



3D Printing as a Process Improver: Small Changes, No Waiting

It all started with the search for a better way to check electrical connections on air conditioners.

Wes Draughn, manager of manufacturing and engineering for the cooling business unit at Lennox Manufacturing in Marshalltown, had a design for a new process to help Lennox team members be more efficient in checking the quality of their work. “We needed a way to interact with the unit at different times throughout the assembly process, and the plugs that we needed weren’t available off the shelf,” he said.

An intern had designed a new guide that could be used to help assemblers test connections at multiple locations on the line. The new “plug” would provide a more ergonomic grip for employees,

“It’s usually three to four weeks by the time you get everything figured out, and then it can cost you quite a bit of money. With 3D printing, you can do the same thing in a couple of days.”
— Wes Draughn

couldn’t reasonably argue for the time needed to help create this new guide.

So, he called CIRAS.

Chris Hill, director of the CIRAS Technology Assistance Program (TAP), helped the company understand the pros and cons of various 3D printing

meeting safety and other agency requirements. But there seemed to be no way to get it built.

In the fall of 2018, Lennox was only beginning to recover from the July 19, 2018, tornado that had significantly damaged the roof and walls of its plant in Marshalltown. The company’s machine shop was busy on high-priority tasks, and Draughn

technologies, offered tips on designing for the 3D printing process, and produced demonstration parts to show the technology’s potential. By spring 2019, Lennox had purchased two of its own 3D printers and was using them regularly to explore new ways to shave time and expense off its manufacturing processes.

“Whenever you design a plug or a hand tool or something like that, you take your design and either send it out or get the tool-and-die group to make it,” Draughn said. “It’s usually three to four weeks by the time you get everything figured out, and then it can cost you quite a bit of money. But with 3D printing, you can do the same thing in a couple of days.”

Later, when Lennox considered adding another new technology to its plant, the company first sought input from CIRAS.

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On the Cover: Stellar Industries used 3D printers (including the one on the left) to make jigs to assist with drilling holes for installing mounted components (cover, right).

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

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Most Iowa companies aren't yet ready to make the leap. Preliminary results from the CIRAS 2019–2020 Manufacturing Needs Assessment show that few Iowa manufacturers are taking advantage of 3D printing technology. Hill acknowledges that not all technologies make sense for every business. But he believes that many companies could benefit from the quick process improvement that 3D printing makes possible.

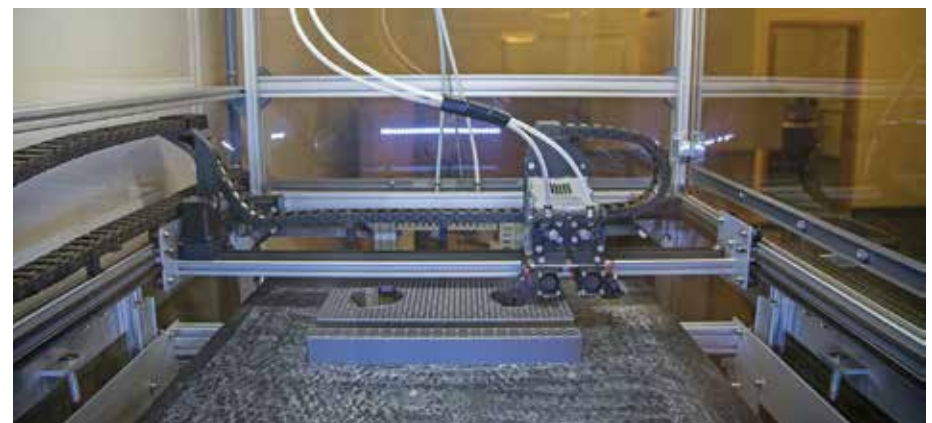
"With this technology, you can do things rapidly," Hill said. "You can try different iterations, and the cost can be minimal. It doesn't need to tie up your in-house machining resources, if you even have them."

