



From left, Laura Brown, Human Resources Manager, Chris Dugan, President, and Jesse Conklin, Plant Manager at the Knowles Precision Devices headquarters in Cazenovia, NY.

Filtering Out the Noise

WITH SO MUCH changing information and so many different demands coming at us each day, it is important to regroup around your company's mission and values, and the people who live those daily. It's not news to anyone that workforce development continues to be a priority, and this has been accelerated by the changes brought on because of the pandemic. We spoke to a local company that has focused its energy on connecting with and developing its people as a key part of its success strategy.



Building a Performance Culture

FROM CAPTURING NEIL Armstrong's words on the moon during the Apollo 11 mission to providing integral parts on the International Space Station, Knowles Corporation has been a leading provider of high-performance audio solutions and specialty electronic components since its founding in 1946. In 2014, Knowles Corporation combined several strategic acquisitions, including Dielectric Laboratories (DLI), Novacap, Syfer, and Voltronics to form Knowles Precision Devices. Cazenovia-based Knowles Precision Devices is the fastest growing division of the business, focusing on highly engineered capacitors and radio frequency (RF) components used in critical applications across several sectors. Locally

the division employs 237 people in manufacturing and engineering roles, with more than 1,200 employees working in facilities in the Americas, Europe, and Asia.

We asked Knowles Precision Devices President Chris Dugan to share how the company has adapted to the changing market and about its emphasis on workforce development.

WHAT DOES YOUR COMPANY MAKE?

Knowles is primarily a supplier of high-performance Micro-Electro-Mechanical Systems (MEMs) microphones used in hearing aids, laptops, and mobile phones. By contrast, our division (Precision Devices) focuses on the design and

Above, employees stack and laminate dielectric material in the Knowles Precision Devices headquarters.

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production of a wide variety of highly engineered capacitors and microwave and millimeter wave (mmWave) RF components that are used in critical applications in military, space, medical, electric vehicle (EV), and 5G market segments. The specialty components we design and develop include multilayer ceramic, single-layer, high-reliability, and precision variable capacitors; electromagnetic interference (EMI) filters; and microwave devices such as RF filters, splitters, and couplers. Our capacitors have very special applications, but in essence a capacitor does two things: it takes a constant source of power and makes it a variable source, and it can filter out unwanted electromagnetic waves that might disrupt a circuit. An RF filter essentially acts like a skinny tube you might use to talk to someone across a noisy room. They hear what you want them to hear, not the noise. The spectrum used for radars, jammers, and 5G telephone signals is noisy. We help get a clean signal where it's needed.

WHAT MAKES YOUR COMPANY DIFFERENT?

We're very intentional about focusing on customers and applications where the systems are operating at high voltages, temperatures, or frequencies. A good example is the components we sell into the electric vehicle (EV) market. They are very rugged and can operate in much higher temperatures and voltages than the commodity parts that go into a combustion engine vehicle. Not surprisingly, they are also significantly more expensive. Similarly, the parts that filter signals for a radar or electronic warfare jammer are very specialized and undergo rigorous testing. A lot of those filters are developed and produced here in our Cazenovia facility. For a company our size, we're heavy on engineering and development because we compete primarily on innovation, not on price.

TO WHAT FACTORS WOULD YOU ATTRIBUTE YOUR COMPANY'S SUCCESS?

There are myriad factors, but the key ones are people, culture, and intentionality in where we play. While we've invested in a lot of great technology, people are still designing the filters, interacting with suppliers to get materials,

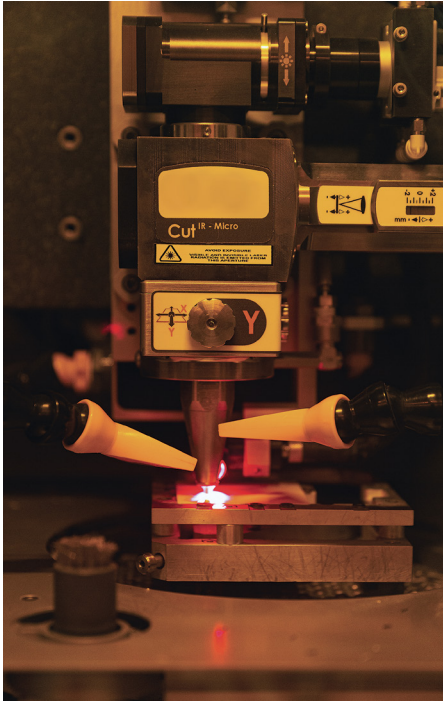


A tape casting machine is ready for the next run.

working with customers to define the order, and operating the machines to produce and ship the product. We select good people to join us, and we've defined as one of our four strategic priorities the development and communication of clear employee career paths, cross training, and skills exchanges in order to ensure we have an environment that enables every team member to deliver their best contribution every day. Our culture is well defined by our core values: model ownership of your tasks, develop and leverage talent, demonstrate urgency, stretch to improve, project a positive mindset, and be transparent and data driven. In terms of intentionality, we're market centric. We focus our energy and capital on the subset of markets that reward engineering engagement and development of high-performance components. If you try to be everything to every customer, you'll flounder.

