



"When you drive change, you are either creating new business practices for that organization or you're creating a new culture," Winland Electronics CEO Tom de Petra says. "In our case, we did both." Add new leadership and "it's very much like a start-up."

The 38-YEAR-OLD START-UP

A big customer pulls back. Revenues fall. Manufacturing capabilities fall short. Retool the plant? Winland Electronics changed everything.

There wasn't much about Winland Electronics, Inc., that could have taken Tom de Petra by surprise when he became CEO two years ago. Like a prospective homebuyer with all the inspection notes and disclosures in hand, he knew about the cracked foundation and the water heater that would soon need replacing. He'd been a director on Mankato-based Winland Electronics' board for 13 years. De Petra knew that the small contract manufacturing firm qualified as a serious fixer-upper.

For 36 years, Winland had been plugging along, "stuffing" circuit boards with integrated circuits, resistors, and diodes, and making other electronic components as well. Its customers were original equipment manufacturers (OEMs) in several industries: transportation, industrial instruments, and especially medical devices. But its biggest customer was Plymouth-based Select Comfort Corporation.

Winland made pump-assembly and hand controls for Select Comfort's adjustable air-mattress beds. Select Comfort, a customer since 1995, accounted for 60 percent of Winland's revenues. But that was a few years ago.

In early 2006, management at Select Comfort had given notice that, to diversify their company's supply chain, they would pull half of their business out of Winland's shop. The two-year process was nearing its end when de Petra succeeded Winland Electronics cofounder and CEO Lorin Krueger in January 2008. (Krueger still serves on Winland's board of directors.)

Revenues reflected the drop-off in Select Comfort orders: \$37.9 million in 2006, \$34.7 million in 2007, \$28.7 million in 2008. Landing business that could replace Select Comfort's was proving tough.

By Phil Bolsta

De Petra thought he knew why. He looked at

Winland Electronics and saw a company with a highly automated 58,000-square-foot plant, but despite that, a company that wasn't set up for high performance—not in its plant and equipment, not in its supply chain and manufacturing processes, not in its business processes. He made it his mission to change that. Now he's waiting to see if his changes will turn the company around.

"I knew that we didn't need to change just a little," de Petra says. Winland Electronics needed to scrap its old ways and start over. "We needed to become dramatically better than our competitors." In a sense, Winland even needed to change who its competitors *were*.

NEW TALENT, DISCIPLINED THINKING

It didn't help that there was a recession on as the company retrenched. It didn't help, either, that Winland Electronics was carrying the burdens of a publicly traded stock.

The company's initial public offering was in 1984 (AMEX: WEX), but whatever growth opportunities had prompted the IPO were now a distant memory. Meanwhile, the Sarbanes-Oxley Act had become federal law in 2002; the weight of added governance and reporting requirements—and legal and accounting fees that mounted to six figures—made itself felt.

What did help Winland Electronics was another piece of its history. The business had started in 1972 by manufacturing its own environmental-sensor products. (It still does—see photo and caption on facing page.) The company's design engineering capabilities became the core of the remake Winland.

Just as critical: the commitment that de Petra and his management team made to Six Sigma quality controls and to Lean Manufacturing principles that would reduce waste. De Petra had been an independent consultant to troubled companies (though not to Winland) for more than a dozen years before he took the CEO post in Mankato. He also had been interim CEO at a publicly traded agricultural chemical company (NorTech Forest Technology, which has since been acquired). He'd seen Six Sigma in practice and believed it could spur the thoroughgoing change that Winland Electronics



Hospitals use this compounder to mix drugs for intravenous use. Winland Electronics, which is seeing growth in its medical business, designed the device and does final assembly.

needed.

"Six Sigma influences organizational thinking, culture, and behavior," de Petra says, because it insists on a discipline of using hard data for decision making.

Before any of that could happen, though, there was the matter of *who* would be making decisions at Winland—who the management group would be. Over time, De Petra replaced almost everyone, with the exception of CFO Glenn Kermes. The company also began paring itself down to its current total of 100 employees from 125 in 2007.