"The technology allows companies to try things that they wouldn't even think to try otherwise, because of higher outside costs and lead times." Hill said. "Now, you can do it yourself faster, and soon you will start to see daily opportunities for improvement within your business."

Stellar Industries, a manufacturer of hydraulic truck equipment based in Garner, worked with CIRAS on several 3D printing projects before the company decided to invest in its own machines. That was roughly two years ago.

"Other than for basic maintenance, those machines have never been shut off," said Matt Schroeder, Stellar Industries' engineering manager. "We're always coming up with new products, manufacturing jigs, safety devices, etc. . . . Our ability to create tools has drastically improved, and we're making more tools daily."

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



AT A GLANCE

Lennox Manufacturing

FOUNDED: 1895

OVERVIEW: Maker of heating and cooling equipment.

EMPLOYEES: 11,350 (807 in Iowa)

IMPACT: Faster improvement to manufacturing processes.

FOR MORE: www.lennox.com

Stellar Industries

FOUNDED: 1990

OVERVIEW: Manufacturer of hydraulic truck-mounted equipment.

EMPLOYEES: 320

IMPACT: More than \$1.8 million over the past five years.

FOR MORE: www.stellarindustries.com

The company estimates it's now spending 48 hours or less to make production tools that used to take three weeks or more. That time savings means planned improvements go into effect much more rapidly, and employees end up generating more ideas after the team sees how easy it is to turn possibilities into reality.

"This allows for rapid incremental change," Hill said. "You do those little things—saving a quarter here, a dime there, a nickel there—and suddenly, you've got some real money."

Stellar agrees.

"You get the printer with kind of a scope in mind of what you're going to use it for," Schroeder said. "Then, all of a sudden, you end up changing your culture. You start asking more questions and coming up with more ideas for ways it can be used."

SmithCo Sees Growth Ahead After CIRAS Helped Company Prepare

A Le Mars manufacturer of side-dumping truck trailers believes his business is on the road to steady growth after CIRAS helped improve the company's management structure and confirm that its marketing is on the correct path.

SmithCo Manufacturing Inc. was founded in 1994 to make side-dump trailers for the construction industry. Change loomed, however, as the company entered its third decade. SmithCo, long popular in construction, agriculture, and municipal waste hauling, had discovered a lucrative new market in the mining industry. But could the business handle it? Operations

manager Scott Lovell saw the potential for enormous growth over the horizon, and he wanted to make sure his company was ready.

"We wanted to be more strategic in how we grow the business," Lovell said. "We wanted to be more intentional."

Lovell also wanted to make sure he was ready for a possible ascension to SmithCo's top job. So, after attending a CIRAS Internet marketing event in 2018, Lovell approached the center's experts about taking a broader look at SmithCo—while at the same time providing some executive coaching.

CIRAS project manager Joy Donald matched Lovell with a retired executive who began regular coaching sessions and helped lead SmithCo through a strategic plan. Meanwhile, CIRAS project manager C. J. Osborn arranged a detailed marketing study to document how trailer purchasers viewed the company, and CIRAS project manager John Roberts performed a finite element analysis on the new mining product that SmithCo wasn't able to do on its own.

Osborn said the marketing survey ultimately showed that SmithCo is on firm footing. The company has growth opportunities available and remains highly trusted by trailer purchasers in its core market.

"I would say roughly 90 percent of the time when you do these, you get two-thirds of the news being good, but the

rest of it is something you really need to spend a long time working on," Osborn said. "They're in excellent shape. . . . They've basically been told what matters to their customers and that they're good at those things. Now, they just need to focus

their conversations with customers on those points."

Lovell, who was named president of SmithCo when the company was sold earlier this year, praised CIRAS for providing the needed outside expertise to help his company take stock of itself.

"The process really forced us to look at who we are, what makes us who we are, and why we exist," Lovell said. "It's really focused us on the things that we do well, and it's exposed the things that we don't do well—maybe some gaps in our organizational structure—that would hinder us from growing."

