

Growing, engaging people every day in lean

Cambridge Engineering employees are growing even faster than the company.

BY LEA TONKIN

Inspiring stories about lean and enterprise-wide transformation can sometimes seem too good to be true. This is the feeling Marc Braun, president of Cambridge Engineering, Inc., in Chesterfield, Missouri, has about the company's cultural transformation during the past several years. "It is incredibly humbling to walk into the plant and see how our people are growing and how much joy lean has brought into their lives," Braun said. "You wouldn't believe it unless you experienced it for yourself."

The family-owned heating and ventilation system manufacturing company is known for high-quality products and a strong family culture. What's happening now, through lean, is different. John Kramer Jr., chairman and CEO, shared, "People know me as being a big dreamer, but the impact our people at Cambridge are making in others' lives exceeds my wildest dreams. I believe the journey we are on is one that will ultimately restore glory and dignity to manufacturing in America."



John Kramer Jr., Cambridge Engineering owner, speaks to a benchmarking tour group. The company has hosted 200+ companies since 2015, as a way to "pay forward" the generosity of the lean community that has helped and inspired them.

Introducing lean concepts in the plant more than ten years ago seemed a logical step to Kramer. Many experts said to start with 5S improvement projects, train the workforce on Japanese terms, and then add a host of metrics and plant white boards—adding to the mix of daily priorities. Although some progress was made during this time, it was top-down driven and merely tolerated rather than embraced by employees. "There were too many metrics, and there was too much focus on cost rather than on people," Kramer noted. "Our busy season (fall through January) would hit, and I would tell my people to stop improvements and ship products. All of our lean principles would go out the window, as people didn't have time to make improvements. Although I had a glimpse of the vision of a lean culture, many times it felt like we were going backward rather than forward."

Staying focused: A turning point

After working with an executive coach and following the plan for organizational health described in Patrick Lencioni's book, "The Advantage," Kramer determined that his leadership was the biggest challenge and barrier to making the cultural changes he envisioned in the company. "I would whipsaw the organization in a million directions without giving them the chance to make progress," he said. "Once I stopped and allowed the team to focus on the key areas for success, and develop a rhythm and pace, the cultural progress started to come alive."

During this period of growth, operational team members came back after a lean benchmarking trip to FastCap, Paul Akers' facility in Washington state. "They were excited about his book, '2 Second Lean,'"

Kramer said. “They had met with Paul and learned that you can take something complex and make it simple—a way for people to make improvements and prosper. We started making simple changes and celebrating small improvements, opening up more dialog with our employees. The concept was embraced by our organizational leadership and also resonated with me and our executive team members, because it focused on people growth and engagement. Because it was so simple to understand and was people-focused, the team was able to quickly share with others inside the company, and we haven’t looked back since.” Akers strongly encourages readers to start their lean journey by learning to see waste, allowing people to “fix what bugs them,” and then to make short videos for sharing improvements with others.

“I remember how excited our leaders became about the concepts taught in “2 Second Lean.” Their courage to try something new and experiment with videos was amazing,” said Braun, who was the executive vice president of sales and marketing at the time. “Our marketing department had utilized video sparingly. We had a collection of several videos reflecting the “Cambridge Story,” and little presence on YouTube. The company now has more than 4,300 videos created by employees, demonstrating their genius. It has been like pouring gasoline on a fire.”

Here’s where employees shine, as they share one-minute videos they’ve made about recent improvements. Sometimes there are accounts of rapid changes to eliminate wasted steps or prevent over-reaching at a work station, for example; or there may be videos reflecting several improvements over an extended period of time. “Making videos of your improvements helps to reinforce that you are making a contribution,” said Greg Sitton, plant manager. Every employee is encouraged to make one-minute videos. Although some associates readily take to the camera, others need help, and teammates step in to capture the improvements. (To see an associate video, visit <https://youtu.be/3PcFystGp14>).



Justin Meade, a general laborer, shares improvement experiences with tour visitors.

Great people, ideas, processes and products

“For us, lean is about people and people growth,” said Sitton. “It’s not something that is simply implemented. You can’t just drop it on people.” Key elements in creating lean understanding include lean classes for all new hires using “2 Second Lean” as a guide, and then taking them out to the shop floor and asking them to stand there and look for the eight types of waste. “Within ten minutes, they typically see 20 to 50 wastes,” Sitton said.

