

AT A GLANCE

American Pop Corn Company

FOUNDED: 1914

OVERVIEW: Manufacturer of unpopped popcorn.

EMPLOYEES: 177

IMPACT: Easier technology adoption; reduction in workplace injuries.

FOR MORE: www.jollytime.com



Iowa Manufacturers Find Immediate Value in Wearable Tech

It started as a single question in a loud, pandemic-influenced Sioux City popcorn factory: How do we meet our obligation to monitor employee hearing if COVID-19 social distancing requirements are blocking us from running hearing tests in the usual way?

The answer, which American Pop Corn Company discovered with help from CIRAS, involves new workplace safety technology from a groundbreaking Iowa company.

MākuSafe, based in West Des Moines, makes wearable devices with sensors that can monitor the conditions on a factory floor. The devices record a variety of data about environmental concerns such as air quality, noise exposure, or the presence of high heat as well as potential harmful human motion like slips and trips. To preserve

privacy, biometric information about individual workers is not tracked.

"It's working really well," said Zoe Knudsen, American Pop Corn's safety manager. "We've come up with a way to harness all the information that we're getting from the devices . . . and it's also made us more aware of the hotspots in our production areas, places where we maybe need to put some more slip protection on the ground."

Chris Hill, director of the CIRAS Technology Assistance Program, said CIRAS experts began working with

MākuSafe while looking for technology that could be used to help companies with COVID-19 contact tracing. CIRAS is now helping multiple companies via projects using MākuSafe for an overall safety upgrade.

"It's about capturing and using data to quickly identify opportunity areas to focus your improvement efforts," Hill said. "This will drive a return on your investment."

"Connected workers are the future of every work site across the planet," said MākuSafe CEO Gabriel Glynn. "Just like

Continued on page 2

- 1 Iowa Manufacturers Find Immediate Value in Wearable Tech
- 3 ILC Annual Conference to Be Largest Ever, with Virtual, In-person Options
- 4 CIRAS Helps Rada Manufacturing Sharpen Its Marketing
- 5 UEA Toughens Practices, Improves Culture around Cybersecurity
- 5 Upcoming Events
- 6 Hogan Company LLC Gets Leg Up on Government Contracting with CIRAS Help
- 7 Grants Will Match Investment in Manufacturing 4.0 Technology
- 7 Researchers on Tunable Stiffness Bone Implant Turn to CIRAS for Technical Help
- 8 GovTalk-B2G Sales
- 8 Aerial Services Finds Powerful Partner in CIRAS Advisor
- 9 Gilcrest/Jewett Gains Efficiencies through Lean Techniques
- 10 Multiple Options for Fall Career Fairs
- 11 Capstone Students Help Company Improve Trailer Production
- 11 Contact Information
- 12 Growing Your Business

On the Cover: A MākuSafe user initializes the wearable device.

CIRAS Mission: *Every day we will enhance the performance of industry through applied research, education, and technical assistance.*

CIRAS is supported in part by the DoC/NIST Manufacturing Extension Partnership, the DoD/DLA Procurement Technical Assistance Program, the DoC/EDA University Center Program, and the State of Iowa Economic Growth Committee appropriation for the CIRAS Technology Assistance Program.

CIRAS News is published quarterly by the Center for Industrial Research and Service and edited by the CIRAS publications team. Design and production is by Hobbs Designs, LLC. Please send questions, comments, or address changes to ciras.news@iastate.edu.—July 2021 HD21050

Articles may be reprinted with the following credit line: "Reprinted from **CIRAS News**, Vol. 56, No. 4, a publication of Iowa State University Center for Industrial Research and Service." Please send a copy of the reprint to **CIRAS News**, 1805 Collaboration Place, Suite 2300, Ames, Iowa 50010-9166.

Iowa State University does not discriminate on the basis of race, color, age, ethnicity, religion, national origin, pregnancy, sexual orientation, gender identity, genetic information, sex, marital status, disability, or status as a U.S. Veteran. Inquiries regarding non-discrimination policies may be directed to Office of Equal Opportunity, 3410 Beardshear Hall, 515 Morrill Road, Ames, Iowa 50011, Tel. 515-294-7612, Hotline 515-294-1222, email eooffice@iastate.edu.



Workers use MākuSafe to monitor noise at a job site.

safety glasses, hearing protection, and hard hats, workforce wearables are the next evolution."

Knudsen said American Pop Corn is using the devices to monitor decibel levels in two areas containing a total of 19 microwave popcorn production lines. The goal, in an environment where COVID-19 quarantines have sparked higher demand and ramped up popcorn production, is to be certain that factory noise never overwhelms the hearing protection that workers have been supplied.