"Finding information about our market is not easy," Lovell said. "I'm really thrilled about the time and effort CIRAS put into understanding who we are."

"Finding information about our market is not easy. I'm really thrilled about the time and effort CIRAS put into understanding who we are."
— Scott Lovell



Above: A SmithCo employee welds part of a side-dump trailer. **Below:** A SmithCo worker applies finishing touches to a pup trailer.

AT A GLANCE

SmithCo Manufacturing

FOUNDED: 1994

OVERVIEW: Maker of side-dump trailers for construction, agriculture, and mining industries.

EMPLOYEES: 115

IMPACT: Improved marketing and strategic awareness.

FOR MORE: www.sidedump.com

➤ **For more information, contact Joy Donald at jdonald@iastate.edu or 319-359-0206.**

Food Safety Collaboration Puts Iowans on the Right Path

Lori Bride was working hard, doing everything she thought she needed to do.

Yes, Bride knew that the rules were changing. Like thousands of businesses across the country, the Jumpy Monkey Roasting Co., Bride's Sergeant Bluff coffee company, had been working to comply with the U.S. Food Safety Modernization Act, a 2011 federal law that revamped the way food-related businesses are regulated in the United States.

The new law both raised standards and added requirements that food companies have documented plans and procedures in place to safeguard against food contamination. Deadlines for compliance were phased in for various types of businesses. Like many businesses, Bride had attacked the problem and thought she had what she needed in place.

Then, she received a surprise.

"My FDA inspector told me that I needed to be a certified PCQI," Bride said, referencing a government requirement that businesses employ a trained Preventative Controls Qualified Individual. "They said I needed to complete this training before they returned."

Searching for answers, she called CIRAS.

Bride was part of the first-ever CIRAS Food Safety Collaboration, a series of intensive three-month classes that launched in July. Funded by a three-year grant from the federal Manufacturing Extension Partnership (MEP) to the Georgia Institute of Technology, the classes are part of a shared effort by CIRAS and its counterparts in Georgia, Idaho, and Oregon to pool their expertise and develop a uniform national curriculum covering the best way to



Kim Anderson addresses a July meeting of the CIRAS Food Safety Collaboration.

"Neither my partner nor I have owned a business before. We're brand new, and we want to do it the right way."
— Jeanna Pierce

implement food safety practices.

Kim Anderson, a food safety project manager who works jointly for CIRAS and the Iowa Grain Quality Initiative in Iowa State University's Agriculture and Natural

Resources Extension and Outreach, said Iowa food manufacturers are learning that food safety is complicated. Some have been warned by regulators. Some are losing customers because, at least on paper, they can't meet all the new standards. And some just don't know where to begin.

"What we're finding is that a lot of people think they have it, but then they get inspected and they realize that they don't," Anderson said. "It's like having your taxes done but not having any of the supporting documentation. You can't really do it that way."

The collaboration is designed to jointly walk companies through problems and end with them at least "on the path" to a proper food safety plan, Anderson said. The first group, including Bride, graduated in September. It was followed by classes for animal food manufacturers, who face similar federal

requirements. More classes for human food manufacturers are scheduled to begin in January.

Anderson said future classes will target specific areas or food safety-related issues where Iowans seem to have increased concerns. For now, the focus is just getting Iowans ready.

Jeanna Pierce, co-owner of the Swirl Bakery in Ottumwa, was concerned enough about the technicalities that she enrolled in the July classes even before her allergy-friendly bakery business had opened its doors.

"Neither my partner nor I have owned a business before," Pierce said in July. "We're brand new, and we want to do it the right way."

AT A GLANCE

Event: Food Safety Collaboration

WHAT IT IS: A series of intensive three-month classes for Iowa food companies concerned about federal requirements for a food safety plan.

PURPOSE: CIRAS is part of a four-state initiative to develop a uniform national curriculum describing the best way for food manufacturers to implement safety practices. The goal is to make it easier for companies to comply with the law.

