

MILWAUKEE ELECTRONICS NEWS

Q4 2020

About Milwaukee Electronics

Milwaukee Electronics designs and manufactures custom circuit board assemblies for the medical, transportation, military, logistics and a variety of other industries. The company has ISO-13485 medical manufacturing capability in its Portland plant.

The Company operates over 135,000 square feet of manufacturing in Portland, Oregon; Milwaukee, Wisconsin; and Tecate, Mexico. In addition to EMS and product design and engineering services, it offers PCB layout and DFM services through its San Diego PCB Design business unit and quick-turn prototyping and on-demand assembly through its Screaming Circuits business unit.

Message from Mike

A Year of Resiliency Where Our Teams Met All Challenges

If we were to apply a label to 2020, I believe we would call it the year of resiliency. Our internal systems and operational strategy were tested be-



Mike Stoehr

yond any imaginable assumptions and our team creatively evolved to meet those challenges. Our investments in common equipment platforms and software enabled ease of project transfer among facilities as regional constraints developed related to

COVID-19 mitigation. Our engineering and rapid prototyping capabilities enabled our team to provide a broad range of support to customers engaged in new product development. Our supply chain management team was able to work around most spot shortages. Most importantly, our team members made sure our essential business could remain operational, embracing new procedures and less than comfortable protective measures, while juggling changes in home routines. Our Portland, OR facility deserves special mention as they were also impacted by fires in the area both at work and at home. Through it all, our teams have continued to deliver the products our customers need. That is really the essence of electronics manufacturing services

(Continued on page 3)

IoT Products Fill out New Business

Milwaukee Electronics recently won a box build project from an industrial customer for a IoT gateway product. The product involves assembling a printed circuit board assembly (PCBA) in a housing and final packaging. The units will be shipped to the customer's distribution warehouses. A preproduction order will be built in March and involves a PPAP level one process. Full production is expected to represent more than \$1 million annually. The project will be built in the Milwaukee, WI facility.

A project involving the manufacture of flow controls for an industrial controls



Milwaukee Electronics' Milwaukee facility offers customers in the Midwest the ability to keep production in close proximity to their teams.

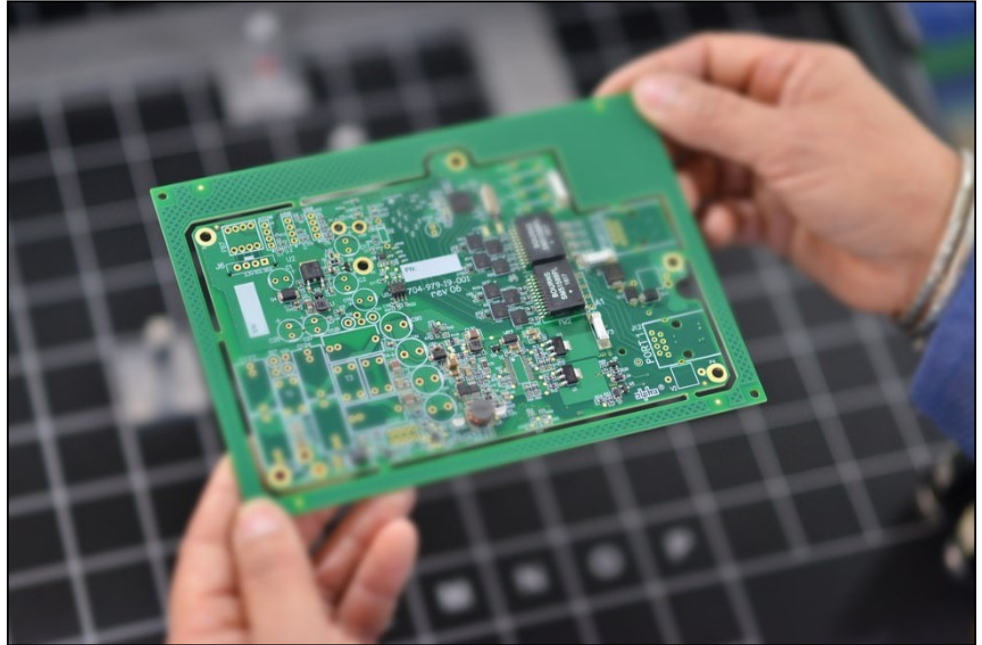
company, which was initially awarded to the Tecate facility is being moved to the Milwaukee facility.

“The products were in the developmental stage and the number of product types were growing. We are developing in-circuit test and functional test towers, as well. The customer's engineering team is in the Midwest and we felt that moving the project to our Midwest facility made sense, so that our engineering teams could work in close proximity until the products were more mature,” said Scott Pohlmann, Midwest Director of Business Development.

Scott is the sales executive responsible for both programs.

New Choice-Production Service from Screaming Circuits

The team at Milwaukee Electronics' Screaming Circuits division has a track record of listening to customers and developing innovative ways to address their needs. From quickturn prototyping with fast online ordering to short run production for small to medium runs they've offered a range of solutions for customers needing transactional manufacturing services. At the higher volume end of the scale, Milwaukee Electronics has provided solutions for projects that represent at least \$500,000 a year in annual spend and have long-term commitments. However, that mix of services left a "gap" between transactional short run business and the projects that fit Milwaukee Electronics' business model. Screaming Circuits Choice-Production™ has been developed to address that need.



Choice-Production™ is designed to provide options for higher volume transactional projects that don't fit the existing options offered through Screaming Circuits.

