Company Takes Creative Approach to Workforce Shortage

A Marion assembler of wire harnesses and control boards started looking at new ways to address its labor shortage after its CEO attended a CIRAS presentation on workforce challenges.

Tom Pientok, CEO of Timberline Manufacturing Company, was present at one of the first workforce talks given by CIRAS director Ron Cox. He later arranged for Cox to deliver the same message to Timberline’s leadership team and Board of Directors. And that, he said, has led his company to take a more creative approach to solving its labor shortage.

“Ron challenged us to think differently about sources of labor,” Pientok said. “As he pointed out, Iowa’s labor pool hasn’t grown much in 50 years and it doesn’t look like it will grow much any time soon. The only way we’re going to increase our workforce is to become more open minded to alternative ways of hiring people and alternative pools of prospective employees.”

Cox has given the workforce presentation more than 100 times to nearly 3,000 attendees. He is currently transitioning from public talks to one-on-one company work like he did with Timberline.

CIRAS’s approach to help businesses solve labor needs is to provide data on nearly 30 different types of potential
“Men and women working in the PIE program gain valuable work experience and are better equipped to obtain employment after release. The program helps them become taxpaying citizens once again.”
— Dan Clark

Pientok said Clark’s call couldn’t have come at a more opportune time.

“A year before and I would’ve said, ‘Thanks for thinking of us but we’re not interested,’” he added.

The conversation between Pientok and Clark led to an onsite visit to the Mitchellville facility. The state runs a factory there so inmates can learn vocational skills while pursuing work opportunities. Aaron Geissler, Timberline’s director of manufacturing, and Cory Loes, director of supply chain and logistics, were impressed by what they saw on the tour.

“They’re not just learning how to assemble something,” he said. “They’re
A Timberline employee gathers materials to be sent to IPI associates.

learning core fundamentals of manufacturing like scheduling and keeping their metrics. It’s really quite impressive.”

Clark explained that IPI utilizes a continuous improvement program based on the Toyota Production System, which emphasizes providing the tools for people to continually improve their work. It’s not just about doing the work... it’s also about understanding the work that needs to be done.

IPI dedicated a corner of the factory to Timberline work. Twelve inmates have been hired to wire and test harnesses that can be used in a variety of vehicles and machinery. Timberline packages kits and instructions, which are sent to workers who have received training in how to assemble the materials and how to meet the quality expectations of the company. Timberline has also designated one of their employees as a point of contact to ensure a good communication flow.

Pientok plans to more than double the number of IPI associates working for Timberline this spring.

“It’s working well for us. IPI is helping fill a gap. In turn, Timberline is helping prepare these inmates for life after incarceration,” he said. “We look forward to growing the opportunity.”

To schedule a workforce strategy session with company leadership, contact Brenda Martin at bkmartin@iastate.edu or 515-570-5282.

IPI Finds Benefit in ILC Membership

Iowa Prison Industries (IPI) credits membership in the Iowa Lean Consortium (ILC) with broadening opportunities for the people it serves. IPI is a division of the Iowa Department of Corrections that provides training to incarcerated men and women. IPI staff are ILC members through the State of Iowa’s organizational membership.

“The networking relationships we’ve developed by attending ILC learning opportunities help us share with other organizations who we are and what we do,” said Steve Forbes, an IPI training specialist. “Once other members understand our mission, they see potential hiring possibilities for those being released.”

ILC membership also helps IPI employees develop skills in continuous improvement thinking that can be shared with others, including incarcerated individuals working in the Prison Industries Enhancement program. The program trains individuals for jobs with companies that are struggling to find workers.

“We know there’s no such thing as a perfect process, and we also understand that we have many opportunities to improve or reduce waste,” said Forbes. “ILC events give us the skills and knowledge to do that.”

According to ILC program director Tracy Schuster, “The IPI team exemplifies the core values of the Consortium by sharing lessons learned, offering tours, serving on Consortium teams, and actively participating in events. We are grateful for the work they are doing and for the many ways they contribute to the ILC.”

Forbes is a strong advocate of ILC membership, calling it one of the best lean-focused groups he’s been associated with in his 30-year career.

“It’s a fantastic resource for learning and developing skills,” he said. “The knowledge gained as well as the networking and business relationships that can be developed are great reasons to join.”

For more, contact Tracy Schuster at tschust@iastate.edu or 515-715-0614.
Security Company Credits PTAC with Recent Growth

A Davenport business owner who turned to CIRAS for assistance with securing government contracts has already seen dividends in the form of new work.