FOR MORE INFORMATION:

Kim Anderson, kandrson@iastate.edu

➤ For more information, contact Kim Anderson at kandrson@iastate.edu or 515-686-9032.

Transit Advertising Firm Sees the Benefit After Second Look by CIRAS

A Carlisle advertising company that specializes in bringing brand marketing to transit buses credits a key portion of its business to the technical expertise of a CIRAS government contracting specialist.

Jeff Lamb, co-owner of Midwest Truck Advertising, said CIRAS performed a valuable service by checking over a bid proposal he submitted to the Iowa Department of Transportation in late 2017. The fledgling company was competing with several other firms for an overarching contract to see which company would have the right to place advertising on 25 of Iowa's 35 city bus systems.

Jodi Essex, a government contracting specialist with the CIRAS Procurement Technical Assistance Center (PTAC), said CIRAS specialists frequently serve as an important backstop for busy companies—a valuable, extra pair of eyes to make certain that firms are meeting the technical requirements of proposals and really telling government agencies what they need to know.

"Sometimes, we can read the proposal and understand what the agency is asking for when maybe the vendors don't necessarily understand what's being asked," Essex said. "Because of our expertise sitting on the other side of that table, we can interpret it."

In this case, the review helped correct Lamb's interpretation of some legal verbiage and allowed Midwest Truck Advertising the chance to make a few additional changes.

"Government work is very complicated, and I don't know what I'd do without you guys," Lamb said of CIRAS. "You've really helped me a lot. . . . We would have lost the bid if Jodi hadn't gone through it with a fine-tooth comb."

Instead, Lamb said Midwest Truck Advertising won the new contract and received new gross revenues exceeding \$145,000 during the first 18 months under its existence. The company currently is working on plans to expand into new advertising ventures in parking garages and the downtown Des Moines skywalks.

"At the end of the day, we wouldn't be where we are today without Jodi," Lamb said. "And she answered all of our questions within 48 hours."

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

AT A GLANCE

Midwest Truck Advertising

FOUNDED: 2017

OVERVIEW: Provides advertising for municipal transit buses.

EMPLOYEES: 6

IMPACT: More than \$145,000 in new gross revenue since CIRAS helped land a government contract.

FOR MORE: midwesttruckadvertising.com

- **Business Strategies: Water Planning to Support Manufacturing into the Future**
November 5, 2019
8:00 a.m. to 5:00 p.m.
Ames
- **Creating Your Government Marketing Strategy**
November 12, 2019
9:30 a.m. to 10:30 a.m.
Webinar
- **Basic Sausage Short Course**
November 12–14, 2019
8:00 a.m. to Noon
Ames
- **The Federal Sales Game**
November 18, 2019
9:30 a.m. to 2:30 p.m.
Carroll
- **Blended PCQI Human Food Part 2: Instructor Led**
December 2, 2019
9:00 a.m. to 4:00 p.m.
Ames
- **Inventory Management 101 Workshop**
January 14, 2020
8:30 a.m. to 4:30 p.m.
Sheldon
- **ILC Lean Coffees**
Ames—November 21, December 19
Coralville—November 8, December 13
Davenport—November 21, December 19
Des Moines—November 7, December 5
Marion—November 19, December 17
Omaha—November 15, December 20
Pella—November 20, December 18
Waterloo—November 20, December 18

For details and more events, see www.ciras.iastate.edu/events-workshops.





Professor Tin-Shi Tam plays the carillon inside Iowa State University's campanile.

CIRAS Scanner Captures History of Mini-campanile's Bells

It is a bright summer day when Tin-Shi Tam climbs the steps inside Iowa State University's iconic campanile to play her daily midday concert on the Stanton Memorial Carillon.

Up above, after she's worked the carillon's bells through a mix of tunes that includes both Garth Brooks and the theme from a Hong Kong soap opera, Tam starts talking about the miniature version—a one-fifth scale model of the campanile that eventually would be unveiled to the public in October.