The company also gives employees time on the clock to read “2 Second Lean” and to discuss the book in a team setting, encouraging employees to “go and see” waste and to develop remedies for eliminating waste in their work areas. “With ‘two-second lean,’ you have simplicity, breaking things down so everybody can make a great process and a great product,” said Sitton.

This expectation reflects a significant transition from Cambridge’s initial lean efforts, when senior leadership and engineers usually initiated lean improvements. “That idea only works for owners of the company,” said Sitton. “We realized that we needed more people who buy into the culture, with a sense of ownership. Now we develop people with a sense of trust, who are able to see waste and fix what’s bugging them, and they now all respond as owners.”

Fast start for new employees

New employees are encouraged to jump right into lean improvements at Cambridge. Justin Meade, a general laborer who works on wiring panels, said he got started with innovative changes in the first week after he joined the company, about two and a half years ago.

“When I first started an assembly job, it wasn’t very fun,” said Meade. “Then, after seeing some others’ videos, I started on improvements—first a small project, putting tools that were scattered all over onto a shadow board.” Over a period of six months, Meade developed a cart furnished with parts, plus a trash can and tools needed to eliminate wasted movement and space during his daily tasks. He made videos of several improvement iterations, modifying and later eliminating the old cart. Along the way, he got help from a sheet metal team member, a welder and others in creating a new cart. Now, everything that’s needed, tools and parts, is in one area. “It used to take an hour and a half to do a particular job. Now the process takes 20 to 25 minutes a unit,” said Meade. “I just went ahead with it, after talking with my team lead, Scott Moore, who encouraged me to make the changes.”

Meade said he continues to gain improvement ideas and inspiration from participation in morning employee meetings. “I like that everyone here is

updated about how the company is doing financially. We're also encouraged to give input on company goals," he said.

"Lean and clean time"—a half hour from 8:45 a.m. to 9:15 a.m. every day, is when every employee is encouraged to scout for improvement ideas. It also provides opportunities for "finding out what bugs us most and then fixing it," said Meade.

Humility

The culture at Cambridge reflects a unique perspective on pursuing humility. From the president to the front line worker, people share a consistent theme of humility as something to strive for instead of something to endure.

"Humility is part of the beauty of working here and part of what attracted me," said Meg Brown, human resources director. "You are asked to make improvements and share them with videos. It's empowering to be able to say, 'I made a difference today.'"

"No task is too small," added Brown. Leadership and others from throughout the company voluntarily share the task for cleaning bathrooms, for example—reflecting humility and ownership.

Cultural recruiting

Cultural recruiting—attracting potential employees who will support the Cambridge collaborative approach—is crucial to the company's long-term success. "We attract people who enjoy being problem solvers, and being given the ability to make changes," Brown said. "This gives us a huge competitive advantage in this tight labor market."

Cambridge Engineering's employee turnover rate is 12.7 percent, including seasonal workers. "This is 'sticky' in a good way," Brown said. "People like the freedom to change things that bug them, and to be supported in their work environment." Brown added that training and development investment will continue to evolve, as Cambridge leadership



When asked what lean means to him, Tom Davidson, sheet metal operator, replies: "I think it means we are building a better place to come to work. I want to come to work every day. I want to see what next lean idea I can come up with."

continues to strive for organizational health and alignment in all areas.

Morning meetings — cultural glue

Finding frequent opportunities to celebrate employees and their improvement ideas, and to grow leaders, is key to building lean capabilities at Cambridge. All-company 15-minute meetings are held daily at 8:30 a.m. "The morning meeting provides an enormous opportunity for growth across the company," said Bruce Kisslinger Jr., director of manufacturing. Meetings are led by a different employee volunteer every day; more than 50 percent of the workforce step into this role.

The meetings start with stretching and the leader sharing anything they would like to with everyone in the company. Then employees share gratitude for each other, for things at home or for anything that brings joy to employees. Anyone can grab the microphone and share; many do. Next, videos created the day before are viewed, and everyone claps as employees courageously share their attempts to improve their processes. Finally, company announcements and company metrics for safety, quality, delivery and revenue are covered. Outsiders are encouraged to experience these high-energy meetings first-hand.