His first responsibility was "making the changes that were necessary to achieve a high-functioning leadership team," de Petra says. In a testament to how intense the talent wars between contract manufacturers can be, he explains that, by and large, he'd rather not identify his managers by name. What they have in common is technical degrees, deep experience in the specific kind of manufacturing that Winland Electronics does, or both. Many of their predecessors lacked those things, de Petra says. Some had never worked for an "EMS" (electronics manufacturing services) company before.

"To do this kind of work well requires people who have done it, people who have worked for large, mature companies with world-class manufacturing processes," he says. He recruited from respected EMS firms across North America, including

Texas-based Benchmark Electronics, Celestica in Ontario, and Plexus in Neenah, Wisconsin. Such companies represent a "world that is full of Six Sigma methodology and best practices," he says. "We now have four certified Six Sigma-belt personnel in manufacturing and operations."

OPERATIONS TAKES THE LEAD

One key hire was Warren Mitchell, brought on as Winland's vice president of operations and supply chain. De Petra charged him with rebuilding those systems from the ground up.

There was a corollary change: Managers of Winland's manufacturing "programs"—those who oversaw production of a component or a group of components and were the primary point of contact for customers—would no longer report to sales and marketing, as they had in the past. They'd report instead to Mitchell.

Operations now "had complete responsibility for the product, from receipt of the customer order all the way to the final delivery," de Petra says. "Operations essentially drives the P&L [profit and loss]. With program managers reporting to the same executive leader—Warren Mitchell—as all the others who are responsible for meeting customer expectations . . . we



Winland produces this circuit board assembly, part of a sensor system that detects rollover risk in emergency response vehicles and activates seatbelts and airbags. The manufacturer came to Winland a year ago looking for improvements to its existing design.

got everyone on the same team.”

Mitchell, de Petra, and their new management team undertook several other big transformations. They redesigned the plant floor to transition from “continuous flow” to “batch” manufacturing. A continuous-flow setup would suit a manufacturer that did high-quantity production runs—say, a maker of components for a consumer product like a cell phone. The production line would be organized to complete a long sequence of steps specific to that product, with minimal disruption for setting up or programming machines. That was no longer the kind of company Winland was trying to be, especially with Select Comfort cutting back its orders.

The new batch-manufacturing layout clustered together related functions—automated testing equipment and testing technicians, for example—in a way that could be useful for a variety of products that might come down the line. The new setup suits the “low-volume, high-mix, high-service” manufacturing that Winland Electronics now focuses on, de Petra says. This work is “inherently more challenging,” involving more complex assemblies, and sometimes subassemblies that must fit together or components of varying size. Multiple forms of testing and programming might also be required, he explains.

Winland’s new managers also revamped the way information flows through the company. A price-quoting process that was manual, slow, and prone to error was computerized, de Petra says. Similarly, the creation and handling of engineering drawings, bills of materials, work instructions, change orders, and other vital documents has been automated to make sure that Winland, its suppliers, and its customers all have current and consistent information.

Aside from automating, perhaps the most important thing Winland Electronics did to improve its information management was to create a new position: senior data analyst. Like other manufacturers, the company had always gathered data on a raft of quality, productivity, and vendor-performance measures. Managers could dig into that data as needed to solve problems or make decisions. Now a dedicated person would prioritize the kinds of data to extract from Winland’s processes,



The EnviroAlert EA8000 represents Winland Electronics’ proprietary product lines. It connects to alarm panels produced by Honeywell and others. Through wired and wireless sensors, it detects water leaks, power failures, and out-of-range changes in temperature and humidity, logs the data, and notifies the user. Winland was founded in 1972 to make its own sensor products. Contract manufacturing became its mainstay as early as the 1970s, but its proprietary work still generates significant revenues. In the third quarter of 2009, Winland’s own products accounted for about 13 percent of net sales.

synthesize it to make it more useful and accessible to other managers, and proactively search it for indicators that could help improve the company’s performance.

“We are using data much better than we ever have,” de Petra says. In all, expanding the company’s data and analytics capabilities enabled Winland to reduce obsolete inventory and warranty expenses by nearly \$1 million in 2008 compared with 2007, he says.

REPOSITIONING

Even before the company hit the reset button, the engineering team had been one of Winland Electronics’ competitive strengths.