Additionally, American Pop Corn is gathering information from repetitive-motion and rapid-motion sensors contained in the devices. Tracking the data

over time will help the company spot potential problems before any injuries occur. The company has estimated that it will save at least \$35,000 annually by addressing these issues and preventing more serious injuries.

American Pop Corn Company purchased its first 20 MākuSafe sensors at the end of 2020. CIRAS helped the company

understand MākuSafe as part of the efforts through its Digital Manufacturing Lab to help familiarize manufacturers with Industry 4.0 technology.

"Being a smaller company, trying new things is sometime difficult," Knudsen said. "Having worked with CIRAS in the past on other projects helped make it easier for us to take the leap in trying the device within our facility."

"We've already found a handful of tasks where our employees were triggering the forceful motion sensor. As a result, we've already had some quick, easy wins out in the plant to make things more ergonomic."

— Joel Weiler

about safety items in the plant that need attention.

"We've already found a handful of tasks where our employees were triggering the forceful motion sensor," said human resources operations manager Joel Weiler. "As a result, we've already had some quick, easy wins out in the plant to make tasks more ergonomic."

➤ For more information, contact Chris Hill at chhill@iastate.edu or 515-313-8251.



The MakuSafe devices are charged in a base unit.

Although it's too early to quantify any potential savings from reduced medical issues, Weiler believes the devices will be valuable over the long term. He credited CIRAS for de-risking the initial launch of the company's pilot MakuSafe project.

"It really lowered the barrier of entry for us," he said.

AT A GLANCE

Weiler

FOUNDED: 2000

OVERVIEW: Manufacturer of heavy-duty equipment for the asphalt paving market.

EMPLOYEES: 450

IMPACT: Easier technology adoption; reduction in workplace injuries.

FOR MORE: www.weilerproducts.com

MakuSafe

FOUNDED: 2016

OVERVIEW: Iowa maker of connected workforce wearable devices designed to reduce workplace hazards and positively impact productivity.

EMPLOYEES: 26

IMPACT: Companies utilizing this system typically see an ROI of 1,000% due to a reduction in injuries and insurance costs.

FOR MORE: www.makusafe.com

ILC Annual Conference to Be Largest Ever, with Virtual, In-person Options

The Iowa Lean Consortium's Annual Conference will be coming to all corners of the state October 26–27, as CIRAS expands its efforts to make Lean management techniques more accessible in an Iowa facing severe concerns about workforce availability.

The annual conference, traditionally the ILC's largest and most extensive yearly opportunity for Lean advocates to network and learn, was shifted online in 2020 because of the pandemic.

This year, as the world restarts itself in the wake of COVID-19, availability of people has become the number one discussion topic among Iowa leaders. How do you support growing businesses while Iowa's population growth continues to be lower than the national average and statewide unemployment already is rapidly approaching prepandemic levels? How can you grow if there simply are no more people?

"If companies want to grow in Iowa, they only have three options," says CIRAS director Ron Cox. "Either solve the problems keeping people from joining your company, get more from the employees you have, or supplement your workforce with automated systems."

Lean techniques, which focus on developing your existing employees to spot waste and solve problems, should be an essential component of any Iowa company's workforce strategy for the decades to come, Cox said.

To facilitate that, CIRAS this year is changing the model to make sure every organization in Iowa has easy access to the ILC Annual Conference. Options will include a large in-person event in Altoona, a live-streamed online feed, or multiple satellite events that will be set up at locations around the state.

Tracy Schuster, program director of the ILC, said the hybrid format represents the best opportunity to meet the needs of all ILC members.

"We're hearing from members that they want to get together in person," Schuster said. "But even if I'm ready to get back to in-person events, my employer may not let me."

The 2021 conference will be based at the Prairie Meadows Conference Center in Altoona, with keynote speeches from John Foley and Neil Pasricha. Foley teaches that high performance is a mindset, a process, and a state of being that accelerates everyday achievement, while Pasricha speaks on resilience and breakthrough performance in times of change.

The main addresses, as well as smaller breakout groups on a variety of Continuous Improvement topics, will be viewable online—either from your office or from a satellite location. The satellites also will host their own breakout groups, providing plenty of opportunity for face-to-face discussion in smaller groups.

Sponsorship opportunities still exist for the conference, Schuster said.

For more information, contact Tracy Schuster at tschust@iastate.edu or 515-715-0164.



Attendees at the 2019 ILC Annual Conference.





Employees make cutlery products at Rada Manufacturing in Waverly.

CIRAS Helps Rada Manufacturing Sharpen Its Marketing

A Waverly cutlery manufacturer expects to see more than \$1 million in new sales after CIRAS helped the company analyze its changing market and launch new initiatives during the heart of the COVID-19 pandemic.

