



know how to do that."

my Crawford often say phrases like, "We didn't know how difficult it would be," or, "We didn't

of how PartsBadger LLC

came to be, co-founders

Roy Dietsch and Jim-

For the Cedarburg-based Computer Numerical Control machining company with a short history and big aspirations, overcoming challenges with a can-do ethos is woven into its identity.

CNC shops, especially smaller ones, typically specialize in a single industry because of the complexities and intricacies associated with each, said Dietsch, the company's chief executive officer. PartsBadger has embraced the learning challenge of serving a diversity of industries, from aerospace and defense to medical devices and transportation industries. No single sector makes up more than 15% of the company's overall business.

"We have a lot of people who know how to office kitchen. learn what all that stuff is," Dietsch said. "That's our culture. ... So, if a customer needs something, we're going to figure out how to get them what they need. Everybody is very used to hitting the phones, hitting Google and figuring out whatever it takes."

Take, for example, the time when PartsBadger chief operating officer Kim Crawford took a fact-finding trip to China to learn how to make a started making our own enclosure." perfect sphere for a client.

"I went down to O'Hare (International Airport), and I had to stop at the consulate to pick up the visa to get on the plane in a couple hours," Kim we ended up getting this order and it's like, 'Well, you've got to go to China to figure it out.' And we did figure it out and brought the piece back, bought an extra piece of luggage (for it). And the customer ended up with the parts in the end to their deadline that they needed."

Compared to its more-established, well-financed competitors, PartsBadger faces a shortage in lending or investment.

"Our biggest hindrance is cash," Dietsch said. "We're not venture funded, and that's the hardest part."

Still, the four-year-old company has ambitious the business. growth plans. Since August 2017, the shop has raked in more than \$20 million in sales, and it is now on a \$10 million run rate. It has a "robust" plan to reach \$20 million, and then \$50 million, and then beyond, Dietsch said.

"PartsBadger will be a hundred-million-dollar company pretty darn quick here," he said.

A DISRUPTIVE FORCE

Jimmy Crawford and Dietsch were introduced to the CNC machining industry as customers, when they were seeking a customized aluminum

enclosure for their other business, Rugged Video, a Mequon-based company that makes flight recorders and cameras.

The enclosure they had been ordering from an extrusion company took too long to make and get to them. They were also forced to design their electronics to fit inside its rigid confines.

After they designed their own enclosure, they sought quotes from a dozen CNC machining shops, and heard back from only three.

"Two said their software was too old and they couldn't open the file I had sent them, and the one that quoted us was so expensive, it was cheaper to buy a CNC machine to make the parts ourselves," Dietsch said.

They taught themselves how to use computer-aided design, or CAD, which is used to make the parts to be machined. They also talked their way into a CNC machine training class by promising to buy the machine itself when the training was over. They bought the machine and set it up in the

"I would work during the day doing the sales stuff and assembling everything, and then the machine would run at night," said Jimmy Crawford, who is also PartsBadger's chief sales officer. "I would sleep on the futon in the next room, and I would hear the machine throw the part against the wall and I'd wake up and go in there and I started all over. It was a heck of a learning curve, but we

The machine fundamentally changed Rugged Video and led to the creation of PartsBadger, Dietsch said.

PartsBadger was actually founded as a concept Crawford said. "It was one of those things where in March 2016. Dietsch said a high school friend of his, Steve Kotlowski, was brought in to run their new endeavor while Dietsch and Jimmy Crawford remained focused on Rugged Video.

Kotlowski is the third co-founder of PartsBadger, but he is no longer involved with the company. The logistics proved too difficult, being that he lived in But not every challenge is solved so easily. central Wisconsin, Dietsch said. The company was restructured after a few months with Dietsch and Jimmy Crawford as sole owners.

> They point to August 2017 as the true beginning of PartsBadger, the moment it went from an idea to a "legitimate venture." That's when the two decided to put their full effort and attention into

Jimmy Crawford and Dietsch still own Rugged Video but have someone else overseeing that business full time.

TECHNOLOGY-DRIVEN SUCCESS

Because of their experience as customers, Dietsch and Jimmy Crawford realized something in the CNC machining industry was broken, Dietsch said. The big problem they aimed to solve was the quoting process and decided to create a way to instantly quote a job.

PARTSBADGER TIMELINE

9 2016:

Company founded; starts making parts with one machine in Mequon and small manufacturing partners in China and U.S.

Early 2018:

PartsBadger creates a wholly owned foreign enterprise (WOFE) for quality and logistics facility in China; purchases machine shop in Germantown to expand U.S. machining capacity; and obtains ISO 9001:2015 certification, which sets standards for quality maintenance systems, and AS9100 certifications, which sets additional requirements specifically for the aerospace industry.