"I think the whole idea about this project is that not only did we involve so many Iowa State students and faculty to build it, but this is a project that we can actually own," Tam said. "It's the whole process. We've documented every process. This is something that we can share and say, 'This is how it works.'"

Tam, Iowa State's Cownie Professor of Music and its official carillonist since 1994, worked for more than four years to bring the miniature campanile from inception to completion. The

small version, which debuted at Iowa State's homecoming parade, was born after hundreds of hours of input and assistance that stretched across campus. Mechanical engineering students spent six semesters of capstone design projects perfecting the model overall, while computer and electrical engineering students spent four semesters creating the Guitar Hero-style video screen that eventually will help untrained civilians play songs on the model's 27 bells.

"I'm an artist at heart, so I'm not good at engineering or whatever different area," Tam said. "But it really opened my eyes to what my colleagues are doing. . . . I think this is a beautiful thing to just showcase what Iowa State stands for."

CIRAS plans to help with the project by creating 3D scans of the bells both

before and after an arduous tuning process. Project manager Mark Williamson said the experience will allow CIRAS to assist the campus community while simultaneously testing a new metrology-grade handheld scanner.

The resulting 3D models of the bells will be invaluable some day if Tam or her successor ever need to know what a properly tuned bell looks like, Williamson said. "This map provides the profiles needed in the future to repair a bell, to understand why its tone is changing, or to replicate a new bell."

Plans call for the model campanile to hit the road soon, making appearances at Iowa State events around the state.

"It's not just something to see," Tam said with a smile. "You can actually experience it."

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

Lean Coffees: Where New Perspectives Percolate

It was roughly halfway through a summer meeting of the Ames Lean Coffee™ when Roger Hayes reached for his Post-it notes.

They had been chatting about the value of problem solvers in an organization, when Joe Inman, a quality and Lean manager with 3M in Ames, made a suggestion. What if companies started publicly recognizing people who did “such a good job of controlling things and preventing fires that they never have a crisis” at work?

“I like that idea a lot,” Hayes responded as he scribbled out a note. “That’s a takeaway.”

Welcome to Lean Coffees, a member-driven forum for discussing Lean management techniques. Born in Seattle in 2009, the concept involves meetings with very little structure where members toss out topics and vote on which ones will be discussed. They then ask each other questions and share tips.

A total of eight Lean Coffee groups currently meet regularly across Iowa with assistance from the CIRAS Iowa Lean Consortium. Hayes, a project manager with Landus Cooperative, hosts the Ames event each month.

“One of the benefits for me is that I get to see all of these different ideas that are working and things that are not working, and we can skip the trial and error and go right to what works,” he said.

Inman agreed.

“If you’re in a conference where Lean is being taught, you’re getting the principles and then you’re getting some really good examples that support the principles,” he said. “In reality, there’s a ton of variation in how it’s implemented. That’s what you hear about in here.”

Tracy Schuster, membership development coordinator for the Iowa Lean Consortium, said a total of 602 people attended ILC Lean Coffee events in 2018, only the second full year of the program’s existence in Iowa. Attendance is on pace to top 700 in 2019.

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— Joe Inman

This year, for the first time, ILC began designating some of its members as Lean Coffee Ambassadors assigned to work with Lean Coffee hosts and identify certain topics for discussion. Since summer, the meetings have featured themes in addition to the attendee-selected topics.

“We listened to our customers and saw this

as a chance to improve the program by giving it a little more structure occasionally,” Schuster said.

Lean Coffees are expected to continue evolving while giving companies the chance to gain perspective. (To find one near you, visit <http://www.iowalean.org/learning-opportunities/lean-coffee>.)

“These meetings help you to reflect,” said Brenda Lykins, continuous improvement and training leader at 3M. “It’s like, ‘OK, we’re good. But we could be better.’”

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

Roger Hayes, below left, keeps track of topics at an Ames Lean Coffee. Other attendees included Brenda Lykins and Joe Inman (right).



AT A GLANCE

Kimberley Construction

FOUNDED: 2018

EMPLOYEES: 4

OVERVIEW: An offshoot of Kimberley Development created to do renovation work.