Rada Manufacturing Company, which has been making knives for fundraising groups and small retail operations since 1948, sought out CIRAS for help after noticing some “softness” in the company’s traditional fundraising business.

“It was still performing, but we were just working harder and harder to find new 4-H clubs or new church groups or marching bands,” said Phil Jones, Rada’s vice president and general manager. “And we weren’t seeing growth in other areas.”

CIRAS project manager C.J. Osborn used primary and secondary market research to confirm that there was still room in the multibillion-dollar fundraising and retail markets for Rada to grow. It was just a matter of focusing the company’s efforts in the right direction.

“They just needed to think of themselves relative to the competitors in those two distinct markets,” Osborn said. “Having better visibility of the industry they’re serving helped them understand their strengths and weaknesses and how those things should factor into the

initiatives they planned to launch.”

Noting strong growth among online retailers during the pandemic, Rada expanded its efforts to sell directly to consumers, as well as increasing its support for other small online retailers. Jones said the company also tweaked its fundraising offerings and moved more of

that business online, making it easier for fundraising groups to sell through dedicated Internet portals.

“Instead of having two main channels, now the future looks a little more balanced—fundraising, resellers, and our own e-commerce storefront where we’re selling right to the customer,” he said.

Jones praised Osborn’s willingness to work on Rada’s timetable and partner with company officials as they tried to reorient themselves during the heart of

“CIRAS helped us pause and take stock of where we were as a company. You had the background and experience necessary to step in and help us feel more confident about the decisions we’re making for the future.”

— Phil Jones

the pandemic. Osborn also provided valuable analytical tools and frameworks to help Rada look at its future in the correct way.

CIRAS helped give the company the new perspective that it needed, Jones said.

“CIRAS helped us pause and take stock of where we were as a company,” Jones said. “You had the background and experience necessary to step in and help us feel more confident about the decisions we’re making for the future.”

AT A GLANCE

Rada Manufacturing Company

FOUNDED: 1948

OVERVIEW: Cutlery and cookware manufacturer.

EMPLOYEES: 118

IMPACT: More than \$1 million in expected new sales.

FOR MORE: www.radacutlery.com

For more information, contact C.J. Osborn at cjosborn@iastate.edu or 641-840-0505.

UEA Toughens Practices, Improves Culture around Cybersecurity

A Waverly manufacturer of custom rotary motion products has upgraded its technological practices and revamped its culture after attending a CIRAS educational event on cybersecurity.

Howard Samarin, IT supervisor at United Equipment Accessories (UEA), said he was shocked after he and the company's system administrator attended a December 2019 CIRAS event on data security.

"We got in the car after it was over, and we just looked at each other," Samarin said. "We knew we had to get some stuff figured out. . . . Basically, it really became a roadmap and a path for us to start moving forward."

Like many small Iowa companies, UEA used to believe that it didn't need to do that much to safeguard its information systems—after all, who would want to mess with a small Iowa manufacturer?

In reality, many Iowa companies have been damaged by a nationwide increase in ransomware and other security threats.

"It wasn't a question of if it was going to happen to us," Samarin said. "It was when."

Concerned about the breadth of the problem, UEA officials worked with CIRAS to obtain more information about best practices according to Cybersecurity Maturity Model Certification, a framework created by the U.S. Department of Defense as a benchmarking tool for data security. CIRAS experts outlined the recommendations and helped the company understand exactly how they would apply to UEA.

AT A GLANCE

United Equipment Accessories

FOUNDED: 1952

OVERVIEW: Family-owned company specializing in a wide variety of rotary motion products.

EMPLOYEES: 145

IMPACT: Expecting more than \$350,000 in new sales as a result of increased security.

FOR MORE: www.uea-inc.com

Your computer screen was found to be in an unlocked state while you were away. Please take note and follow UEA's Locked Workstation protocol and lock your computer screen when you step away from your computer!

Thank you!



United Equipment Accessories, Inc.

UEA employees who walk away from their stations may return to find the above card.

"We coached them on what these practices are and how they should think about that in terms of their own business," said CIRAS project manager Shankar Srinivasan. "They realized they needed help to review their whole system and find the gaps."

Eighteen months later, UEA has upgraded hardware and software. The company has improved policies on passwords, trained employees on how to avoid phishing attacks, and taken steps to secure its servers from overseas hackers. But the biggest change, according to Samarin, has come in terms of culture.

"Cybersecurity is now an integrated part of our decision-making process," he said. "It's ingrained in our business decisions."

Samarin praised CIRAS for its guidance in helping companies stay ahead of bad actors.

"If somebody really wants in, they'll get in," Samarin said. "But we're going to make it as hard as possible for them, so maybe they'll pass us by and go to the guy down the street."

"That's where you guys come in," he said of CIRAS with a chuckle. "Helping the guy down the street."