HOW DO YOU APPROACH RECRUITMENT, TRAINING, AND WORKFORCE DEVELOPMENT?

A few years ago, partly due to our rapid growth, we had retention problems at a couple of our sites. When we dug into the root causes of people leaving, we realized it wasn't about money in most cases, but about poor onboarding training, lack of clarity about career paths, and lack of understanding about the business' direction. We needed to do a much better job explaining our mission and equipping our team to deliver their best each day. Most of it was addressable with training and communication; some of the correction involved removing people who weren't supportive of our values. Because this effort was well underway before COVID, not only did we not see the level of attrition that some of our neighbors did, we also saw an impressive increase in productivity.



Left, a fiber laser cuts through sintered dielectric material. Above, looking into a Class 6 photolithography cleanroom.

Our tools include a focus on retaining all our talent through open communication, continuous training and development opportunities, and providing rewarding and meaningful career paths. We also promote from within whenever we can, and make sure management regularly engages with all employees to ensure everyone understands our mission and knows their work is valued here. When I was a soldier, it was easy to figure out how our missions linked in with the wider effort. It's harder to get that clarity in business. We start every employee update with our Mission to Metrics cascade, which reminds our team what our mission, goals, value, and strategy are, and what we're working on specifically to bring those to fruition, so they can tie their daily activity to mission outcome.

We also started a monthly Zoom call where different team members share information with the broader team. We call it "Facts and Snacks," and the presenters come from all of our global sites and multiple functions. It could be a description of a new product, explanation of our business strategy, or a description of how a new IT platform works. It's always well attended and helps us build and sustain the fabric of our organization.

WHAT DO YOU THINK IS THE SMALLEST CHANGE YOU'VE MADE THAT HAS HAD THE BIGGEST POSITIVE RESULT?

The leadership team has made a conscious effort to empower local, cross-functional teams to make more decisions themselves, instead of punting them to senior leaders. Part of making that work is asking questions instead of offering an answer. Another part is ensuring that the people making the decisions understand that it's safe for them to make decisions. Some decisions may not have the outcomes we originally desired, but if the decision process is solid, consistent with our controls, and based on data, we should support the decision maker. That seems like a small thing, but we think it's critical in continuing to build a performance culture. Why hire and develop smart people if you aren't going to let them make decisions?

WHAT IS THE BIGGEST CHALLENGE YOU THINK YOUR COMPANY OR SECTOR FACES GOING FORWARD?

I can think of 3 top-of-mind challenges.

Technically, there is constant pressure among electronic systems manufacturers for components

suppliers to relentlessly reduce size, weight, power, and cost (SWAP-C). This is because everything from medical devices to consumer electronics to military radar systems is getting smaller, which means every component needs to become smaller and lighter. However, at the same time this is happening, there is also a need for single devices to serve multiple functions, and, especially on the consumer side, there is always a need to reduce costs. This has and will continue to put a lot of pressure on vendors like us to not only make smaller, more capable components, but also to do some component-level integration through integrated passive devices (IPDs) and integrated microwave assemblies (IMAs). We have a very strong engineering team, and we'll continue to pursue SWAP-C through organic initiatives, partnerships, and acquisitions.