IMPACT: Roughly \$260,000 of government contracts in 2019.

Kimberley Construction Building New Role as Government Contractor

A year-old commercial and residential construction company is taking its first major steps into government contracting after CIRAS helped the company understand the intricacies of selling to the government.

Kimberley Construction was formed in September 2018 as an offshoot of Kimberley Development, a 41-year-old Ankeny home building company. Troy Sydow, project manager for the newer company, said the home developer realized last year that it had been turning away smaller upscale renovation jobs and decided to form a new division to capture that work.

Within a few months, Kimberley Construction had begun taking on commercial renovation work as well, and it was pondering the government sector. Sydow contacted CIRAS and began asking questions.

"When we initially started, we weren't really sure how to navigate the process," Sydow said. "I was leaning heavily on

[CIRAS] to review all the scope of work documents and make sure that we had all our ducks in a row."

Jodi Essex, a government contracting specialist with the CIRAS Procurement Technical Assistance Center (PTAC), helped Kimberley take its long history of residential success and transfer that to a new sales channel.

"One of the main challenges is just learning the bidding process," she said. "When it's private, you can quote what you want. In government work, it's a lot more structured."

After one unsuccessful bid, Kimberley Construction's second attempt ended in a \$245,000 contract to remodel flooring at a Des Moines elementary school. The

company continues pursuing government projects, and Sydow believes that "2020 is going to be an extremely active year for us in the government sector."

Sydow has attended several CIRAS events and begun building relationships with government procurement officers in the area.

"Jodi has been just a huge help to us in this entire process," he said. "The biggest thing is just knowing that I have a resource to go to if I need to ask questions."

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



From left, Jordan Kramer, Jenna Kimberley, Dave Schlachter, and Troy Sydow.



AT A GLANCE

Walsh Door & Security

FOUNDED: 1866

EMPLOYEES: 112

OVERVIEW: Walsh is one of an estimated dozen U.S. companies that provide both physical doors and the electronic control systems that go with them as part of modern security operations.

IMPACT: The company saved \$200,000 in inventory costs after attending a CIRAS class.

FOR MORE: <https://walshdoor.com>

Dave Hunt works with inventory at Walsh Door & Security.

CIRAS Helps Walsh Door & Security Unlock Inventory

A Des Moines commercial door and security company improved efficiency and shaved roughly \$200,000 off its costs after CIRAS assistance helped the company upgrade its inventory handling.

Dave Hunt, hardware inventory control manager for Walsh Door & Security, said his company went from carrying roughly \$600,000 worth of locksets at its Des Moines warehouse to roughly \$430,000. The difference was made possible by a 2017 CIRAS training that helped Walsh become more precise about calculating what the company really needed on hand to meet its customers' needs.

Before attending the CIRAS Inventory Management 101 class, "I didn't know the different ways to calculate inventory, the value of the inventory on the shelf, or the cost of it sitting on the shelf," Hunt said. "I also didn't have an understanding of how many times we turned our inventory."

CIRAS project manager Marc Schneider, who taught the 2017 class and later worked individually with Hunt and his team, helped Walsh Door & Security understand how to calculate the minimum amount of stock required and set appropriate targets.

Schneider, who is teaching Inventory Management 101 again in January, said many Iowa companies manage their inventory levels just fine—until they grow to the point that the old way of doing things doesn't work anymore.

"I think in Iowa, and probably everywhere, a lot of small and medium-sized companies don't really have a lot of formal training in managing inventory," Schneider said. "They just kind of wing it."

"That's OK when things are small, when you can manage things by looking at them and counting them," he said. "But as these companies start to grow and have more volume, they find it harder to do all of this and just manage it in their heads. They realize that they need to have a more formal approach."

Hunt credits CIRAS, along with a new computerized dashboard that helps Walsh Door & Security keep a better eye on its current stock, with helping the company become much more efficient. As one example, he cited a Schneider suggestion that the company change the way it orders supplies for major door installation projects. Instead of being ordered and placed into stock, locksets needed for those jobs now are ordered shortly before they're needed and kept separate.

