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Legendary Integrity,
Responsiveness
& Flexibility.



**ELECTRONIC
SYSTEMS, INC.**

An ISO 9001:2008 and ISO 13485:2003 Firm

30 YEARS AND COUNTING

By Gary Larson, President, glarson@electronicssi.com

It's not every EMS firm that can celebrate 30 years of business. In the competitive world of electronic manufacturing, many a company has come and gone since Electronic Systems first opened its doors in May of 1980. What is it that enables a company to succeed in this challenging industry?

Obviously, Electronic Systems' success is due, in part, to our focus on manufacturing quality products cost effectively. We would not be in business all these years had we taken our eyes off of that basic formula. We've also been able to adapt—investing in equipment, people, and technology as the industry demanded.

There's one more attribute that has helped us thrive. We've believed in the power of relationships with our customers and suppliers. Some of the same customers who took a chance with us 30 years ago remain customers today—and we've added to that roster of relationships through the years. Doing business with people you know and trust is a prize commodity in today's risk-adverse world.

What's our secret? I believe it's found in the first two words of our vision statement: Legendary Integrity. While our processes have adapted to the manufacturing climate of 2010, our business values remain old-fashioned. We believe in treating our business partners honestly and with respect. We also understand the trust you

place in us as an EMS. When we take your project into our manufacturing plant, you're trusting us with your livelihood and reputation. If you're a supplier, we acknowledge the important

role you play in our success. Those are relationships—and responsibilities—that we take very seriously. I'm proud of this company, the people who have come before and paved the way, and those who work here today. I'm also proud of the many customers and suppliers with whom we have the pleasure of partnering and building those relationships. You're the reason we're still around to celebrate this 30-year milestone. We hope you'll be able to come and help us celebrate our anniversary at an open house early this summer. We'll be sending you more details. And thanks for being part of our success story. We look forward to another 30 years together! ♦



OUR CUSTOMERS SAY . . .

"I appreciate Electronic Systems' long-term commitments and relationship—and the fact that you have worked through any issues that have come up over the years."

Operations Manager
Fortune 100 Company

1980-2010
30 YEARS OF LEGENDARY SERVICE
Electronic Systems, Inc.

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TESTING...123 TESTING

In a perfect world, testing to catch errors that might occur during the manufacturing process would be irrelevant. The word 'error' would not even be a word in our vocabulary. Unfortunately, it isn't a perfect world. Whether due to design, materials, equipment, or humans, errors occur. The difference in the impact of those errors is how quickly they're detected and corrected. The recent case of a major car manufacturer having to recall millions of its cars for faulty gas pedals makes a persuasive argument for thorough testing.

At Electronic Systems, we encourage a vigorous but cost-effective testing program. "Not only do we consider it essential to guaranteeing a good quality product," says Engineering Manager Steve Braley, "but a best-value product for our customer, as well. We want to detect problems as early in the process as possible. The farther down the process you detect a defect, the more costly it is to repair."

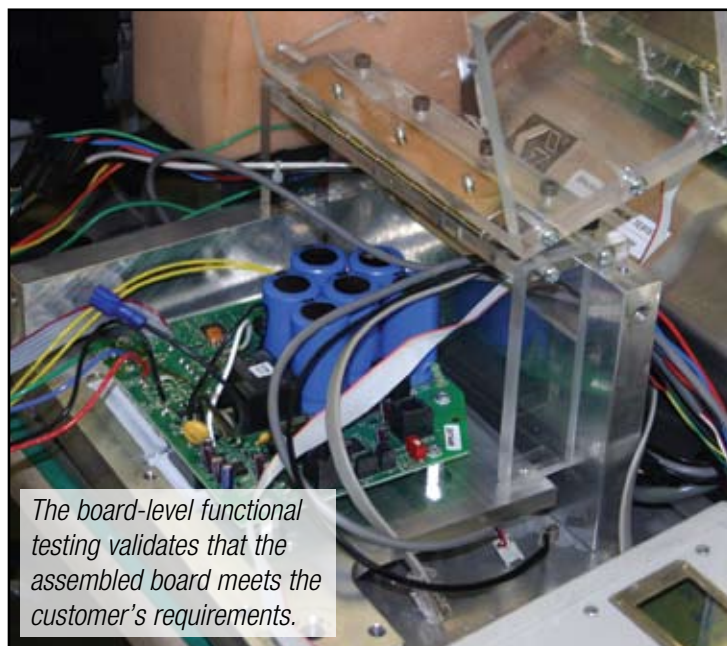
Steve explains that the types of testing recommended by Electronic Systems will depend on a project's complexity and volume. "On very simple builds, a visual or optical test may be sufficient," he explains. "More complex projects require additional testing."