Late 2018:

rartsbauger owners acquire 15,000-square-foot facility in Cedarburg, its current home, to expand manufacturing capacity and offices.

2019:

Company expands partner network to Malaysia and Singapore.

2020:

PartsBadger invests in additional equipment in Cedarburg, doubling the size of its fifth axis cell while adding more high-speed production machines; hires Malaysia team to manage production in Malaysia and Singapore.



Shop manager Rob Brekke

The PartsBadger quoting tool analyzes 3D parts and PDF files to quote parts for CNC machining, which can be a time-consuming manual process for machine shops, Dietsch said.

The instant quoting tool does not work for all requests. Customers who could not or did not want to use it needed the assistance of engineers.

Providing the insight of an engineer meant they had to hire one. They brought on Kim Crawford, Jimmy's sister-in-law, for that job.

"At the time we didn't even know what tolerances were," Dietsch said. "We didn't know the difference between a low carbon steel and a stainless steel. Jimmy and I didn't know anything. Kim was an engineer, and she had a lot of this knowledge them a quote right online or in an hour." that she was able to bring to the table."

When Kim Crawford was hired in late 2016, her position was initially only temporary.

"I ended up really enjoying the concept of the what they were doing was real. company and with my background in engineering ... knowing what we were doing was definitely something big, something that intrigued me to keep going and seeing where it could head," she said.

Dietsch said they aimed to hire seasoned sales

veterans to grow the company more quickly. The thought was they would bring over their existing customers and industry connections, and the make it more sophisticated with the ability to customers would benefit from the instant quoting platform and speedy production of parts.

While that strategy proved successful, Parts-Badger at first had a hard time convincing salespeople what they were offering was legitimate.

"When we were trying to convince the seasoned sales rep who's been selling machined parts for 20 years that we can do something you've never seen before in the industry, they didn't believe us," Dietsch said. "They didn't believe we could get them parts in 14 days or less, or that we could give

PartsBadger formed a full interview process, with Dietsch's mom conducting pre-screenings, followed by the team convincing the candidate

"We've had that where people just literally hung up on us," Dietsch said. "They're like, 'You can't do that,' and then they would just hang up on us and that's the end of the interview, I guess."

judge more parameters for a requested item. Dietsch said he and a PartsBadger developer have sessions where they "nerd out" with the quoting program algorithm.

About 65% of the parts can be entered online and given an instant quote. The other 35% need a closer look by engineers, Dietsch said.

PartsBadger also built out a complete end-toend enterprise resource planning, or ERP, system to manage everything from customer acquisition to accounting. Dietsch said a key component is the production management system that coordinates production processes globally.

PartsBadger also developed a proprietary sales tool to better reach the \$60 billion to \$80 billionper-year CNC machining industry.

The goal, Dietsch said, is to use technology to make the process of quoting, ordering, producing and delivering parts as fast and efficient as possible, shorten development cycles, reduce required inven-PartsBadger is refining its quoting tool to tory levels and accelerate innovation for customers.

RESPONDING TO COVID-19

PartsBadger's nimbleness was put to the test with the global COVID-19 pandemic. At the time the pandemic hit, about 95% of the company's products were manufactured outside of its Cedarburg shop. Much of the work was performed overseas, particularly in China.

Dietsch said company leaders knew supply chains would be disrupted once China extended its New Year shutdown in January. They considered South Korea, Taiwan and the Philippines before ultimately choosing to shift work primarily to Malaysia and some into Singapore. This was in part because they already had relationships in Malaysia.

"We were concerned about the flood of competing customers heading into China and Malaysia bumping us," he said. "So, we started sending one of our people (on-demand engineer Josh Williams), who had been to Malaysia before over there and the goal was to solidify the relationships."

A couple weeks later - on Valentine's Day -Tiffany Tyner-Sohm, global production manager, went to Malaysia to hire employees.

"Our first insight was everyone was going to move their production to the Malaysia area, so we just wanted to solidify the vendor relationships we already had in place," she said. "(Williams) solidified a lot of the relationships over there, so I went over there to reinforce what he did and also get a new team on board there."

Moving over production wasn't the biggest hiccup to the supply chain, Tyner-Sohm said. It was dealing with the carrier they were using, which didn't pivot as quickly.

PartsBadger also invested at home to beef up domestic capacity.

It spent \$750,000 to buy four new CNC machines. This bumped the amount of manufacturing it performed in-house from 5% to 25%.

That investment provided PartsBadger with a second fallback - increased in-house capability - to lean on in case its first fallback - the production shift to Malaysia - also fell through.