ABOUT CAMBRIDGE ENGINEERING, INC.

For 54 years, Cambridge Engineering, Inc. in Chesterfield, Missouri, has been committed to enriching the lives of its people, customers and suppliers through the design, manufacture and application of its heating, ventilation and cooling product platforms. Cambridge Engineering, Inc.'s 120-employee operation and its extended 400+ person sales representative network helps manufacturing and distribution business owners and operators, design engineers and mechanical contractors to create better working environments for people. Whether in new construction or existing facility retrofits and expansion, Cambridge Engineering's made-to-order design, fabrication and testing process ensures that each HVAC system is certified safe with excellent product quality. To learn more, visit cambridge-eng.com.

Learn through exposure (benchmarking)

Mike Taylor, who works in pre-paint, is a volunteer member of the Cambridge External Lean Exposure Team. “About ten of us are on the team,” Taylor said. “We are in charge of finding other companies doing lean, where we can learn from them. Our goal is 100 percent external opportunities (every Cambridge employee visiting at least one other facility) by May 2018; we’re now at about 70 percent.

“We try to take one nugget from every place we visit—something we can use in our lean projects,” added Taylor. “For example, one of the main things we focus on is visual cues throughout the plant—labeled parts, visual cues for replacing parts so that you can go ahead and order parts while you keep working. We bring back ideas to our team, and if it’s low-cost and not affecting safety or quality, we can implement changes ourselves. We have the freedom to make our lives easier.”

Taylor added, “When I first joined the company, I did not want to take part in lean. Now it’s become second nature to me. I’ve not always been an outgoing person. Now I run meetings in front of the whole company. It’s our job as line workers to teach others.” Sharing information with others through improvement project teamwork and videos (he creates about one per week) helps everyone eliminate problems. “If I’m struggling, I can see how others made changes,” said Taylor.

Excellence strategy: simplicity, and spreading the word

Leadership continues to hone its strategic planning process, and how strategic initiatives reflecting lean progress and goals are communicated throughout the organization. Having a three- to nine-month “thematic goal” or rallying cry, with defining objectives, has been a primary method for building alignment during the past five years. Beginning in 2017, a three-year strategic plan has been put in place to help drive longer-term decision making towards a common vision.



Bruce Kisslinger Jr., director of manufacturing, discusses the importance of morning meetings.

“Our three-year plan has helped the teams focus and continue to increase engagement,” Marc Braun said. “For example, one of our initiatives for 2017 is that every employee will spend at least a half-day learning by benchmarking at another company. We continue to improve our process for rolling forward on strategy, so that goals are aligned in five key areas: organizational health, lean/continuous improvement, revenue growth, product development and and paying it forward.”

The company’s primary method for sharing strategic plans and goals with employees and asking for their feedback is the daily all-company meetings. Last year, executive committee members also asked employees, in groups of 10–12 at a time, about their feedback on these plans, and made changes, like reducing the number of initiatives, based on feedback received.

Excellence strategy: What’s next

In the coming year, developing standard work will be a major area of focus, as Cambridge continues to drive for the next level of quality systems, according to Braun. “What’s good is that our people are asking for it,” he said. “It is employee-driven, enhancing our ability to innovate rather than stifling it. Also, using Scrum methodologies to increase

the speed of product innovation through our engineering teams is a next evolution for us—using the same level of experimentation in this area, which will deliver rapid value to our clients.” (See “Scrum’s Potential for Rapid, Lean Product Development” at <http://bit.ly/2iXRGEx>)

Cambridge is also ramping up its efforts to utilize its continuous improvement engine to build a world-class safety culture. “We have a culture that cares deeply, but intend to focus more of our continuous improvement time on building a zero-incident mindset across the company,” said Braun. “We want to be able to demonstrate that safety and innovation cultures can be built simultaneously.

“I believe lean has enabled us to grow our people faster than we’ve been able to grow our company—and at a 16 percent compounded annual revenue growth rate, that is an accomplishment our teams feel extremely proud of,” Braun said. “The desire to grow is there. Before the cultural buildout, we wouldn’t have had the ability to sustain the growth. The simplicity of the system the teams have built is that it enables others to step in and lead. We’re continuing on a journey; we’re learning, having a blast, and building a powerful, sustainable growth engine.” ●

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