The new service is designed to support customer who need volume production, but are not yet ready to commit to a long-term manufacturing agreement. Choice-Production customers need higher quantities, more scheduling flexibility or service add-ons than found in Screaming Circuits' Short Run Production option. What types of projects fit this model? This option may make sense when any or some of these situations apply:

- Assembly labor value of \$15,000

- or more
- Quantities of 5,000 units or more
- Scheduling based on need-by date
- Additional add-on services required
- Transactional (no forecast, or irregular volumes)
- Less than the EMS annual commitment
- Additional complexities as determined

by CSR or technical evaluation.

"The goal is to give our customers a production choice when they want to keep the arrangement transactional, but have project volumes that need the higher level of support and pricing advantages found in a traditional EMS model," said Duane Benson, Director of Marketing.

The new service is now available via offline ordering.

Canby, OR Facility Passes Virtual ISO Audits

Milwaukee Electronics underwent virtual ISO 9001 and ISO 13485 full audits in August, due to COVID-19 mitigation efforts. Its ISO 9001:2015 full recertification was due this year and the ISO 13485:2016 certification was only due for a surveillance audit. However, a full ISO 13485 audit was scheduled instead so that full audits of both standards now occur at the same time. Under the ISO certification process, full recertification audits occur every three years with

surveillance audit in the other two years. Prior to this year's realignment of the audit schedule, the facility's quality team were supporting full audits two years out of the three. The ISO 9001 audit covered both the EMS and Screaming Circuits operations. ISO 13485 is EMS-specific.

The audit took nine auditor days, using multiple auditors, and every element of both standards was reviewed. There were five minor findings related to documentation issues, which were cleared

within a month. Certificates were issued in September. The auditor is DQS.

"Overall, both audits went well. Our systems supported the virtual format and we had an excellent auditor who had previously worked for as a supplier auditor for a medical device manufacturer on the ISO 13485 audit. In addition to performing the audit, he worked to educate

(Continued on page 4)

Engineering in Action

Milwaukee Electronics' India Office Expands Support in 2020

Milwaukee Electronics established an engineering office near Pune, India in 2011. The group continues to expand their support of several key operational areas of the business. Today, the team of 10 degreed electrical engineers is focused on supporting Screaming Circuits and the EMS operations, handling quoting bill of material (BOM) scrubbing and new product introduction (NPI) documentation review needs. During 2020, the COVID-19 pandemic created significant challenges for them.

When shutdowns were starting around the world, the operation purchased laptops and began testing a work from home strategy. As the test phase was completed, the government of India mandated a complete lockdown. The work from home strategy worked perfectly during that time and even enabled the creation of a night shift to



The India engineering team and their counterparts in the Milwaukee, WI engineering office had a teambuilding and training event in India in 2018.

increase support of North American operations.

“We’ve had a very successful year in terms of maintaining full support in spite of the team being in a location that had one of the longest and most comprehensive lockdowns of the pandemic. Overall response time has even improved because the night shift personnel now work in real time with our team in Portland,” said Jered Stoehr, VP Sales & Marketing.

Another factor in the close working relationships among the teams is India General

Manager Seemantini Pethkar. She established the operation in 2011, and before that she worked in the Design Engineering department of Milwaukee Electronics’ Milwaukee, WI facility for two years.

“My time in Milwaukee, Wisconsin was extremely valuable. I got very familiar with the team, with the operations of the business, and I got a very practical understanding of the needs of customers. Since establishing the operation here in India, we’ve been able to significantly increase technical support resources. We are very happy to have been able to maintain them the way we have throughout 2020,” said Seemantini.

“Seemantini has helped us achieve the best of both worlds. She understands the intricacies of doing business in India and also understands our U.S. business model. The end result is an efficient operation that truly is an extension of our U.S. teams. We really saw the benefits of that this year,” added Jered.

I also think it is important to recognize that 2020 has also been year of resiliency at a personal level for us all. COVID-19 has affected virtually everyone in a multitude of ways, testing our inner strength and ability to manage a constantly changing environment. COVID-19 deaths and serious illnesses are impacting families around the world. As we enter a season of faith and hope for a better future, those harmed most by this disease are in my prayers. 2020 is a year none of us wish to repeat. I wish everyone a healthy and much happier 2021. Our team at Milwaukee Electronics will continue to do our best to support your needs.

P. Michael Stoehr
President

Message from Mike

(Continued from page 1)

(EMS). There will always be operational challenges and variations in demand. Team members will need to step up to new roles as circumstances change. Our job is to find creative ways to still get the job done and this year our team outdid themselves in that area. We also continue to find that our strategic planning has ensured we’ve had the resources in place for every adaptation we need to make.

We’ve just completed another customer satisfaction survey. Overall, the results were close to the prior year. One interesting data point was that EMS customer interaction with engineering

resources doubled over the prior year. We believe our investments in a strong engineering frontend offering a menu of options from design engineering through PCB layout and everything in between, supported this year’s dynamic environment of change well.

Looking forward to 2021, we see COVID-19 challenges continuing likely through the traditional flu season, although vaccine approval and distribution will hopefully change that for the better. We’ve learned a lot the past year and will use that knowledge to mitigate whatever surprises that COVID-19 continues to bring our way.

Virtual ISO Audits

(Continued from page 2)

us on the ‘why’ behind his interest in certain procedures, so it was also an outstanding educational experience,” said Bob Willenbring, Corporate Quality Director.

The scope of the ISO 13485 certificate was also changed to contract manufactur-

er of PCBs and electronic components to better align it with the subassembly nature of the facility’s medical manufacturing activities.

“We do rigorous preparation for our audits because staying at that level of preparedness is worth doing. We find

that 95 percent of the prep work we do doesn’t come up in the audit. However, maintaining that level of preparedness is key to maintaining our commitment to delivering perfect product,” added Bob.



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