Economically, COVID really brought visibility to the challenge of finding technically competent employees, and accelerated the wages of employees. I'm happy that all of our employees can make a living wage. But the combination of a smaller pool of new labor and higher wages and benefits costs, combined with the pressure from customers to reduce component costs,

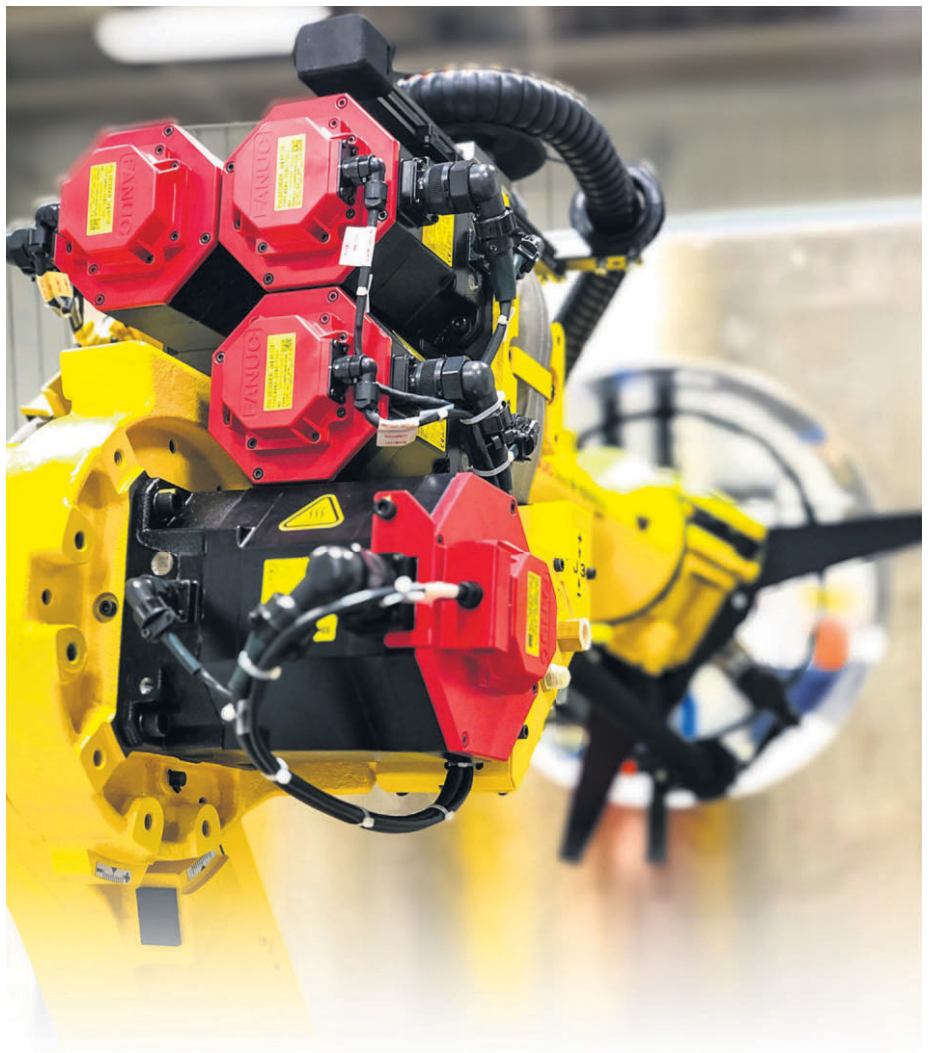
puts us in a challenging margin environment. Like most manufacturers, we are investing in LEAN efforts, quality improvements to increase production yields, and technology to automate repetitive manual work. When a teammate asked me what our Cazenovia facility will look like in five years, I said "we'll have a similar number of employees, but we'll be producing significantly more. Each worker will be capable of working in several production cells, and they will be more valuable to us the more flexible they are." I think that can be a win-win situation.

Geopolitically, there's risk everywhere. We're a global company, with customers in North America, Asia, and Europe. Anything from a trade action to a border skirmish could impact our sales. We are investing in tools to protect our intellectual property. We are looking at ways to hedge our risk of materials shortages from geopolitical issues. If you are doing business globally, you need to constantly think "what's the insurance I can create today to offset some future event."

ANYTHING ELSE YOU'D LIKE TO SHARE?

First, I want to say how much I appreciate what MACNY does, and how well they do it. I've been on the MACNY board for a couple years, and I'm constantly impressed by the focus on issues that matter, and on how much you get done with a small team. We are excited to engage with the P-TECH Program through MACNY. We have employees who serve as P-TECH coaches who regularly meet with students in the program to provide coaching and mentoring on a wide range of employment topics. During these sessions, we educate students on our company and industry, review job expectations, provide information on how to successfully grow and develop to reach career goals, assist with resume preparation, hold mock interviews, and coach students on how to make a great impression. Participating in P-TECH has been a very rewarding experience for us, and we are excited to be contributing to the success of our future workforce and giving back to our local communities.

We also want to be sure that readers know that we are hiring. We have many manufacturing and engineering positions open in our Cazenovia facility. Join our growing business!



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