

SCMEP Success Stories

Helping South Carolina Companies Grow



Training Within Industry

VELUX turns to Training Within Industry to help introduce vital new product line

VELUX Greenwood realized its company had little room for error with its new line of skylight windows -- the company's first product redesign in more than 12 years. VELUX needed to reach the market quickly and effectively, a measure made more difficult by the economy. "With a new product line, we couldn't afford to make mistakes," said John W. Pillman, VELUX Greenwood President. "Everything we're building has to be perfect quality up front." With that goal, Pillman and VELUX turned to SCMEP and their local partner, Piedmont Technical College (PTC), for help. SCMEP and PTC recommended Training Within Industry (TWI), a highly effective training methodology with a proven track record of success in manufacturing environments. TWI offers essential skills that help businesses:

- Cut costs
- Boost productivity
- Streamline training
- Improve employee satisfaction

Real Concerns

VELUX Greenwood is part of the global VELUX organization, which operates in 40 countries and specializes in roof windows and skylights. In South Carolina, the facility serves as the manufacturing center for products sold in the U.S., Canada, Japan, Australia and New Zealand. Selling to dealers such as Home Depot and Lowe's, VELUX has become the national market leader in skylight sales. The plant employs over 300 people. Seasonal growth results in the company supplementing its core employee group with 20 - 30 contract

employees. With a seasonal influx of contract employees, and an approaching product launch in January 2010, VELUX sought a way to standardize job procedures and train workers faster. "But the more we looked at it," Pillman said, "we realized our real issue was not so much standardizing the work, but how we train people as they come in. We realized we weren't good at that."

TWI addresses those concerns. Supervisors learn to quickly teach employees to do a job correctly, safely and conscientiously. The program also trains supervisors to become more effective leaders and better bosses. Supervisors develop skills to build strong relationships that ensure employee cooperation and motivation. "It seemed to fit perfectly for what we wanted," Pillman said.

Status Quo No Longer Acceptable

Previously, VELUX used a trial by fire approach for employee training, typical for many manufacturing companies with high-speed, production assembly lines. It wasn't working, and the status quo was no longer acceptable. "We'd spend five minutes with them, tell them this is how you do your job and stick them right on the line," said Carl Rogers, VELUX Lean Engineering Coordinator, who helped VELUX implement TWI. "That's not the way to train somebody -- by expecting them to immediately keep up with the line speed and remember what you just showed them. It's a big mistake."

TWI consists of three modules -- Job Instruction (JI), Job Relations (JR)

and Job Methods (JM) – each explained through a simple four-step, “learn by doing” process. The modules are taught during five, 2-hour sessions to a small cross-section of staff, including supervisors, team leaders and engineers. TWI is needs-based and flexible, allowing businesses to choose the specific modules they want. That way, companies can earn an immediate return on their investment.

A team of ten VELUX employees went through the JI and JR modules in February 2009. Through JR, companies sustain improved results because of better relations and trust. In order to develop an internal TWI training resource, Rogers underwent the intensive TWI Train the Trainer workshops. Rogers is now certified to teach Job Instruction and Job Relations skills to VELUX employees.

TWI Benefits

VELUX saw dividends almost straight away. For starters:

- Training cycles were shortened
- Very little retraining was required
- Fewer mistakes were made

For each product line, job breakdowns using the TWI methodology were created. One new skylight assembly line has 34 different specific tasks. A job breakdown was created for each task and used to train the employees. The standardized method of creating job breakdowns and the uniformity of the approach to instructing the employees made the training process easier to swallow. “Our employees were fully trained in a week, where it may have taken a couple months using our traditional training,” Rogers said.

The four-step TWI methodologies make sense. They ensure employees only receive as much information as they can master at one time. Employees get a chance to practice the job receiving immediate feedback in a low stress environment. This approach proved popular with employees.

TWI made believers out of experienced workers and newcomers and elicited praise from employees. A few comments from VELUX associates:

- “This is the best training I’ve ever had anywhere I’ve worked.”
- “They’ve spent more time with me here.”
- “I understand this better than any other job I’ve done in the past.”

As a result of the employee buy-in and enthusiasm the program is much more likely to be sustained. After implementing TWI, Carl Rogers summarized the program’s benefits, “You are actually training people how to be more efficient. TWI’s value is tied to efficiency. We had a specific goal, the number of units per day we wanted to produce. We actually exceeded that number on the second or third day.

An Extension of Lean

To VELUX, partnering with SCMEP and PTC to introduce TWI was a smart business decision. They had previously worked together to help VELUX implement a more efficient manufacturing system starting with the foundational lean tools of 5S and Visual Controls. 5S is a workplace organizational method and was implemented at VELUX through a series of planning sessions, training workshops, and hands-on implementation events. Since January 2008, and the introduction of 5S and Visual Controls Program, VELUX Greenwood has estimated its cost savings to be more than \$335,000.

TWI was one of the crucial building blocks of the Toyota Production System, the model for Lean Manufacturing. TWI traces its inception to



Proud VELUX employees share one of their many awards.

World War II when the war siphoned off the industrial workforce to the Europe and the Pacific war theaters. The TWI program provided quick, consistent job training to replacement factory employees, increasing production, thwarting industry hardships and helping win the war. Almost 70 years later, Rosie-the-Riveter, an iconic cultural figure representing American women who worked in factories during wartime, is still used to proudly symbolize the TWI program.

TWI -- An Easy Choice for VELUX

Without TWI, VELUX likely would be fighting familiar fires and encountering the same problems: more delays, more downtime, more wasted time, frustrated employees and higher employee turnover. “We wouldn’t have the quality and the output that we have right now,” Pillman explained. “We made an investment up front, but we don’t have to go back and retrain. More importantly we’re seeing hardly any mistakes.”

In the end, the decision was easy. “I think anybody who has either new products being introduced, or if you have a business that’s seasonal like ours, TWI is an excellent method,” Pillman said. “I would recommend it to any company that has either of those things going on.”