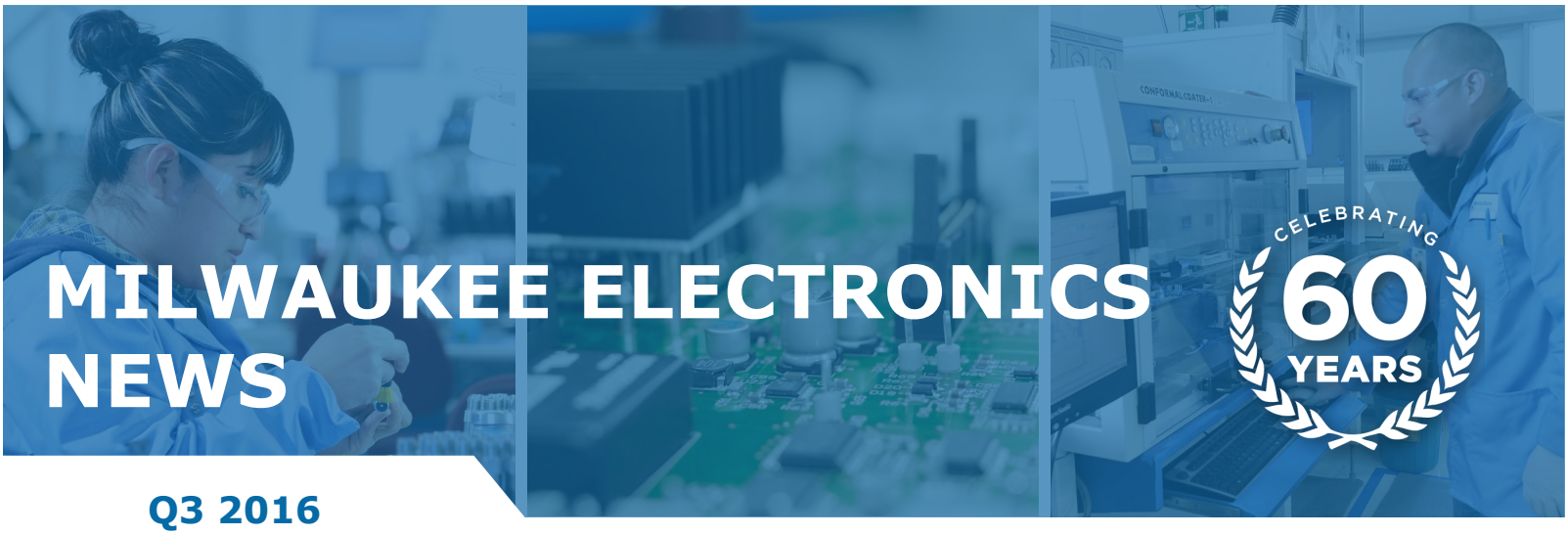

MILWAUKEE ELECTRONICS NEWS

CELEBRATING 60 YEARS

Q3 2016

IN THIS ISSUE

About Milwaukee Electronics

Milwaukee Electronics designs and manufactures custom circuit board assemblies for the medical, transportation, military, HVAC and a variety of other industries. 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 quick-turn prototyping through its Screaming Circuits business unit.

Milwaukee Electronics
MANUFACTURING EXPERTS SINCE 1954

Portland Facility Passes ISO 13485 Certification Audit

On Sept. 5th, Milwaukee Electronics' Portland facility passed its certification audit to ISO 13485:2003, the quality management system focused on medical device manufacturing.

"We pursued this certification to better support the needs of our medical customers. Our team did an outstanding job of updating our procedures to support our certification effort," said Pam Kimbrough, the facility's Operations Manager.

Milwaukee Electronics will pursue ISO 13485:2003 in other facilities as customer requirements drive the need.

Milwaukee Electronics
Portland, OR Facility
Certified to ISO 13485:2003

Message from Mike

Much is happening at Milwaukee Electronics. As I write this, our annual customer satisfaction survey is in progress. We are making significant investments in our service delivery capabilities going forward and the aggregate feedback we get from the survey will very helpful in fine tuning final decisions.

Over the past quarter we've added automated conformal coating to our Portland, OR and Tecate, Mexico facilities. We have also added aqueous cleaning capabilities to our Tecate facility. We've enhanced our engineering support systems with the addition of Silicon Expert. This tool is already helping us support customer needs for supplier RoHS and Reach certificates of compliance plus analyze new products for potential component obsolescence issues. It will also help us track Conflict Minerals declarations.

During the next quarter, we should be making final decisions on the next step in our journey toward a paperless factory: a manufacturing execution system (MES) that will help speed our NPI process and enhance our real-time data collection and dissemination capabilities on the shop floor.

We are also engaged in a robust strategic planning process designed to help our leadership team develop the vision for Milwaukee Electronic's continued evolution as a provider of a much broader range of engi-

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Education Day Held at Tecate Facility

It is no secret that high technology and education go hand-in-hand. Education of both workers and their children is highly valued at Milwaukee Electronics' facility in Tecate, Mexico. In addition to production operation training classes, the facility provides employees who need to improve their education with access to training classes that help them finish their secondary school education, improve professional development or learn English. The facility also has a program designed to encourage the children of employees to stay in school.

