-9 found that having CIRAS conduct a search for a new vendor was "extremely beneficial. They found places

l didn't know about," Blake said.

Working with counterparts in South Dakota, Burant connected Blue-9 with Glacial Lakes Rubber and Plastics in Watertown, SD. "This success story illustrates the power of collaboration between the MEP centers and its real effect on manufacturers."

Burant stepped away from the process when the two companies decided to talk, allowing buyers and suppliers to validate fit and negotiate. Glacial Lakes is now providing Blue-9 with a "product that is superior to my previous manufacturer's and that maintained the price," said Blake.

"This success story illustrates the power of collaboration between the MEP centers and its real effect on manufacturers," said Michelle Kakacek, director of South Dakota Manufacturing and Technology Solutions. "As the initiative progresses, the program's knowledge bases will grow, allowing for many more connections like Blue-9 and Glacial Lakes."

For more information, contact Melissa Burant at mmburant@iastate.edu or 563-726-9958.

> Blue-9 pet Products owner, David Blake with dog, Roo on the KLIMB.

Working at the Speed of the Customer Drove Putco's Million-dollar Deal

A university might not be the first place a manufacturer would turn to for rapid parts testing, but that's exactly what happened when Putco, a vehicle product accessory manufacturer in Des Moines, needed to evaluate the porosity of an aluminum vehicle part in a matter of days to secure a large contract.

"CIRAS works at the speed of customer," says Adam Lathrop, a CIRAS strategic adviser. "I don't think manufacturers always know we do have the flexibility to turn things around quickly. But we'll do everything we can to accommodate them. When companies succeed, we succeed."

Putco had put out inquiries to private contractors to do industrial X-rays of cast aluminum units that it had purchased. They wanted to make sure these items met quality standards. All metal castings have some degree of imperfection, but with these, it was important to document that they didn't have significant porosity that would compromise strength in critical regions.

CIRAS was the first to respond with a plan. "We were in a pickle, and CIRAS had visited us a couple of times, so we reached out to them," says Nick Niemeyer, Putco engineer. "It's paid off."

CIRAS tested the pieces from Putco using its in-house X-ray equipment to generate a 3D-like file, computed tomography. This file can be manipulated to display virtual slices of the parts for evaluation, similar to a medical CT scan

With this testing information, Putco secured a contract that increased sales by a million dollars, retained another million in existing sales, and allowed the manufacturer to retain two positions.

"The priority of CIRAS is to improve the quality of life in Iowa by helping companies and their communities prosper and grow," said Lathrop.

For more information, contact Derek Thompson at thompson@iastate.edu or 515-419-2163.



Putco product casting showing internal void.

We were in a pickle, and CIRAS had visited us a couple of times, so we reached out to them. It's paid off.

PUTCO, INC.

FOUNDED: 1969 | EMPLOYEES: 60 OVERVIEW: Designer, distributor, and manufacturer of high-quality automotive and truck accessories. IMPACT: \$2M in new and retained sales, leading to retained jobs.



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WORKFORCE SOLUTIONS

Navigating Artificial Intelligence Opportunities

Artificial Intelligence (AI) has emerged as a widely available method to translate once mundane and tedious tasks into efficient automated processes with assistance from computer systems in place of human labor. Due to the availability of technologies like ChatGPT, access to the benefits of AI is more prevalent now than ever before. But it is only the beginning.

In 2024, CIRAS launched our strategic initiative to assist lowa companies in understanding AI. Throughout the year, we will share what you need to know, the opportunities and challenges of utilizing various AI technologies, and how to implement simple solutions to become more familiar with what is possible.

Whether you are immersed in AI on a regular basis or just starting to experiment with new tools, our goal is to demystify AI and help lowa companies maximize efficiency and productivity.

A monthly virtual event series will connect you to experts who will share use cases for you to learn the available and relevant technologies. This series will be a resource for your AI endeavors as you encounter challenges and provide education to mitigate them before they become too big of a barrier.

We are committed to initiating conversations, mitigating technology risks, and assisting companies with successful implementations. Join us in shaping the dialogue around AI and its strategic role in the future of work.

For more information, please contact Kirk Haaland at khaaland@iastate.edu or 515-520-7623.



Visit www.ciras.iastate.edu/events-workshops to learn more and register.