

MILWAUKEE ELECTRONICS NEWS



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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 Optimizes New Product Introduction Process

Milwaukee Electronics decided to revise and standardize its new product introduction (NPI) process among its three North American facilities to better capitalize on the new capabilities of its ERP system plus make it easier to transfer work or manage joint projects among facilities. From an ISO 9001 perspective the core process was similar in all facilities. However, at a tactical level there were differences in forms, support personnel and average cycle times that were driven by differences in customer base requirements.

The Company started its standardization process in Q4 2014 with the end goal of reviewing the processes in all three facilities, identifying best practices and defin-

ing a standardized process that incorporated best practices from all three facilities and capitalized on the added capabilities resident in the Epicor ERP system added in 2013. The process was driven by the Engineering team and involved representatives from all three facilities.

Key Challenges

The team identified three common challenges that they wanted the standardized process to address:

- Develop a process that centralized documentation validation and data entry
- Create an efficient process for product creation in the Epicor ERP system

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Letter from Mike

One of the positive aspects about technological advancement is that it has caused dramatic improvements in efficiency and connectivity over the last few years. Working from a distance and sharing information has never been easier. However, organizationally, technological advancement also brings a new set of challenges. To truly capitalize on the benefits of investments in information technol-



ogy advancements, work teams often need to change the way they work. This quarter's article about the evolution of our New Product Introduction (NPI) process is an excellent example of the way we are rethinking our processes to take better advantage of the efficiency improvements and new capabilities available through our upgraded ERP system. Another example of this is the outfitting of our field sales representatives on Jan. 1 with a custom app that allows them immediate access to the most current information available.

We are also launching our Medical Health Initiative program. Milwaukee Electronics

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Ernesto Paredes Joins Tecate as a Program Mgr.



Ernesto Paredes

Ernesto Paredes has joined Milwaukee Electronics' Tecate facility as a Program Manager. Previously, he was associated with Flextronics Medical as a Program

Manager. He was earlier associated with Celestica de Monterrey, Viasystems, Keytronic EMS and Jabil Circuit de Mexico in various senior program management positions. He also was associated Emerson Power Transmissions in production control.

"Ernesto has 18 years of experience working for Tier One electronics manufacturing services (EMS) companies, which gives him an excellent understanding of industry best practices. His experience at Emerson gives him an understanding of the OEM perspective. He has supported a number of large program launches within Mexico and has expertise with customers in a wide range of industries. In short, his background and expertise ensures he will provide our customers with superior support as Milwaukee

Electronics continues to grow," said Pirouz Pourhashemi, the Tecate facility's General Manager.

Paredes holds a Bachelor of Science degree in Industrial and Systems Engineering from the Instituto Tecnológico de Culiacan. He is currently pursuing studies in a Master's degree in industrial engineering.

"It's exciting to be an integral part of an evolving company. Milwaukee Electronics mixes world class infrastructure with an ability to nimbly support projects that easily get lost in Tier One EMS companies. I look forward to making a strong contribution in supporting the growth and customer service focus of our Tecate facility," Paredes said.

Commit to Be Fit Wellness Program Launches

Milwaukee Electronics is kicking off 2015 with a formal logo for its Wellness Program, Commit to be Fit. In addition to company-sponsored activities throughout the year such as fun runs and Biggest Loser "get in shape" competitions, the Wellness Committee is including informational articles in the employee newsletter on healthy eating and exercise.

"Maintaining a healthy lifestyle pays huge dividends as you get older. From a company perspective, helping employees focus on healthy lifestyle choices is completely win-win. Employees who choose to participate get information they can use and a support network of



peers. And a good wellness progress can help reduce ever-increasing insur-

ance costs and lost work days," said Rick McClain, VP of Operations.

Letter from Mike

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has a long history of programs focused on employee quality of life. Our personal health program mixes educational information on healthy diet and exercise activities with regional "get fit" activities to help employees who want to focus on healthy lifestyles, and gives all employees more healthy activities to participate in.