The facility held an Education Day on Aug. 22nd. The goal of the event is to give financial support to those working moms who every day strive to provide a better quality of life to their children and also to reward those children of workers with the best grade or notes in the completed outstanding school year. President and CEO Mike Stoehr , COO Rick McClain and General Manager Pirouz Pourhashemi presented the awards.

This year, there were 22 benefit mothers in the "Working Moms Scholarship" program who received a uniform voucher of 1000 pesos. There were also three graduates in the Leadership course.

There were 11 children participating in the "Knowledge Award" program and 6 were awarded a backpack with school supplies and shoes.

"Education is key to maintaining high quality. Often adult workers had to drop out of school at a young age to support their families. Our program offers them a second chance to finish school. At the same time, we also working to motivate them to encourage their kids to stay in school. It is a win-win for both our team and the community," said Pirouz Pourhashemi, the facility's General Manager.

Above, photos from the event.

Customer representatives, other tenants in the industrial park in which Milwaukee Electronics is located, and the Mayor of Tecate also attended the Education Day event.

David Cascio Named Chief Financial Officer

David Cascio

David Cascio has joined Milwaukee Electronics as Chief Financial Officer. He previously served as senior financial director for Global Workplace Solutions (GWS) Americas with Johnson Controls, Inc. He was earlier associated with Modine Manufacturing Company, Bosch Rexroth Corporation and Woodward in a variety of finance and accounting management roles.

"Dave brings over 26 years of experience in organizational improvement initiative implementation, strategic planning, cost analysis, ERP systems optimization and contract negotiation experience. The bulk of his career has been spent overseeing these activities in multinational operations which aligns well with the direction our business has taken over the last few years. I see him as a key asset in our team as we continue to evolve and expand our operations," said P. Michael Stoehr, Milwaukee Electronics' president and CEO.

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Message from Mike

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neering and manufacturing services than commonly found in our niche of the industry.

If you have received a customer satisfaction survey, I encourage you to provide detailed feedback. It is particularly timely given the investments we are making. As always, individual results remain anonymous. We only receive the aggregate information.

I look forward to sharing additional details about the significant improvements Milwaukee Electronics has planned in Q4.

P. Michael Stoehr

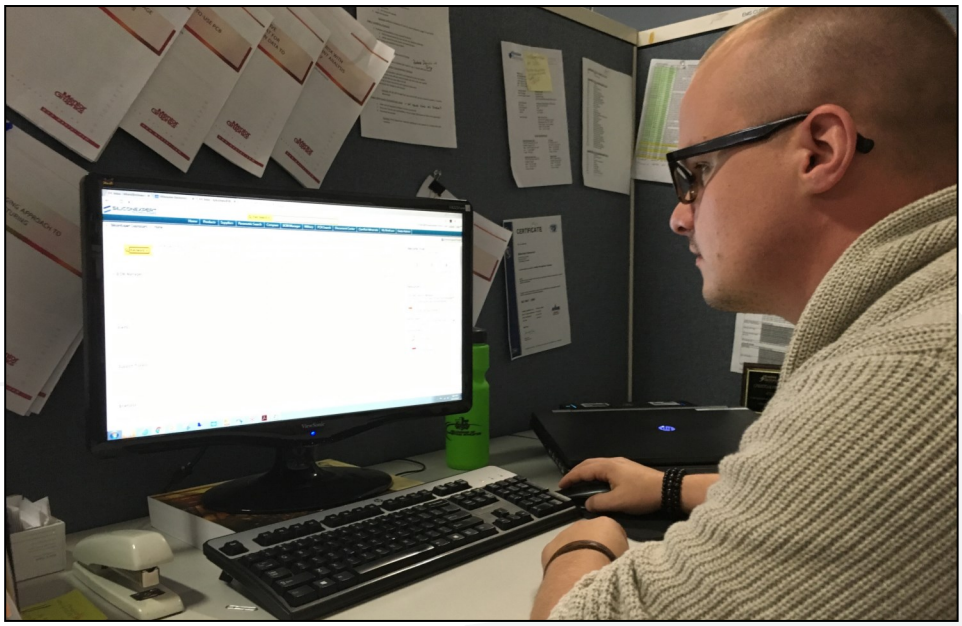
President & CEO

Software Tool Helps Streamline EMS Engineering Support

Milwaukee Electronics added Silicon Expert to all facilities in Q2. The new tool is already providing expanded capabilities for environmental compliance documentation.

"We are able to load a bill of materials (BOM) and have the system automating search for all related documentation for each part through its database. That data is all exportable and includes Certificates of Compliance (C of Cs), Declarations and datasheets. We are already providing RoHS and Reach supplier documents to some of our customers as a support service. It will also support Conflict Mineral declaration tracking," said Kyle Frank, Quality Compliance Technician.