➤ **For more information, contact Shankar Srinivasan at srigshan@iastate.edu or 515-290-6702.**

Virtual Lean Coffees

3rd Friday each month

9:00 a.m. to 10:15 a.m.

ISO 9001:2015 Internal Auditor Training

August 11–12, 2021

In-person event to train participants on how to effectively conduct internal quality system audits.

Quality Control and Part Inspection with 3D Scanning Technology

August 12, 2021

Webinar providing an overview of scanning's value as an inspection tool.

Food Talks

September 9, 2021

Quarterly webinar in which Iowa food manufacturers can discuss food safety issues.

Iowa's TSB Program, plus Introduction to the Iowa DOT

September 15, 2021

Webinar providing overview of Iowa's Targeted Small Business program, how to do business with DOT.

ILC Annual Conference

October 26–27, 2021

In-person conference in Altoona with presentations and breakouts streamed to satellite locations or to your desk.

For details on these and other events, visit www.ciras.iastate.edu/events-workshops.

AT A GLANCE

Hogan Company, LLC

FOUNDED: 2021

OVERVIEW: Specializes in highway, street, curb and gutter, driveway, sidewalk, and trail construction.

EMPLOYEES: 6

IMPACT: Four government contracts, and a better sense of possibilities for expansion.



Hogan Company employees work on a Black Hawk County Trail project in Waterloo.

Hogan Company LLC Gets Leg Up on Government Contracting with CIRAS Help

A new Dyersville concrete construction company landed four government contracts during its first few months of operation and began mapping a path to more ambitious efforts after working with a CIRAS government contracting specialist.

Hogan Company LLC opened its doors in early 2021 and found its way to CIRAS through the SBA–Small Business Development Center. Company president Jenny Chambers-Hogan said she and her husband, Kevin, were looking for a trustworthy source to support them with government bidding opportunities.

Julie Fagle, a government contracting specialist with the CIRAS Procurement Technical Assistance Center (PTAC), supported the company with understanding how to do business in the government sector. Fagle assisted them with completing necessary government registrations, applying for Iowa's Targeted Small Business Program,

conducting research to identify target government customers, and finding contracting and subcontracting opportunities. Fagle also connected the company with potential partners that aligned with their business strategy and encouraged them to continue making connections by attending CIRAS-hosted networking and educational events.

"Julie has been a great resource and instrumental in our government contracting success," Jenny Chambers-Hogan said.

"Working with CIRAS has allowed our company to envision more opportunities and has positioned us to prosper and grow."

—Jenny Chambers-Hogan

Kevin Hogan said the couple started their company with a focus on smaller jobs, direct and indirect, in the commercial and government sectors.

Jenny Chambers-Hogan said, "Working with CIRAS has allowed our company to envision more opportunities and has positioned us to prosper and grow. CIRAS is such a valuable resource, and we will continue to work with them for years to come!"

➤ For more information regarding government contracting, contact Julie Fagle at jafagle@iastate.edu or 319-310-8612.

Grants Will Match Investment in Manufacturing 4.0 Technology

Iowa manufacturers who invest in new technology to become more competitive now can have up to \$75,000 of that investment matched by the state of Iowa.

Iowa legislators approved a new “Manufacturing 4.0. Technology Investment Program” in May. The measure creates a program at the Iowa Economic Development Authority (IEDA) to help manufacturers ease the cost of new technology intended to boost “productivity, efficiency, and competitiveness.”

While the official state rules are still being written, grants will be available to any manufacturer with 3 to 75 employees. Applicants first must take part in a brief CIRAS Industry 4.0 assessment to help companies make informed decisions on technology.

Mike O’Donnell, associate director of CIRAS, said the new program will aid a longstanding CIRAS mission of helping de-risk technology investments.

“This is another way Iowa is making it easier for companies to take the leaps they need to take to remain competitive,” O’Donnell said.

Jill Lippincott, Innovation team lead at the IEDA, said CIRAS will play a key role in helping the authority place money where it will do the most good. The Industry 4.0 Needs Assessment involves CIRAS experts evaluating company processes and working with business leaders to identify key opportunities and risks associated with technology implementation.

“This isn’t about purchasing equipment or technology; it’s about really thinking through what can help your company grow in a strategic way,” Lippincott said. “We’re depending on CIRAS to help companies decide.”

For more information, contact Shankar Srinivasan at srigshan@iastate.edu or 515-290-6702.

Researchers on Tunable Stiffness Bone Implant Turn to CIRAS for Technical Help

Iowa State University researchers have designed a new customizable device for optimizing the healing of broken bones—a tunable rod that can be 3D printed and custom matched to the needs of individual patients.