Let's get specific

Electronic Systems generally tests at both the front and back



In-circuit testing validates that the components on the board are correct and functioning as intended.



The board-level functional testing validates that the assembled board meets the customer's requirements.

ends of the manufacturing process. X-ray and automated optical inspections can catch solder joint integrity in the earliest phase of assembly. For some very simple projects, that single testing procedure is sufficient.

In-circuit testing comes into play once most of the components are in place. "That component test is important," says Steve. "It provides a low-cost means of detecting issues like missing parts and open solder joints. It determines that each component is in the right place and operating."

On the back end of the process are the functional and final unit tests—put into play on more complex assemblies. "We want to validate that the product performs in the way the customer expects," explains Steve. "We are not testing each specific component at this point, but overall performance."

To be truly successful, Steve says it's important for Electronic Systems to build a strong relationship with the customer, becoming involved early during a project's design



THE MAN IN TESTING

Finding solutions comes as second nature to Steve Braley. "As a boy, I was always tinkering with things," recalls Steve. "I have memories of tearing apart a carburetor and having no idea how to get it back together."

Today, Steve continues to take on challenges—enjoying every problem-solving minute of his day. He's been doing it at Electronic Systems since coming on board 13 years ago as a test engineer, then IT manager, and now as engineering manager—a position he took in 2007. In that role, he manages the company's technical talent—including manufacturing and

test engineering, plus the service and documentation group. It's not a task for those relishing stress-free days.

"I like the manufacturing environment—it's very fast-paced. You're always encountering new problems, and you have to figure out how to solve them," says Steve. "New projects bring new issues. How rapidly we respond to those issues is the difference between us and our competition." Spending a good share of his day on the production and support floors, he engages associates, mentoring and interacting

Different types of testing are recommended based on a project's complexity and volume. This timeline illustrates the most complex assemblies.

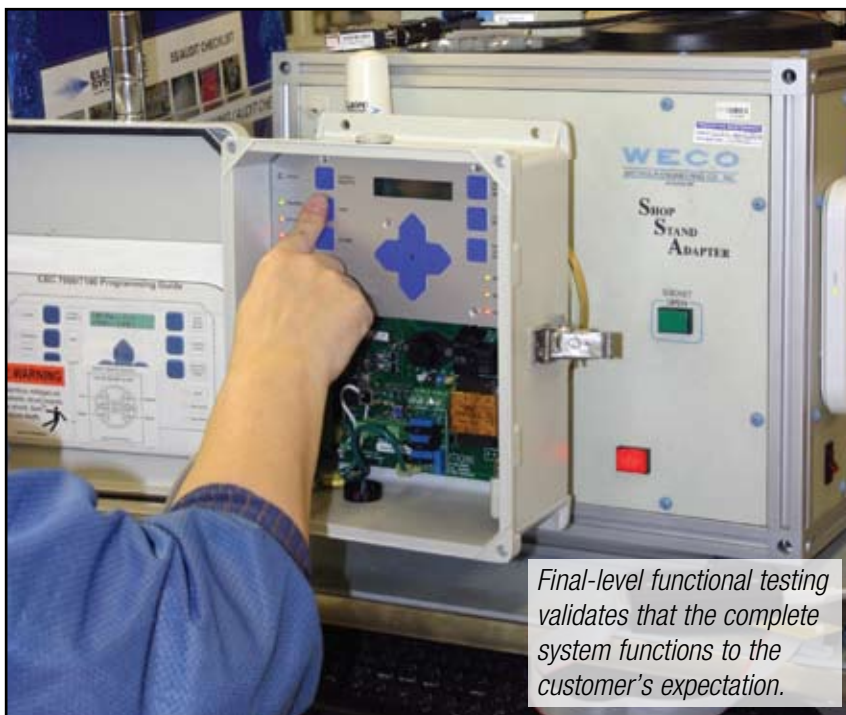


process. “When we’re brought in at the earliest stages, we can ensure that a product design will be easily tested and manufactured—ending in a lower-cost final product.”