Jeno Berta owns Halberd Security, a company that installs, repairs, and services security systems that protect buildings, infrastructure, and technology. Berta launched his company in 2019 with business partner Chris Chonto. The CIRAS Procurement Technical Assistance Center (PTAC) helped Halberd become certified as a Service-Disabled, Veteran-Owned Small Business, which set the company up to compete for government set-aside contracts. Halberd recently received two federal awards, including one for a series of projects at the Federal Protective Services Building in Iowa City.

“I feel confident saying that without CIRAS we would not have received our certification,” Berta said. “Without their guidance, we would not have been able to navigate the process. Even if you’re aware of what’s required for government contracting, it’s just folly to try to do it on your own.”

Berta worked with Melissa Burant, a former PTAC counselor who now leads supplier scouting for CIRAS.

Berta describes Burant as “a perfect mixture of encouragement, enthusiasm, tough love, more tough love, and endless knowledge.” And the assistance she offered wasn’t limited to navigating government paperwork.

Berta credits CIRAS with making him aware of professional development opportunities like on-demand training on subcontracting rules. “Things like that make a big difference, especially to small business owners,” he said.

Halberd Security is a natural extension of a military and law career that spans nearly three decades. Berta is an Army Reserve Lieutenant Colonel and Judge Advocate who served on active duty on three occasions, including an 11-month deployment to Iraq in 2009 with the 1st Cavalry Division, one of the most decorated combat divisions in the U.S. Army.

Berta’s military service inspired his company slogan, Veterans helping protect America, and provides motivation for the work his company does.

“The world is not getting any safer,” Berta said. “And the way technology is changing, something that was state-of-the-art not that long ago is now obsolete, if not a liability. That’s where we come in.”

Berta is also committed to providing “other veterans with their next mission.”

“Many veterans returned from service and were able to transition with few problems,” Berta said. “But for others, transitioning into the civilian world has been challenging. Some don’t necessarily want to be around a lot of other people, for example. The work we offer is perfect for them: they can go into a new building or one that’s being rehabbed, and there’s no one else there; they can pull cables or focus on other work assignments and never have to interact with other people, if that’s what they need.”

Berta won’t limit new hires to veterans, however. When he’s ready to expand his workforce, he’ll consider any applicant interested in protecting people, places, or information.

Berta also credits CIRAS with helping his company navigate the process of applying to the Small Business Administration’s Mentor-Protégé Program (MPP). The program helps qualified small businesses like Halberd gain capacity and win government contracts through partnerships with more experienced companies. Halberd recently received MPP approval.

“We’re engaging with our mentor regarding what 2022 holds,” Berta said. “I have no doubt we’ll move forward and grow, and we have CIRAS to thank for that.”

For more, contact Jodi Essex at jodir@iastate.edu or 515-509-0769.
Using Automation to Bridge Labor Gap

Iowa manufacturers are turning to CIRAS with questions on how to maintain productivity and profitability when workforce is in short supply. Depending on the application, the answer can be automation or using robotics instead of humans to perform tasks like machine-tending.

“Machinists are high-skilled employees, but some of the tasks they perform do not require the same level of skill,” said Andrew Friend, CIRAS project manager. “Automating simpler, more repetitive duties can free up existing employees to do higher value work elsewhere in the business.”

CIRAS helps clients assess their processes to understand the potential for automation and identify key requirements of a possible solution. When companies are ready to take the next step, CIRAS helps them identify integrators like HALTER CNC Automation, a Cascade company with more than 30 years of experience in the metalworking industry, and a leader in robotic systems for CNC machine automation.

“With machinists in short supply, manufacturers are using automation as a way to remain competitive, meet deadlines, and make more efficient use of existing employees,” said Daren Manternach, HALTER sales executive.

Robotic machine tending systems are typically installed on CNC lathes and mills. These systems are programmed to do loading and unloading of parts normally done by a CNC operator. This frees up the time of the skilled machinist to perform higher value tasks such as programming the CNC equipment and ensuring proper operation and maintenance. Application of machine tending solutions can allow one operator to manage many machines. In certain settings, you can move machine tending systems between workstations to perform different actions at each location.

The use of machine tending is one example of how the lower cost and increased capabilities of these systems have impacted adoption in recent years. Similar trends are being seen in automated material handling, camera-based quality inspection, and many other automation technologies. Friend added, “Given the workforce shortages faced by many businesses, automating entire processes or even segments of a process can be an effective approach to help a company grow without adding workforce.”

For more, contact Andrew Friend at afriend@iastate.edu or 515-520-2803.
Iowa State’s CIRAS Digital Manufacturing Lab powered by Alliant Energy continues to invest in technologies that fit the needs of Iowa manufacturers.