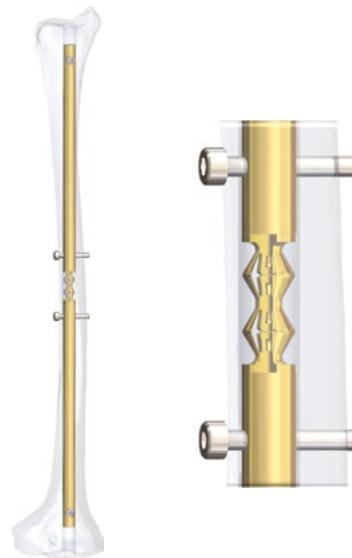
They formalized the idea only after working with CIRAS to explore the limits of 3D printing technology and confirm that their invention actually could be built via additive manufacturing.

“CIRAS really made it happen for us,” said Azadeh Sheidaei, assistant professor in the Department of Aerospace Engineering at Iowa State. “We didn’t actually know we could make it until they made it for us.”

The new device—described in a paper written by Sheidaei; engineering graduate students Mohammad Hashemi and Aaron McCrary; and Karl Kraus, professor in the College of Veterinary Medicine at Iowa State—is designed to eliminate a long-standing difficulty with the healing of broken long bones, such as those found in the leg.

Significant fractures of long bones currently are treated by attaching metal plates to the outside of the bones or rods through the inner bone canals to provide stability. However, research shows that too much rigidity (the inability of the bones to move while walking) can lead to poor bone growth and a leg that’s more likely to break in the same spot down the road.

The new device is designed to fit around, rather than alongside, the bone. The center of the hourglass-shaped device can collapse slightly before it becomes rigid, thus providing both motion and support. The idea is that doctors will be able to assess the requirements for each individual patient, then 3D print something that works best in each particular case.



The new device, shown above in a leg bone, is designed to collapse slightly before it becomes rigid.

“The whole idea is that if you’re walking around, it’s going to allow just the right amount of stress on the bone but after that, no more,” Kraus said. “It stops.”

Kraus described tunable bone stiffness as a “gargantuan” idea that could significantly decrease the healing time from broken bones.

Researchers have patented this device and hope to begin using the device on large animals sometime later this year. If all goes well, it could be in use for humans by 2023.

“Additive manufacturing is what enabled us to do this,” Sheidaei said.

Chris Hill, director of the CIRAS Technology Assistance Program, said CIRAS was “pleased we could help make this challenging part a reality for this important effort.”

➤ **For more information, contact Jake Behrens at jbehrens@iastate.edu or 515-815-5003.**



Installing a new Target Identification Training Center for the U.S. Air Force.

Pareti Mobile Walls Builds Business with BidMatch

A Belle Plaine, Iowa, maker of display panel walls is looking forward to a record year after CIRAS helped the company find more than \$130,000 in government contracts through its BidMatch computer service.

Kathy Kyle, owner of Pareti Mobile Walls, credits Julie Fagle, a government contracting specialist with the CIRAS Procurement Technical Assistance Center (PTAC), for helping her company rebound after pandemic-related difficulties in 2020.

Pareti Mobile Walls sells movable walls for uses such as trade shows, museum displays, and pop-up retail stores. The company was growing quickly at the end of 2019. Then everything simply stopped because of COVID-19.

By August, after COVID-related shutdowns, the company was facing challenges. Then Fagle noted a potential improvement in how Pareti had signed up for BidMatch, a service that enables CIRAS to send clients emails with government bidding opportunities relevant for that particular business. Pareti Mobile Walls hadn't received any notices of contracting opportunities for months. When Fagle tweaked the process, floodgates opened.

Kyle said the latest contract landed with Fagle's assistance will bring in more than \$130,000 as part of an agreement to build a Target Identification Training Center—a facility where military and police can practice various combat and rescue scenarios. She praised CIRAS for the help in landing it.

"Without CIRAS, we never would have seen this contract," Kyle said. "Every Iowa business should take advantage of what CIRAS offers.... It's crazy not to!"

For more information, contact Julie Fagle at jafagle@iastate.edu or 319-310-8612.

AT A GLANCE

Pareti Mobile Walls

FOUNDED: 2016

OVERVIEW: Maker of display panel walls.

EMPLOYEES: 9

IMPACT: Government contracts worth more than \$130,000.

FOR MORE: www.ParetiMobileWalls.com

Aerial Services Finds Powerful Partner in CIRAS Advisor

A Cedar Falls mapping and imagery company has used valuable support from CIRAS to garner more than \$11 million in government contracts over the past five years.

Aerial Services Inc. is a veteran-owned small business that provides companies and governments with a wide range of services, including aerial LiDAR, digital orthoimagery, and comprehensive mapping solutions.