The company is also looking to expand its Cedarburg headquarters. The planned 5,000-squarefoot expansion and additional 12 to 15 machines would create 20 new full-time jobs. The company currently has about 50 employees, 40 in the U.S. and 10 international employees.

Dietsch said he is looking at incentive options from local and state agencies, and expects to break ground in 2021 or early 2022.

AIMING HIGH

COVID-19 has tempered some of PartsBadger's growth plans. Dietsch said the expectation was to finish the year with a \$20 million run rate, but the company is now more realistically looking to be somewhere between \$12 million and \$15 million in 2020.



Machinist Michael Mortl

COVER STORY

"The strategies we have right now are working, but it's really dependent from a macro perspective as well," Dietsch said. "Especially in manufacturing like this, when you get a dip, it affects our new customer acquisition to a much higher degree because people just kind of stick with the suppliers they have. They don't have lead time problems; they don't have pricing problems. Everybody just kind of stays where they are and we need a movement to happen in the market."

Beyond COVID-19, the biggest hindrance to growth is the availability of money. Dietsch said with the initial ramp up, the company grew faster than he or Jimmy Crawford anticipated. They applied for an initial line of credit of \$50,000. They were requesting a line of credit backing 60% of the company's receivables. But they grew so quickly, the loan request got bigger by the week.

"By the time they (the bank) scheduled the meeting to talk about the application, we needed \$150,000," he said. "Two weeks after that, I think we needed like \$250,000 or \$300,000.... And then a few months after that, we needed like \$1.5 (million) that was just backing receivables. And we were scrambling to find a financial institution."

They quickly outgrew a bank in Oregon, Wisconsin they had been working with, and Dietsch said he called "probably every single bank in Milwaukee." When that didn't work, they turned to angel and venture capital, offering aggressive terms "just to try to get something so we didn't have to slow down the growth." They finally found a lender in Commerce State Bank.

PartsBadger has lately been using cash from its profits to invest in its growth, but it isn't enough to keep up, Dietsch said.

When talking with venture capital firms and angel investor groups, PartsBadger could show growth that exceeded the projections of other companies that also sought investment, but it had a couple things working against it, Dietsch said.

"It's just really hard for what's called a flyover state," Dietsch said. "It's really hard to get interest and to get the type of investment that we needed."

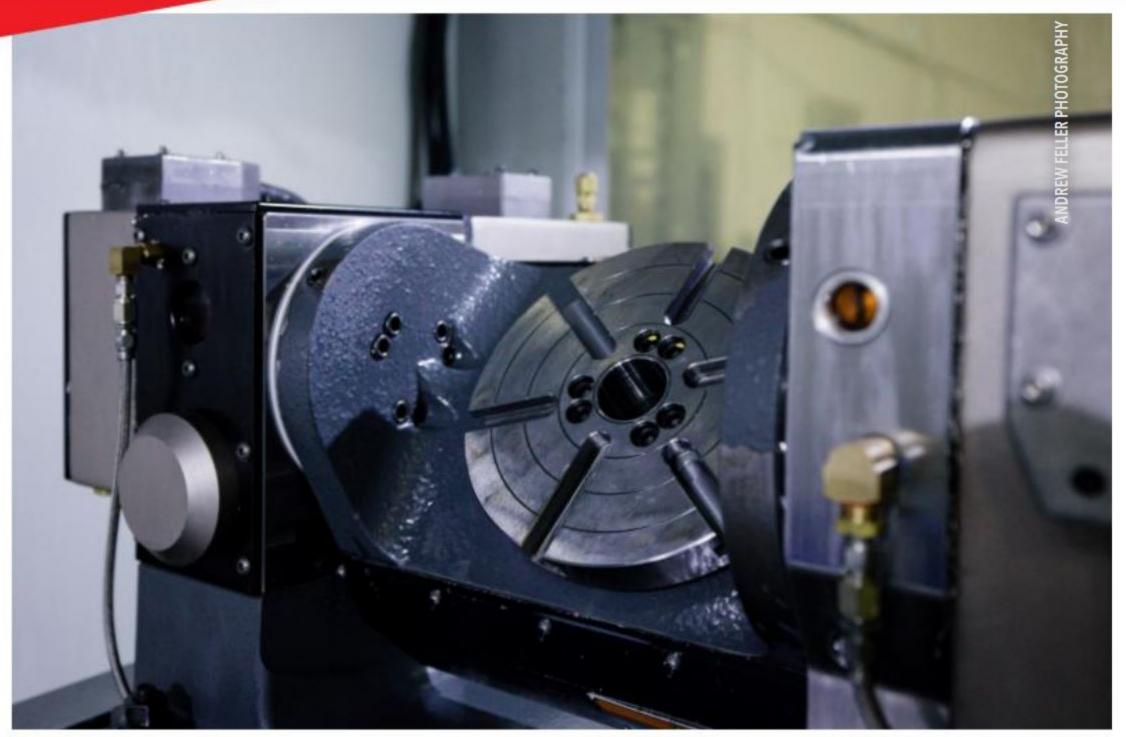
The company's age relative to its rapid growth also presented issues.