“Technology can change rapidly through software, hardware, or material improvements,” said Chris Hill, CIRAS program director. “A key to the continued success of the digital lab is to ensure we have access to some of the latest technologies that companies should be considering for their applications. Working with our current and future industry technology partners will help us accomplish this goal.”

The Digital Manufacturing Lab, powered by Alliant Energy, opened in 2019. The lab is designed to help give Iowa manufacturers access to technology and advice to support key strategic objectives like quality, productivity, and workforce. Utilizing the lab allows companies to evaluate these technologies before making an investment, reducing their risk.

“While our ability to host in-person activities was hampered by the pandemic, we continued to serve companies remotely and continued to identify new applications,” said Hill.

Those technologies include rapid changing robotic end-of-arm tooling, a vision system for inspections, smart sensors for vibration and temperature mapping, demonstration skids for process monitoring, and wearable sensors. The lab also added two polymer 3D printers.

“The initial feedback from lab visitors has validated our efforts and made the lab even more beneficial to Iowa companies. Look for additional upgrades in 2022,” said Hill.

The Digital Manufacturing Lab has already helped numerous clients use technology to find new solutions to old problems.

The lab is hosting a series of monthly tours throughout 2022. The three-hour, in-person events are designed to familiarize visitors with new technologies and how they can be leveraged for specific tasks. Attendees also have the opportunity to try out some of the technologies and discuss their specific needs with experts. Registration for tours is available online at www.ciras.iastate.edu/events-workshops/.

For more information on the lab, contact Chris Hill at chhill@iastate.edu or 515-313-8251.
Patience and Persistence Key to Potential $2 Million Sales Growth

There’s no such thing as an overnight success. Anything that results in sustainable growth requires patience and persistence. But the payoff can be substantial. That’s the lesson learned by Black Cat Wear Parts, a company that started working with CIRAS four years ago and is now poised to see increased sales of more than $2 million annually.

Black Cat Wear Parts manufactures and distributes high-quality wear parts for the construction, mining, and road maintenance industries. In 2018, their DeWitt, Iowa, location identified a market that would allow them to grow using existing assets.

“There were several OEM producers of snow removal equipment in the Midwest region,” said Josh Daniel, plant manager at Black Cat Wear Parts. “So, while our location was originally established to better serve our single largest customer in the construction industry, there were local opportunities to gain market share in a different segment of the business.”

Daniel reached out to CIRAS for assistance in understanding whether the market adjacency made sense for Black Cat Wear Parts. CIRAS project manager C.J. Osborn researched the contractor-sized snowplow market and provided a snapshot of his findings to Daniel. That led to Daniel’s participation in a strategic marketing boot camp sponsored by CIRAS and the Quad Cities Chamber of Commerce in 2019. CIRAS project manager Paul Gormley led the boot camp Daniel attended. Now available on-demand and online, the camp helps participants understand marketing best practices and offers step-by-step instruction in developing and documenting a strategic marketing plan. Daniel also received personal coaching from Osborn, who helped Daniel follow up on leads as well.

“Through the boot camp, I was able to learn how to use important tools like research and analysis, strategic development, and tactical implementation,” Daniel said, adding that the tools were critical in helping Black Cat Wear Parts move into an adjacent market.

Patience, persistence, and a partnership with CIRAS paid off almost from the beginning. Daniel reported that the project has grown annually. In 2021, new sales were about $440,000 and employee headcount increased by 2 people. The company has also been asked to submit a production sample that could lead to $2 million in new sales annually.

Daniel credits CIRAS with helping Black Cat Wear Parts move successfully into the contractor-sized snowplow market.

“The team at CIRAS has been great to work with, going back to our first project in 2016,” he said. “Whether it’s just lending an ear or helping me find solutions, they’re always quick to respond and have been a pleasure to work with.”

For more, contact C.J. Osborn at cjosborn@iastate.edu or 641-840-0505.
Iowa State’s Polymer and Food Protection Consortium Is on the Move

The Polymer and Food Protection Consortium (PFPC) recently shifted its packaging processing function to the Biocentury Research Farm near Boone, having outgrown its original facilities on the Iowa State campus. The larger space will enable PFPC to continue expanding its services in food safety research to support companies.

With initial and ongoing support from CIRAS, the consortium opened in 2015, one year after director Keith Vorst arrived from California Polytechnic State University. Vorst’s goal is to be the premiere packaging research institute in the nation. The consortium is well on its way—having more than doubled its lab space, published several scholarly articles, and applied for numerous patents involving new techniques for manufacturing packaging from recycled material.