Ryan Kibsgaard, Aerial Services Inc.'s marketing manager, said the CIRAS Procurement Technical Assistance Center (PTAC) has provided his company with valuable technical assistance—such as helping keep its federal procurement accounts complete and up to date—that helped Aerial Services compete for and win multiple federal contracts.

Kibsgaard credits CIRAS government contracting specialist Julie Fagle with helping the veteran-owned company clarify its status as a small business after a regional energy utility procurement website threatened to block Aerial Services from a vendor website portal. Fagle also helped the company interpret bidding information and understand which sectors of the government economy might be most in need of its services.

"She's been a reliable source of helpful insights into the industry," he said. "She's been a great partner to bounce questions off of when we have them. If she doesn't have the answers, she tracks them down."

In this case, Fagle was able to work with the energy company's third-party provider and get it the information it needed to keep Aerial Services on a list of vendors with which the company is able to do business.

"We assessed the situation, and we identified what needed to be done," she said.

For more information, contact Julie Fagle at jafagle@iastate.edu or 319-310-8612.

An Aerial Services drone inspects a tower.



AT A GLANCE

Aerial Services, Inc.

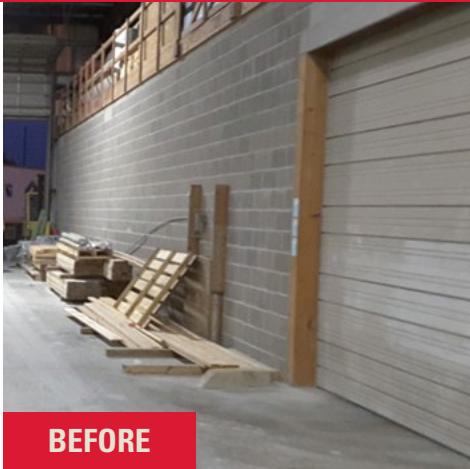
FOUNDED: 1967

OVERVIEW: A veteran-owned company providing geospatial solutions, including aerial imagery acquisition and mapping solutions.

EMPLOYEES: 31

IMPACT: Government contracts worth more than \$11 million.

FOR MORE: www.aerialservicesinc.com



BEFORE



AFTER

AT A GLANCE

Gilcrest/Jewett Lumber Company

FOUNDED: 1856

OVERVIEW: Lumber and home building-supply company.

EMPLOYEES: 320

IMPACT: Increased efficiency; reduced injuries from handling metal lumber bands.

FOR MORE: www.gilcrestjewett.com

Gilcrest/Jewett Gains Efficiencies through Lean Techniques

A 165-year-old Des Moines lumber company has gained new efficiencies, better customer service, and a tangible reduction in injuries after its employees embraced continuous improvement.

Rick Kyser, operations manager at Gilcrest/Jewett Lumber Company, said company leaders have seen a massive cultural shift since the lumberyard took its first steps toward Lean management at the end of 2016.

"Any company that's thinking about embarking on a Lean journey—everybody will tell you that it's really, really hard," Kyser said. "But it's kind of like a rocket ship: to get that thing off the ground takes a lot of energy; but once it's up and orbiting, it hardly takes any energy at all."

For Kyser, orbit was achieved in early 2017 when Gilcrest/Jewett designed the layout for a new warehouse using continuous improvement techniques—but without telling its employees the background behind the process. "It was tough to do without people understanding all the concepts, but we were able to work through all that, and we came out with a great win," he said.

Gilcrest/Jewett used cross-functional teams to improve the purchasing experience for customers by eliminating waste and making certain that most-

"It really sparked that creativity in the employees that they were no longer hesitant to let people know their ideas."

— Rick Kyser

used items were stored in efficient ways. Employees noticed the change, bought into the culture, and quickly began offering significant suggestions.

"It really sparked that creativity in the employees that they were no longer hesitant to let people know their ideas," Kyser said. "It just snowballed from there."

The lumber company began formal Lean training for 300 employees at the beginning of 2018. Kyser and some department managers attended the Iowa Lean Consortium's Annual Conference that fall—and again the next year. Soon, company leaders were fully invested and advocated for Continuous Improvement alongside Kyser at a national lumber conference.

ILC program director Tracy Schuster said Gilcrest/Jewett illustrates the power of turning employees into Lean champions. "It's all about empowering people to make the work better," she said.

Kyser, acknowledging a slowdown in the Lean transformation due to COVID-19, nevertheless credits employees for the significant improvements made since 2017. One employee idea, to switch from

using metal to woven banding for holding lumber loads together, has eliminated "a significant amount of" annual workplace injuries and made the job-site banding cleanup easier and safer for customers.

"One of the joys I get out of it is just seeing employees go from reluctance to showing initiative," Kyser said. "People will support what they helped create."