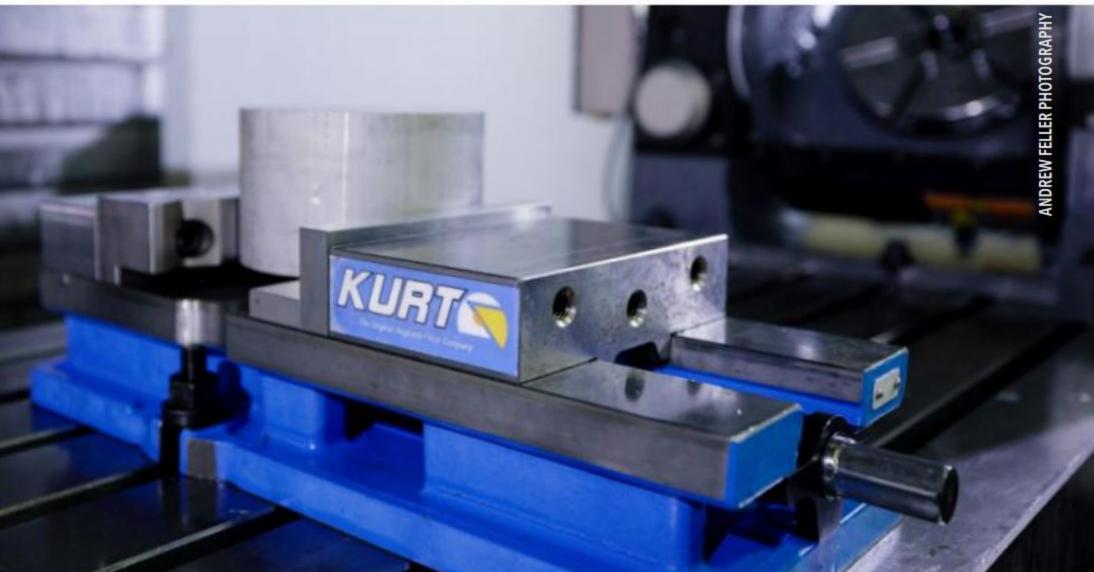
"(They'd say), 'Well, give us the last two years' books.' We hadn't even been around two years," Jimmy Crawford said. "So, it's a slower moving pace, too."

Dietsch said investors also didn't have another company to compare against PartsBadger.

"I just wish from an ecosystem standpoint that Wisconsin and Milwaukee had more opportunity for things like this," he said. "I think we would be a substantially bigger company today had we been able to secure even modest amounts of investment. Because the only cash we're able to put into growth is profits. That's it. That's all we have right now."

The company has looked to grow in a lean way, being selective about where it chooses to invest.





Dietsch said the typical payoff for a shop investment is around four or five years, but they are expecting a payoff in three months.

Limitations and challenges aside, PartsBadger is staying the course in its pursuit of growth and desire to reshape the industry. It helps that the company is filled with people who are on board and love what they do, said Jimmy Crawford.

"That's part of the culture, where a lot of the people that work here enjoy doing the stuff," he said. "Our engineers will be doing quotes at night because they just like doing it. Or they're designing brackets for this guy because it's a cool project and it's what they would do in their spare time anyway."

Kim Crawford recalled when a customer wanted to machine a shifter for a Camaro he was restoring. He had nothing more than a sketch, a shift knob and a photo from someone else's car.

"I worked with him over the course of a couple weeks just here and there a couple hours, and evenmachining center at PartsBadger's Cedarburg headquarters.

A 5th axis rotary table in a CNC

tually got him exactly what he wanted," she said.

The order wasn't a moneymaker, but it was significant in a different way. The car ended up on display at SEMA Show, a national automotive specialty products trade event in Las Vegas, said Jimmy Crawford.

"The car was on display at SEMA, and there's our shifter, in Las Vegas," he said.

For a company with an eye towards growth, one of PartsBadger's differentiators is delivering on whatever part a customer needs, Kim Crawford said.

"(We work) all the way to just a hobbyist who just designed something on a napkin and says, 'Hey, can you make it?'" Crawford said. "That's the thing, working with the customer, because they can't find anybody else that'll do it."