"It saves time on our hardware guys," Hunt said. "Because they don't have to put it away."

➤ For more information about inventory management, contact Marc Schneider at maschn@iastate.edu or 563-221-1596.

Accumold Uses Cybersecurity Partner as Path to Competitive Advantage

Accumold, a rapidly growing manufacturer of micro-engineered industrial parts, is a company built on technology—so cybersecurity is always a concern.

By 2013, that concern had grown strong enough to make the Ankeny-based company consider adding new capabilities to its two-person Information Technology department. But the search for a new security expert quickly turned into a broader discussion of whether or not that would be enough.

Given the high level of expertise and experience required, Accumold was looking at spending \$200,000 or more annually to fulfill its needs. What if the company shifted its informational security to an outside team? Could this become a competitive advantage? The company eventually selected Pratum's Virtual CISO (Chief Informational Security Officer) service.

Pratum, an Ankeny information-security consulting firm, quickly developed a program that aligned with Accumold's needs. The company arranged to spool up when necessary to help safeguard a new product and back off during times when Accumold needed to focus on other priorities.

"Pratum's level of preparedness showed through right away," said Tysen Landmesser, Accumold's information technology manager. "We even tried to 'outrun' Pratum for the first six months, but we couldn't."



Jim Sixta, information security consultant at Pratum, visits a server room with Tysen Landmesser, information technology manager at Accumold.

Six years into the relationship, Pratum has boosted Accumold's awareness of cybersecurity threats to the point where fewer than 10 percent of Accumold's employees fall prey to phishing emails—compared to 34 percent for the industry overall.

Pratum also has helped Accumold test physical security by repeatedly probing Accumold's building and exposing areas that need improvement. The company helped Accumold prepare an incident response plan and introduced new security controls to help reduce the risk of a breach.

"Pratum has always done what they've said they would do," Landmesser said. "I see them in our five-year plan as we move forward."

CIRAS is planning upcoming events about cybersecurity. For more information, contact Shankar Srinivasan at srigshan@iastate.edu or 515-290-6702.

STAFF NEWS



Edson to serve as full-time CIRAS Events Coordinator

Halie Edson has joined CIRAS as a full-time events coordinator. Halie, who received a bachelor's degree in business management from Iowa State University, had been working at CIRAS in a part-time capacity since 2017. She previously spent two years as a certified nursing assistant in Boone. At CIRAS, Halie will be responsible for managing the logistics for a variety of educational CIRAS events across Iowa. She also will oversee various administrative duties at the CIRAS office in Ames.



Master metallurgist Paul Berge has retired

Paul Berge, a CIRAS project manager with a long history of assisting Iowa businesses, has retired after more than 30 years of service. Paul began his on-staff career at Iowa State in 1989 fulfilling roles in applied research, metallurgical engineering, and program leadership. Since 2014, he had headed the CIRAS metallurgical group, where he helped Iowa manufacturers solve problems and provided technical assistance. Paul's efforts and results working with Iowa companies will be felt for years to come.

ILC Mentors Help Put Lean Training into Practice

John Magnussen, continuous improvement manager for Pella Corporation, likes to compare Lean management techniques to riding a bicycle: getting trained is great; but at some point, you just have to grab the handlebars and go.

“You didn’t learn to ride a bike by reading a book,” Magnussen said. “You went out, and you rode a bike! You can read and train all you want, but until you go and actually practice it, you’re not going to know.”

But wouldn’t it be nice to have someone running beside you as you learned?

To assist, the Iowa Lean Consortium (ILC) earlier this year began offering its members a mentor service. ILC program director Teresa Hay McMahon said consortium staff are building a list of experienced members who are willing to meet with mentees for one or two hours per month.