BEFORE



AFTER

With help from Lean, Gilcrest/Jewett employees created a new system to organize the mill wall (at top) and the special order rack (above).

➤ For more information, contact Tracy Schuster at tschust@iastate.edu or 515-715-0164.

STAFF NEWS



Kira Kistner joined the CIRAS team in June after 20 years of experience with chemical manufacturing companies. She has a bachelor's degree in chemistry from Iowa State University and spent the last seven years as quality control manager for BASF in Ames. Before that, she worked as an environmental health and safety specialist at POET Biorefining and as a quality and safety coordinator for Colorbiotics.

Her new role at CIRAS will be as external services project manager.



Mayra Ramirez has a bachelor's degree in sociology from the University of California at Riverside. She joins CIRAS after serving as a program manager for Science Bound, a program dedicated to serving underrepresented students who pursue degrees and careers in ASTEM (agriculture, science, technology, engineering, and math) fields. Before that, she spent five years at Engineering Career Services supporting students and employers.

In her new role, Mayra will lead the rollout of a new internship program focused on improving the diversity pipeline in manufacturing. She is based in Ames.



Paul Dunnwald is retiring after seven years as the CIRAS account manager in southwest Iowa. A graduate of Iowa State University with a bachelor's degree in engineering, Paul came to CIRAS with more than 20 years of experience in the automotive, aerospace, and defense industries, where he held engineering, operations, and business management jobs. That career, in which Paul helped his employers increase process efficiency, enhance inventory utilization, develop and launch products, and grow revenues, helped him provide advice to clients based on real-world experience.



Rudy Pruszko is retiring after serving Iowa companies for 22 years at CIRAS. Rudy, who has a bachelor's degree in chemical engineering from Penn State University and a master's degree in business administration from the University of Dubuque, has more than 25 years of experience in a variety of positions in the chemical, agricultural machinery, and biofuels industries. Since 2015, his CIRAS role has involved helping companies find third-party expertise.



Glenn Volkman is retiring after eight years with Iowa State University as CIRAS account manager for southeast Iowa. A graduate of the University of Northern Iowa with a bachelor's degree in technology education, Glenn came to Iowa State after 18 years of teaching and working with companies—including roles as an associate professor for Iowa Valley Community College and as a continuing education coordinator and business consultant for Des Moines Area Community College.

Multiple Options for Fall Career Fairs

■ **Agriculture and Life Sciences Ag Career Day**—Tuesday, October 12, 2021 • 9:00 a.m. to 2:00 p.m. (In-person, Lied Athletic Center); Tuesday, October 19, 2021 • 9:00 a.m. to 2:00 p.m. (Virtual); CONTACT: mikegaul@iastate.edu

■ **Engineering Career Fair**—Wednesday, September 15, 2021 • Noon to 5:00 p.m. (In-person, Scheman Building); Tuesday, September 21, 2021 • Noon to 5:00 p.m. (In-person, Scheman Building and Hilton Coliseum); Thursday, September 23, 2021 • 10:00 a.m. to 5:00 p.m. (Virtual); CONTACT: ecs@iastate.edu

■ **Business, Industry, and Technology Career Fair**—Wednesday, September 22, 2021 • Noon to 5:00 p.m. (In-person, Hilton); CONTACT: bcs@iastate.edu

■ **People to People Career Fair**—Wednesday, September 22, 2021 • Noon to 5:00 p.m. (In-person, Schemen), (focuses on human/social services, education, health/wellness, government, and hospitality; hosted by the Colleges of Human Sciences and Liberal Arts and Sciences); CONTACT: hscareers@iastate.edu

CONTACT INFORMATION

Capstone Students Help Company Improve Trailer Production

A Red Oak maker of disinfecting chemicals and equipment for swine and poultry producers expects to see more than \$1 million in new sales over the next two years after Iowa State University engineering students helped the company begin to take more control over its manufacturing.

Craig Steen, president of JBI Distributors, said Iowa State students from the College of Agriculture and Life Sciences and the Department of Agricultural and Biosystems Engineering combined to help him explore the possibility of manufacturing foaming poultry trailers in Red Oak.

The trailers, which include tanks for disinfecting poultry buildings and equipment, currently are produced by a supplier. But Steen last year asked Iowa State students to redesign the trailers to make them easier for JBI to manufacture. That project, which was stalled initially by COVID-19, now will finish this fall. In the interim, a separate group of students produced a layout of what an efficient, new JBI production facility should look like.

"We had two capstone projects back to back, and that's going to allow us to accomplish two parts of what we need to do to bring this business in-house," Steen said.

Every Iowa State engineering student must complete a capstone project before graduation as a way to prove their ability to put knowledge to work solving a problem. Companies can use student engineers to solve problems or research potential new projects, while getting to know students that they might later decide to hire.