The system can also support product lifecycle management analysis, identifying component obsolescence risks early in the product development cycle, or helping identify areas of component engineering focus for products already in production. When obsolescence risk is identified, the system also helps identify alternate component choices.



Design projects are opening the door to manufacturing opportunities.

Engineering in Action

Helping Customers Reduce Cost and Improve Design

A manufacturer of products for the high-end entertainment industry contacted Milwaukee Electronics with a need to reduce the costs of their electronic display mounting systems by minimizing the number of unique electronic boards used in the configuration of the various product types that were being manufactured.

Milwaukee Electronics' design team generated a development quote for the hardware design, software design, mechanical enclosure design, prototype unit tooling and build, product verification and UL Compliance testing and certification.

Project launch started with the design team visiting the customer on-site to interview various levels of their employees to gather information that each person felt was important in the development of the next generation of this product. The customer also allowed the team to interview their distributors and installers to gain additional insight into product usage and areas for improvement. The team then developed an operational matrix for the next generation potential requirements and architected a system framework which minimized the engineering development costs as well as the SKU part numbers that would be required for the customer to actively stock.

Above, the mount works remotely to lower and raise a projector or monitor.

A common four-board set was developed to encompass the growing commercial options for the mounting and remote operation of these high-end devices. A common control board was designed to interface with a majority

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Stop the "Pollution" of Defects At Its Source

Identifying and correcting defects is a thankless but sometimes necessary job. Addressed reactively, it leads to heavy dependence on inspection and containment. This consumes scarce resources, increases costs and often doesn't eliminate the root cause of the defects.

At Milwaukee Electronics, the focus is on proactively addressing this challenge.

"Retraining operators, adding inspection points and enhancing test are all resource-intensive containment strategies that depend on the ability of a production operator to find defects. We prefer focus on eliminating defect opportunities before the product enters production," said Don Sivilotti, Quality Manager at the Milwaukee facility.

New Product Introduction (NPI) is the first step in minimizing defect opportunities. Milwaukee Electronics' process involves all stakeholders, including work team leaders to review the product and proposed process. The focus is identifying manufacturability and testability issues, plus ensuring that work instructions effectively communicate "what" and "how" work needs to be done at each production step.

An equally important component is repeatable, monitored processes that keep defects from entering the flow by providing immediate warning should a process exceed control limits.

Operator tools and quality of worklife are also important.

"Give the operators the tools they need to be successful each and every time. Proper lighting, comfortable work space, adequate jigs and fixtures, tools and most importantly training and feedback," Don added.

It is also important to teach the work leaders how to teach. One of the challenges of today's workforce is that hiring production operators often means hiring people new to manufacturing. Work team leaders have both a management and training role and it is important that they become experts in translating work instruction and teaching the workforce. One way Milwaukee Electronics

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Engineering in Action

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of the system signals. The engineering team developed a unique low cost daughter board mounting scheme to allow for mounting of various motor modules. A DC motor module was designed with a preliminary development of a future AC motor module. A remote module was designed that could interface with the various types of remote control signal formats as well as provide various mounting schemes into the assemblies. An expansion module was also designed to handle the high end features that effectively reduce the overall system costs for the lower end models.

Once the design was approved, the four-board set was submitted for UL Compliance testing for this product family and UL Certification was granted.

As a result, the customer was able to launch an advanced electronic mounting system compatible with all current projectors, LCD, LED and plasma displays. This four-board set supports a product line ranging from a minimal single motor remote mounting system to a feature rich remote mounting system using multiple quantities and types of motors.

Five years after the redesign was complete, the customer was notified of an upgrade to the UL Compliance standards. This regulatory change required a re-submission of all product documentation and samples to a tougher battery of tests. Milwaukee Electronics also shepherded this project through the UL process with no issues or changes to the design.

At the same time, Milwaukee Electronics' engineering team was also able to address a component obsolescence issue. Because the alternate component did not fit into the same circuit board mounting, the team made a minor change to the PC board and submitted the alternate as a qualified UL recognized component.

The end result of working with a Company committed to delivering engineering solutions was a redesign that accomplished the customer's goals for cost reduction plus a fast response to subsequent issues related to UL compliance standards changes and component obsolescence.

Prevent Pollution

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ensures this is with a feedback loop that gives operators a voice in the process, by allowing them to rate the training they receive.

Finally, it is important to monitor this process.

"We augment Quality Control with strong Quality Assurance and use process audits as a means of giving work team leaders and management feedback. We look at whether the production plan is being followed and where the weakness are. We work together to achieve 100 percent compliance to the process and plan requirements. We use systems audits to verify that the Quality Management System that is designed to coordinate work between teams is being followed," added Don.

This proactive focus on minimizing the "pollution" of defect opportunities from the start combined with continuous monitoring of both process and product quality, improves efficiency and quality at competitive cost.

Keep the water clean!

Cascio

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"I'm excited about joining a dynamic company in a demanding industry. I look forward to applying my experience with best-in-class processes to help Milwaukee Electronics continue to grow and improve," added Cascio.

Cascio received his Master of Business Administration degree from Northern Illinois University and his Bachelor of Science degree in accounting from Rockford University.

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