PFPC has provided several CIRAS clients with solutions focused on design, safety, and function of materials for packaging and industrial applications.

“One client wanted to understand the impact of display case lighting on food quality over time,” said Chris Hill, CIRAS program director. “PFPC developed a test protocol, ran the testing, and provided relevant data on changes to extend the shelf life of the product.”

CIRAS connected another client with PFPC for assistance with monitoring the company’s packaging product for contaminants. PFPC developed and installed a monitoring program that worked with the company’s existing manufacturing system.

Other consortium projects have included probing the safety of microwave popcorn bags and testing new uses for recycled materials in packaging.

“Food companies nationwide are rushing to improve their products,” said Vorst. He went on to say that “updated packaging and using more recycled material saves money and helps companies market to an increasingly green-minded public.”

“It’s not just about cost savings,” he added. “Now, it’s about value added and improving performance.”

“CIRAS plays a key role in connecting companies with university resources like PFPC,” said Hill. “This support is focused not only on providing the insights needed to improve, but also on education to help companies make changes within their businesses for long-term success.”

For more, contact Rachel Hahn at rhahn@iastate.edu or 515-620-8093.
ACT Safe Expecting Record Year

ACT Safe, a Sioux City business focused on assisting companies with compliance issues, is looking forward to a record year after receiving their 8(a) certification.

ACT Safe plans to hire 15–20 new employees and hopes to secure more government contracts like the one that currently has founder Lorna Puntillo working with the Florida Veterans Administration on environmental remediation.

Puntillo worked with the CIRAS Procurement Technical Assistance Center (PTAC) to achieve the 8(a) designation, which makes ACT Safe eligible for sole-sourced and set-aside government contracts.

ACT Safe was founded in 2011 by Puntillo, a veteran with nearly 30 years of experience in environmental, health, and safety compliance. She started her career as a bio-environmental engineering specialist in the U.S. Air Force. Later, she worked with several Fortune 500 companies and served as the Environmental Protection Commissioner for the State of Iowa. In her current role, she is the liaison between clients and regulatory agencies, handling everything from audits to reports to remediation strategies to training on preventive solutions.

“I had all of this experience and knowledge, but I wasn’t exactly sure how to put it together to win government contracts,” Puntillo said. “That’s where CIRAS was a big help. They helped me understand the parameters of government contracting and the importance of narrowing my focus. I had done some work on my own, but those were dollars wasted compared to everything CIRAS was able to do for me.”

For more, contact Mary Zimmerman at maryz@iastate.edu or 515-450-1278.

UPCOMING EVENTS

■ Human Resource Series: Where Are Our Workers?
  June 15, 2022
  Virtual event on the third Wednesday of each month to share best practices from accomplished human resource professionals. Attendees will learn from guest speakers who share insider knowledge, offer new perspectives, and share case studies.

■ Supplier Scouting: Strategies to Build Long-term Success
  June 21, 2022
  Join this informational webinar for an overview of strategies and simple tips to help prepare your business for future contingencies. Tools and strategies exist that can help you build your supply chain pipeline and bridge gaps in the future. Key topics include supplier scouting, supplier diversity, supply chain, building a network, and identifying alternative sources.

■ Your I4.0 Journey: How to Find and Make Manufacturing Data Work for You
  June 23, 2022
  Industry 4.0 is all about using data to make better decisions. But how does one even know where they are at on their I4.0 journey? Attend this in-person technology summit and learn about how to define your Industry 4.0 journey, with a focus on collecting and making manufacturing data work for you.

■ Discover the Hidden Tools of Web Analytics That Can Increase Sales
  July 12, 2022
  This webinar will explore free and for-fee tools that can help you use analytics as the sales and marketing tool that it should be.

■ CIRAS Digital Lab Tour
  July 14, 2022
  Join this in-person lab tour of the CIRAS Digital Manufacturing Lab powered by Alliant Energy, a facility created to help manufacturers explore technologies. The tours include an overview of available technologies and breakout sessions with CIRAS experts to discuss your particular applications of interest in more detail.

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

Save the Date!
■ ILC Annual Conference
  October 25, 2022
  Altoona, IA, and Virtual
Capstone Projects Are a Win-Win for Students, Industry

An increasing number of companies are turning to Iowa State University students for possible solutions to business needs through capstone projects.

CIRAS project manager Jake Behrens said student capstone teams work with nearly 70 Iowa companies each year on projects that span one or two semesters. Students use the opportunities to demonstrate their ability to apply what they’ve learned in the classroom to a real-world problem.

CIRAS coordinates with engineering faculty and businesses to match company needs to the correct department on campus.