“The one area we were probably the strongest was design engineering,” de Petra says. That can mean designing a new product for a customer or stepping into the process even earlier to help with

concepting. In other cases, it means re-designing an existing product to improve its function, quality, or cost.

“With seven full-time engineers, our design engineering capability is unique for a company our size, and played a significant role in attracting many of the customers that have been added in the last year and a half,” de Petra says.

Winland began selling its design engineering services in the 1990s, using Plexus, the big Wisconsin EMS, as its model. But under de Petra’s watch, Winland has become more focused on acting as a partner to its customers, looking for proactive ways to help them manage their products and their costs.

“This includes a set of techniques called ‘design for manufacturability,’” de Petra explains, a way of optimizing a product’s design to achieve the most effective, lowest-cost, and lowest-waste manufacturing process. The company also has sharpened its focus on “managing obsolescence.” Say an item that Winland makes for a customer has several dozen, or even several hundred, individual parts. If a supplier discontinued even one of them unexpectedly, and Winland had no substitute part tested, approved, and in stock, the disruption would be costly—in time, dollars, and good will—both for Winland and its customer.

“By anticipating and pre-empting those kinds of problems,” de Petra says, “we become a more valued partner as opposed to [just being] a contract manufacturer, where you are more disposable.”

Making that shift—from low-margin commodity producer to higher-margin service provider—was the end goal of all the changes the company made in the past two years, and it’s how Winland changed who it competes with.

Tools and techniques brought in by managers hired from Plexus and other big firms “distinguished us from the smaller-tier EMS providers we competed with,” de Petra says. At the same time, “Plexus is a very large, very successful company. We are a very small company with a vision that has some similarities. Customers who would be ideal for us based on volume would generally not be of interest to them.” Winland is staking out a middle ground, offering high-touch service to customers who probably couldn’t get it

from big providers.

WATCHING THE RESPONSE

Winland Electronics is on the right path, says Michael Palma, a senior research analyst who tracks the EMS industry from the California offices of market research firm IDC. "EMS companies have to stop thinking of themselves as contract manufacturers, which implies a legacy of cost reduction," Palma says. "They should turn that defensive mentality into one of true business-process outsourcing, where they focus on their value-add to the client."

But Winland's financials make it hard to say whether its new strategies are the right ones. Results are clouded by the recession, but trending downward. In year-to-date results as of September 30, the end of its fiscal 2009 third quarter, Winland reported net sales of \$18 million, down \$2.9 million or 13.8 percent, from the same nine months in 2008. The company reported a net loss of \$1.5 million or \$0.42 a share for the first three quarters of '09. Customers are keeping inventories low in this economy, Winland said.

There are a few new customers. In July, the company reported orders from three new accounts, but—again for competitive

reasons—declined to name them.

De Petra puts his hope in other factors as well. The OEMs that make up Winland's customer base have found that going off shore to cut costs "can be extremely difficult, what with transportation and language, cultural, and currency differences," he says. Especially in this low-inventory environment when they need quick response from their suppliers, "that represents an opportunity for companies like Winland."

He is also seeing new price quote requests from additional divisions or subsidiaries of existing customers, and he reads it as a sign that they value the changes his company has made.

Dan Pint's company, which makes printing and taping equipment for the packaging industry, has been a Winland Electronics customer for about 10 years (though de Petra asked that Pint's company not be named in this story). "Winland had struggled in the past with new product development, but that process has really improved," Pint says. Winland is more reliably delivering on time, "plus, they're getting more involved up front and they're asking the right questions," he adds. "Getting that level of customer

service and quality takes precedence over cost."

Last February, Select Comfort came to the end of a three-year supply contract with Winland Electronics and didn't renew, consolidating its orders with another supplier instead. "Select Comfort was a wonderful customer for 14 years, and the relationship ended on very good terms," de Petra says. "But the products we were building for them looked very different"—less complex—"from what we are building for most customers now."

The past—old accounts, old processes—is a benchmark for measuring progress. "We had some business we couldn't keep because, frankly, we didn't have all the necessary business practices," de Petra says. "I looked at some of those customers and said to my team, 'We will someday be able to service that customer flawlessly.' I was on a mission to do that. In that sense, we've succeeded." **TCB**

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