“The primary objective is that the less experienced person in the group is able to enhance their skills so that they’re better able to fulfill a function,” McMahon said. “Some people may need broad and intensive support, while others might need assistance in just a few well-chosen areas. Maybe someone has just moved from a manufacturing job into a hospital setting and has questions about how Lean works there. . . . We’ll look at who’s willing to be a mentor, and we’ll try to pair up the mentees to meet their needs.”

During a pilot phase, Magnussen was tapped to mentor Brandon Dodgen, who is roughly one year into his job as plant manager for Hawkeye Leisure Trailers in Humboldt. (Jeff Terrell, of Iowa state government, also mentored Emma Knapp, of Des Moines Public Schools.)

“I have some surface knowledge of Lean, but I haven’t really practiced it,” Dodgen said. “How do I really do this? Where do I start? It’s a little overwhelming when you start to look at the whole thing.”

Magnussen and Dodgen met regularly for several months, then Dodgen spent five days at Pella participating in a Kaizen event. Both men say they learned a great deal from the interactions.

“Relationships are what it’s all about,” Magnussen said. “Just knowing that you have someone you can call and roll stuff off of and ask questions . . . We’ve both benefited from the relationship.”

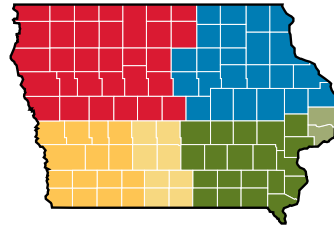
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NORTHWEST

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

NORTHEAST

- **Sean Galleger**
galleger@iastate.edu • 515-290-0181
- **Julie Fagle***
jafagle@iastate.edu • 319-310-8612

SOUTHWEST

- **Paul Dunnwald**
dunnwald@iastate.edu • 515-509-1377
- **Andrew Alexander***
andyalex@iastate.edu • 402-547-0333
- **Jodi Essex***
jodir@iastate.edu • 515-509-0769
- **Justin Niceswanger***
jnice@iastate.edu • 515-509-9565

SOUTHEAST

- **Glenn Volkman**
gvolkman@iastate.edu • 515-205-3786
- **Melissa Burant***
mmburant@iastate.edu • 563-726-9958
- **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

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1805 Collaboration Place, Suite 2300, Ames, Iowa 50010-9166
Phone: 515-294-3420 • ciras.info@iastate.edu • www.ciras.iastate.edu



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GROWING YOUR BUSINESS

Why Lean Helps You Grow *By Teresa Hay McMahon*

No matter the size of your organization, you likely track growth as one measure of success. Whether it's number of clients served, sales, or net income, you want to improve your bottom line.

We all look for the breakthrough that will vault us ahead of our competitors. But the reality is that long-term success really comes from preserving the core of your business—the part that created success in the first place—while also stimulating progress. Steady-state management, however, doesn't mean inaction. The challenges of a rapidly changing world mean that you must constantly refine the practices and processes of your organization if you hope to remain competitive. You need ways to deal with cross-functional issues, measure performance, and manage value creation. How can you ensure that continuous improvement is a sustainable part of your operations?

Lean is not just a manufacturing tool; it's a management philosophy built on a culture of training people to solve problems, eliminate waste, and continuously improve what they do. It's an investment in your most valuable resource—your team—and it ultimately will pay off in

increased efficiency, reduced rework, shortened time to market, and improved cross-functional collaboration.

Lean adoption sometimes is hampered by the misconception that this is just another layer of work imposed on already-overburdened people. That's incorrect. It is instead a way of doing business. Focusing on adding value at every level makes your company more efficient, more productive, and more responsive to change. You remove uncertainty and random variation before they become major problems. As rework is reduced, you find more capacity to grow.

Lean takes a high level of commitment to successfully implement at every level of a company, but, as already noted, the return on investment is high. The collective power of every person engaged in continuous improvement doesn't rely on one product or service, or one dynamic leader, to ensure success. It is the ultimate team effort.

For more information, contact Teresa Hay McMahon at thmc@iastate.edu or 515-715-0293.