Steen praised the program as a good way for small companies to get outside viewpoints at a manageable cost. "I think I'm probably going to continue using them as often as I can," he said of the students.

For more information, contact Chris Hill at chhill@iastate.edu or 515-313-8251.

AT A GLANCE

JBI Distributors

FOUNDED: 2016

OVERVIEW: Maker of disinfecting chemicals and equipment for poultry and swine operations.

EMPLOYEES: 15

IMPACT: More than \$1 million in new sales over the next two years.

FOR MORE: www.jbidistributors.com

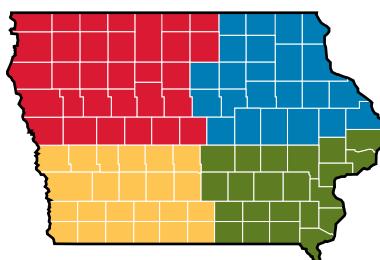


Engage. Educate. Embed.

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. Coupled with a satisfaction guarantee, our typical client has achieved a 200% ROI. Clients have reported an economic impact of more than \$3 billion over the past five years.

Locate your county to find your best introduction to CIRAS.

In addition to four regional account managers, CIRAS has four regional government contracting specialists,* a statewide account manager for the food industry, and one for economic development. More staff information can be found at www.ciras.iastate.edu/staff.asp.



CIRAS PARTNERS

- Iowa State University
 - Center for Crops Utilization Research
 - Center for Nondestructive Evaluation
 - College of Engineering
 - Department of Economics
 - Department of Environmental Health and Safety
 - Engineering Career Services
 - Extension and Outreach
 - Iowa Grain Quality Initiative
 - Meat Science Extension
 - Polymer and Food Protection Consortium
 - Structural Engineering Research Laboratory
- Alliant Energy
- Iowa Area Development Group
- Iowa Association of Business and Industry
- Iowa Association of Community College Trustees
- Iowa Department of Transportation
- Iowa Economic Development Authority
- Iowa Farm Bureau
- Iowa Sustainable Business Forum
- Quad Cities Chamber

NORTHWEST

- Derek Thompson
thompson@iastate.edu • 515-419-2163
- Mary Zimmerman*
maryz@iastate.edu • 515-450-1278

NORTHEAST

- Steve Wilson
wilsons@iastate.edu • 515-620-6036
- Julie Fagle*
jafagle@iastate.edu • 319-310-8612

SOUTHWEST

- Vacant
- Justin Niceswanger*
jnice@iastate.edu • 515-509-9565

SOUTHEAST

- Jeff White
jwhite5@iastate.edu • 515-231-8691
- Samantha Ferm*
siferm@iastate.edu • 319-333-9558

STATEWIDE

- Brenda Martin (*Food Industry*)
bkmartin@iastate.edu • 515-570-5282
- Mark Reinig (*Economic Development*)
mreinig@iastate.edu • 515-231-4150

IOWA STATE UNIVERSITY

Center for Industrial Research and Service

1805 Collaboration Place, Suite 2300
Ames, Iowa 50010-9166



www.ciras.iastate.edu

To have *CIRAS News* mailed to you, sign up at
www.ciras.iastate.edu/ciras-newsletters.

GROWING YOUR BUSINESS

Cybersecurity Is Necessary to Secure Growth

By Jodi Essex

Are you still ignoring the word "cybersecurity"? You can't any longer.

As security breaches continue to occur in industries across the country, the need to assess your company's level of security becomes increasingly important. Many businesses wonder where to begin with such an assessment, and this is where CIRAS can help.

Our cybersecurity initial business coaching helps businesses understand their current cybersecurity position and shed light on the path needed to secure your data. We can help you understand the level of security your business needs to achieve and identify resources that can assist you with reaching that level. We can also explain the various services provided by cybersecurity firms and prepare you to ask the right questions before bringing them onboard.

CIRAS also can provide cybersecurity technical coaching to assist companies with implementing basic cybersecurity hygiene, similar to the Cybersecurity Maturity Model

Certification (CMMC) Level 1. We'll help you understand what practices are necessary to effectively secure your data and how close your company is to getting there.

In addition, our technical coaching services educate you on the details of each of the cybersecurity controls outlined in the NIST 800-171 and help companies interpret how to comply.

Data protection is certain to become a larger and larger portion of our business lives in the coming years. No company can afford to let "cybersecurity" become a dirty word. Smart companies will act now and learn what they need to learn to safeguard their future.

CIRAS can help you secure your business, mitigate your risks against cyberattacks, and position your company for growth.

**For more information, contact Jodi Essex at
jodir@iastate.edu or 515-509-0769.**