MILWAUKEE ELECTRONICS NEWS

Q2 2024

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 operates over 180,000 square feet of manufacturing in Portland, Oregon; Milwaukee, Wisconsin; and Tecate, Mexico. In addition to EMS and product design and engineering services, it offers quick-turn prototyping and on-demand assembly through its Screaming Circuits business unit.

FactoryLogix and Epicor Integration Project Complete

Milwaukee Electronics' FactoryLogix manufacturing execution system (MES) and Epicor enterprise resource planning (ERP) systems have been integrated with SMT and X-ray systems, providing real-time inventory status across all teams. This means that when a variable changes, all teams are able to see the impact on their activities and react faster.

Additionally, the integration enables strict system-driven production route enforcement and digitized job travelers, which provides real-time job status monitoring down to the individual, serialized unit. This helps ensure that the product is processed through all the production steps specified on the router. It also provides thorough, automated and reliable traceability and data collection.

Finally, this implementation also pushes more complete engineered NPI operations and process standards into the ERP manufacturing system. This improves production schedule accuracy because it helps schedulers see how a more accurate total resource demand relates to a more accurate understanding of capacity.

Training on the integration was done in (Continued on page 2)

Focused on Measurable Improvements

This year our team has been strongly focused on generating measurable operational improvements. It is a win for both our



customers Jered Stoehr

and our company. I'm pleased that this month, I can highlight some successes in that area.

On revenues, we are exceeding our forecasted plan thanks to strong focus on operational efficiency and some growth in existing and new business. We've recently won two accounts in the military/security sector. One new project is for an engineering-led, military and security communications manufacturer, who wants to move production from Asia closer to their US headquarters. These products will be built in Tecate. The other project is for military laser systems and will be built in Canby. The customer originally built prototypes with Screaming Circuits and was pleased enough with our customer service that they are now sending volume production to our EMS group. Our ITAR certification and technical expertise were also factors.

In the systems area, our Systems & Tech teams are beginning to implement the FactoryLogix and Epicor integration project. This is a huge step forward because it gives us real-time inventory control and project tracking capability across our production processes. It also will improve NPI scheduling and supports automated traceability and enforced routing.

In short, a lot of positive things are happening across our company that translate to measurable customer benefits.

Jered Stoehr CEO



Milwaukee Electronics Investing in New Infrastructure/Equipment

Milwaukee Electronics' Milwaukee facility has been investing in new equipment and infrastructure. An onsite nitrogen generator was installed in Q1 2024 that represents several benefits. Not only does it provide a cost savings over the cost of bottled nitrogen, it ensures a consistent supply of high-quality nitrogen. This is crucial to maintaining the integrity and quality of products. This investment also sets the stage for wider exploration of new applications of nitrogen in various manufacturing processes to better support evolving customer requirements.

Nitrogen creates a high-purity atmosphere and is crucial for preventing oxidation during soldering, thereby enhancing the quality of solder joints, and reducing defects. It is used in the reflow soldering process to improve wetting, reduce surface tension and minimize dross on solder pots, contributing to higher quality and reliability of electronic assemblies.

The facility has also transitioned to a milder saponifier fluid in the printed circuit board assembly (PCBA) wash process. This improves both operational efficiency and environmental footprint. The new cleaning agent is gentler, which not only maintains the high cleaning standards required to meet Milwaukee Electronics' quality benchmarks but also reduces equipment wear and tear. Switching to this milder cleaner, decreases the amount of cleaning chemicals used and is more environmentally-friendly. This change is a step forward in our commitment to providing a safer workplace and minimizing our ecological impact.



Nitrogen creates a high-purity atmosphere and is crucial for preventing oxidation during soldering in processes such as reflow soldering.

An Austin American Technology (AAT) X-30A stencil and PCB misprint cleaner is also on order and should be installed in Q3 2024. The ATT X-30A is designed to handle a variety of contaminants and misprints quickly and effectively, ensuring that stencils and PCBs are thoroughly cleaned without damaging delicate components.

In selecting the system, the Milwaukee facility teamed with the local chapter of the Surface Mount Technology Association (SMTA), whose president invited the equipment selection team to view the cleaner in operation at his employer, Rockwell Automation. He also demonstrated an add-on that the Rockwell team had used, an x-ray style backlight which verifies aperture cleanliness. The Milwaukee team plans to add the same feature. Milwaukee Electronics' Portland, OR facility is adding a Spea 4060 flying probe tester in Q3 2024. This advanced system is designed to handle a wide range of testing needs, from prototype verification to low-to-medium volume production, making it ideal for the Portland facility's Screaming Circuit prototype and EMS production environment.

Its ability to perform comprehensive incircuit and functional testing without the need for custom fixtures significantly reduces setup time and cost, providing the facility with efficient and accurate testing capabilities to ensure high-quality products.

Integration

(Continued from page 1) June and the new capabilities will go live in July. Completing this implementation helps teams work smarter and assemble products with fewer issues, which is a win for both Milwaukee Electronics and its customers.



Enhancements Made to Employee Training Programs

Milwaukee Electronics recently purchased a subscription to IPC's Workforce Training courses. This increases the breadth of training available to employees at all three of manufacturing locations. The Portland, OR facility was the first to start with the new program at the end of June. Milwaukee, WI and Tecate, Mexico will initiate the program later this year.

The IPC Workforce subscription provides access to seventeen courses, most in

both English and Spanish. The new courses are deployed via IPC's Edge training platform and are more comprehensive than earlier versions, requiring up to 40 hours or more to complete. The courses are designed to be self-paced, so employees will be able to learn at the speed that works best for them. Weekly training time is being provided for employees to work through their assigned training.

Courses are assigned to employees based

on their job categories and duties. Some courses will be assigned to all employees in a particular group—for example, all manufacturing employees and engineers will take the first course, "Electronics Assembly for Operators". Employees will also have the opportunity to choose to take more advanced classes or those not directly related to their jobs in order to increase knowledge and skills.

Milwaukee Electronics Featured in SMT007

Milwaukee Electronics CEO Jered Stoehr and Vice President of Sales Paul Forker, recently did an interview with SMT007 magazine on the trends they see in the Mexico electronics manufacturing industry.

The article is in the magazine's June 2024 issue and can be accessed <u>here</u>.



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