“We keep our ear to the ground and help vet projects to make sure there’s value for the students and the clients,” said Behrens. “The goal is to ensure that everyone benefits from the opportunity.”

“It's a win-win situation,” added Jacek Koziel, a professor in the Department of Agricultural and Biosystems Engineering (ABE) at Iowa State who supervises his students’ capstone projects. “Graduating seniors get a unique opportunity to apply competencies from the entire curriculum in a team-based learning setting, and our industry partners benefit from our students’ fresh perspective.”

ABE is one of many departments that have senior capstone projects. Companies find such value in their participation in capstone projects that they often continue their relationship with Iowa State beyond the initial endeavor. Orbis Corporation, a plastic container manufacturing plant in Monticello, has a long history of working with the ABE department. Students have proposed new restacking technologies, developed concepts for measuring melt-flow temperatures in injection molding, and completed a cost-benefit analysis of using autonomous guided vehicles in a facility expansion. They also designed a solution to reduce noise levels produced by a grinding machine that saved the company several thousand dollars that would’ve been spent constructing a new granulator room to make the process safer.

Orbis operations manager Doug Wortman has three goals for capstone projects: (1) to help students get real-world experience; (2) to expose them to Orbis as a future employer; and (3) to get a value-added solution to a problem.

“These projects help students learn a little more about what goes on in a manufacturing plant so they can decide whether that's something they want as a career,” he added. “The work they have done for us has made a significant difference.”

For more, contact Mayra Ramirez at ramirezm@iastate.edu or 515-520-3101.

STAFF NEWS

Adam Lathrop has joined CIRAS as an account manager for southwest Iowa.

Adam has a bachelor’s degree from Iowa State University and a master’s degree in business administration from Drake University. Most recently Adam has worked with business and industry across the state to improve their Occupational Health & Safety outcomes as the executive director of the Iowa-Illinois Safety Council.

Adam’s role at CIRAS is working with companies in southwest Iowa to find the correct CIRAS services for their needs. He is based out of the Des Moines area.
Leading through the Workforce Crisis

Workforce shortages are impacting businesses of all types and sizes across the country. These challenges are more onerous in Iowa because of our slow population growth.

Here is some advice that members of the Manufacturing Extension Partnership (MEP) National Network™ have published recently on strategies to help small- and medium-sized manufacturers address their workforce issues.

“Four-day workweeks and flexible shifts can be very attractive to younger workers, working moms, and more.”
—Matthew Fieldman, Executive Director, America Works

“Companies that can rotate people through various jobs, and offer choice and new skill development, are exciting to many workers.”
—Paola Castaldo, Managing Consultant, Oregon MEP

“Revise your job descriptions to focus on your company culture.”

“The bottom line is that in order to succeed, people need to have processes in place that support their success.”
—David Rea, Managing Director, Organizational Development, Catalyst Connection

“Individuals want to feel connected to an organization’s goals and like they’re making a difference. They also want to feel as though they can approach those in positions of authority.”
—Raine Hyde, Marketing Strategist, Georgia Manufacturing Extension Partnership

“Find employable candidates: Engage in alternative workforce development pipelines, including Second Chance programs, Work-based Learning, and apprenticeships.”

—Raine Hyde, Marketing Strategist, Georgia Manufacturing Extension Partnership

There is no silver bullet to solve your workforce needs, but CIRAS can work with you to find strategies that will make a difference in your business.

For more, contact Brenda Martin at bkmartin@iastate.edu or 515-570-5282.
A $1 trillion infrastructure bill signed into law last November could mean more projects for Iowans who are certified to work with the government.

Iowa is scheduled to receive $5 billion in funding for improvements, including $3.4 billion for highway repairs, $432 million to replace and repair bridges, $638 million for water infrastructure improvements, $305 million for public transportation, $120 million for airport infrastructure, and $100 million for expanded broadband internet coverage.

While it could take six months for most of the money to be dispersed, funds that are expected to get out the door quickest are those that will go to state transportation departments for highway maintenance and repair. States will be getting roughly one-third more in formula highway funding than the year before.

Like all public funds, this money will need to be awarded via public procurement processes and must go through a fair and open bidding process. An agency may use existing blanket contracts to issue work orders, but it is more likely that Iowa businesses will see an increase in requests for bids and proposals for these projects.

CIRAS helps businesses understand the government bid process. Anyone interested in competing for work on projects that will come from the infrastructure bill should register to do business with the federal government on SAM.gov as soon as possible.

CIRAS can sit down with your business, help you understand what specific opportunities exist, and walk you through the government contracting process.

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