Our people are our most valuable resource and ultimately the heart of Milwaukee Electronics' competitive advantage. We never want to lose sight of the need for work and life/family balance and our Commit to be Fit personal health program is just one of the ways we try to make Milwaukee Electronics more than just a workplace.

We are off to a great start in 2015 and look forward to sharing more about the improvements our employees are making company-wide over the next few quarters.

P. Michael Stoehr
CEO & President

NPI

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- Standardize required meetings and quality checks among the facilities

The Solution

The addition of the Epicor ERP system was a quantum leap over the Company's old MRP system and added a level of connectivity and data manipulation not previously possible. This, coupled with the new data collected in the central quoting process allows information to be migrated to purchasing and production more efficiently once projects are won. The impact of cost changes and engineering changes can immediately be captured in the system. However, that flexibility only exists if the right types of data are consistently collected. The central quoting team is now in charge of the data gathering and formatting process. An engineering review is performed during the quoting phase and the central quoting team compares any new documentation received to the original engineering review notes when it is received.

The central quoting team collaborated with process analysts to develop a robust labor estimating process that factors in part usage, part classes and operations. Also, NPI is leveraging support from the Company's Business Process Office (BPO) in India to further reduce lead times as new projects add to a robust historical database of components which decreases the time needed to load and build new projects in Epicor.

The NPI meeting structure was evaluated utilizing value stream mapping techniques. While all groups had some level of pre-NPI meeting, an NPI opening meeting and a NPI closing meeting, strengths and areas of focus varied. For example, the Portland team had a very robust focus on design for manufacturability/testability (DFM/DFT) analysis with published DFM recommendations taken from notes and photos at each gate in the first article process, while Milwaukee had a more robust



The standardized NPI process ensures efficiency and consistency in project launch.

documentation verification process. Steps associated with preparation for each meeting, required support personnel and forms used were all analyzed and the final process reflected integration of best practices found at each facility.

Once a draft process was developed, purchasing, production and program management personnel at all facilities were invited to comment. The team then held a final NPI Summit at Portland to finalize the process.

The end result was a streamlined, standardized process that incorporated best practices from all facilities. Highlights of the new process included:

- Development of a pre-NPI customer approval form that confirms the results of the initial documentation verification process
- Standardized inspection checklists/NPI opening meeting form
- A revised NPI first article process that includes a more detailed first article submission form
- Adoption of a standard DFM/DFT recommendation form with a three-point ranking scale to help customers understand the importance of recommended changes
- Additional quality checks in secondary processing that require a

quality representative to perform checks at each operation plus do a final inspection

- Cycle time goals for support steps:
 - Completion of DFM/DFT recommendations within 48 hours of first article production shipment
 - Completion of all NPI documentation for project build in no more than eight days
 - A total NPI cycle time that is material lead-time plus five days (which would reduce NPI cycle time to about two weeks)

Customer Benefits

The new process creates several customer benefits:

- A more effective transfer of work process among facilities
- An increase in the number of standardized process checks
- A more efficient communication process related to documentation issues and lessons learned feedback following first article production
- A NPI-expert single point of contact at each facility works with customers.

Insync Engineering Solutions Added to Sales Team

Milwaukee Electronics is pleased to announce that manufacturer's representative firm Insync Engineering Solutions, LLC has been added to the sales team. Insync Engineering Solutions is headquartered in Littleton, Colorado and has focused on serving the Rocky Mountain Region for over 30 years. The firm will be responsible for developing sales in the following states: Colorado, Utah, Wyoming and Montana.

Senior Director Manufacturing Services Dave Corry manages the western region and will work with Insync on the accounts they manage.



"Insync Engineering is an excellent fit for Milwaukee Electronics in terms of the breadth of their coverage and the strong relationships they have in the region," said Jered Stoehr, V.P. Sales and Marketing.

Insync Engineering's primary focus is to

provide a full-range of offerings in the domains of power, thermal, EMI and electro-mechanical design to commercial, industrial, defense and aerospace customers. The company represents principals that develop reliable and cutting-edge technology.

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