Justifying the cost

“I’m pleased with our testing program,” says Steve. “We have a seasoned team of test engineers. I’m confident in their capabilities and what we can do to bring value to our customers.”

Electronic Systems President Gary Larson says he understands customers’ concerns with the costs of testing—but it’s an essential part of a quality manufacturing process. “A good testing program minimizes the risk and cost to everyone involved—especially our customer,” says Gary. “At the end of the day, it’s simply an investment that brings value.” ♦



Final-level functional testing validates that the complete system functions to the customer's expectation.

ISO RECERTIFICATION COMPLETE

It’s an intense, five-day process, but Electronic Systems recently received its ISO 9001 recertification—upgrading to the 9001:2008 standard, in addition to recertification of the more stringent ISO 13485:2003 standard.

Lee DeLange, Electronic Systems Quality Manager, spent those five days alongside the auditor from the British Standards Institute, looking at every facet of the company’s

process—from quoting to shipping products and our return system. “We recertify every three years,” says Lee. “It shows that we have a viable quality management system. Recertifying in both of these standards requires continual improvement on our part. There’s a comfort level for customers knowing that the products we manufacture for them fall under the stringent controls that are required.” ♦

with them as they work together to meet the challenges inherent in each project.

An electrical engineer by training, Steve came to Electronic Systems following a stint at an OEM firm that had a contract manufacturing division. It was there that he tried on multiple hats, working in design, production, and IT. The School of Mines and Technology graduate came to Electronic Systems in 1997. Fulfilling a long-time goal, he completed his Masters in Business Administration a few years ago.

Married and a father to 9- and 10-year-old daughters, Steve says his wife, Lori, calls him a “hobby hopper.” Over the years he’s pursued everything from magic tricks to poker—and not just casually. “Something will catch my interest and then I’ll pour all my energy into that thing until I master it,” explains Steve. “One night, I decided I wanted to play piano. I taught

myself, reading music to learn the songs I wanted to play, and then playing them by memory.”

He brings that same intensity to his job. “The nature of my position is to solve problems,” says Steve. “You have to come up with creative solutions and approach things differently. You must be persistent.”

Electronic Systems’ focus on LEAN over the past few years fits right in with Steve’s propensity for creative problem-solving. “I see the benefits of LEAN and realize where it can take us in the future,” says Steve. “I also like that it’s a challenge to get as good as we can possibly be.” That attitude, he adds, is shared by everyone at Electronic Systems. “We are all driving in the same direction. There’s a great satisfaction in knowing we do an excellent job in a very competitive market and that we’re getting better at what we do every day.” ♦



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GOOD NEWS ON INVENTORY CONTROL

By **Randy Bathke, Materials Manager**, rbathke@electroniccsi.com



As a contract manufacturer, Electronic Systems is always interested in improving on key metrics. One of the key measurements is On Time Delivery (OTD) to our customers. In an effort to maximize OTD, ESI and Dakota MEP held a three-day Kaizen event in the last quarter. During the course of this event, the team created a Value Stream Map that included all process steps from receiving the customer order to

kitting for production, identifying key areas that might be improved.

With the growing uncertainty of parts availability and the increasing lead times from many manufacturers, the team reviewed the VSM information and chose to focus on maximizing inventory accuracy of SMT reels. After observing several jobs in production, the team came up with a

plan to try to predict the process attrition of parts based on the pitch of the reel for each individual part. Subsequent jobs were run and proved there was a high correlation between process attrition and pitch of the reel. This information was then loaded into our MRP system parameters, which will help to minimize part shortages in the SMT area.

The system parameters will be adjusted over time as data continues to be gathered and analyzed. Another benefit from this project is the ability to quickly identify and resolve problem SMT feeders that are not placing parts within the given parameters set for an individual part package.

Since the Kaizen event, ESI has seen significant improvements to the inventory accuracy of SMT reeled parts. This has been confirmed through our routine cycle counting process. Improved accuracy has led to less part shortages, allowing ESI to maintain production start times, improve overall On Time Delivery, and increase customer satisfaction. ♦