



An ATAC Client Success Story



AUBURN

TECHNICAL ASSISTANCE CENTER

COLLEGE OF BUSINESS



American Technologies Inc. (AmTech) partnered with Auburn Technical Assistance Center (ATAC), an affiliate of the Alabama Technology Network, to launch a Lean Manufacturing program even before combining its two plants in Montgomery and Kellyton, Ala. into a single location in January 2006. Today, the company, which manufactures wiring harnesses and controllers for buses and medical equipment, is implementing *kaizen* (continuous improvement) events as a consistent component in its mission to become more productive and efficient.

## Perspectives, culture changed by Lean journey

Even before combining its Montgomery and Kellyton, Ala. plants into a single location at Alexander City, Ala. in January 2006, American Technologies Inc. (AmTech) had begun its Lean journey.

AmTech manufactures wiring harnesses and controllers for buses and medical equipment. With about 250 employees now within a single and larger 130,000 square-foot facility, the company has embarked on a mission to become more productive and efficient.

“We began training our employees in Lean about three years ago when we learned about it from one of our customers,” said AmTech President Roger Hendrick.

AmTech is the major supplier of wiring harnesses to the Bluebird bus company. It also produces controllers for hospital equipment such as blanket and solution warmers. Annual sales total about \$17 million to a market that is largely U.S. based.

“Because we produce some 1,500 different parts, approaching Lean had to be accomplished through a segmented strategy, Hendrick said. “We chose the Warmer Section as our first Lean area of challenge.”

A multi-level, cross-disciplinary project team – including management and production employees – formed to identify and make process improvements in three major areas: Material flow, production flow, and information flow.

Guided by the Lean Team from Auburn Technical Assistance Center (ATAC) at Auburn University, the group set as its objectives to: Reduce transportation distance; reduce waiting time; design and implement an improved production layout; improve start production time; improve inspection timing; write and implement procedures; identify production triggers; and resolve incomplete material list issues.

They developed a plan of action to reduce walking and other movement deemed unnecessary, combine process steps into

a single work cell, and create a point of use storage area for work materials, Hendrick added.

The ATAC Lean Team facilitated a series of *kaizen* (continuous improvement) events for the Warmer Section. The result: Inventory was reduced by more than 15 percent; walking time and distance were reduced by half; material handling was cut by 19 percent; and undesired activities such as excessive bending, stooping and other movement were eliminated.

This outcome launched the beginning of a culture change among AmTech employees, according to Hendrick.



*AmTech President Roger Hendrick, left, talks “Lean” with Vice President of Sales Tony Tucker. Tucker participated in the company’s recent Body Board harness kaizen event.*



*AmTech Continuous Improvement Manager Cohen Vickers points out the complexities found in the Body Board harness production line.*

“We began to see that significant improvements could be made -- and to the benefit of the company’s bottom line as well as employee job satisfaction,” Hendrick said.

AmTech has since initiated Lean in four other work cell areas with similar successes, the most recent being the 40-foot bus wiring harness production area known as the *Body Board*.

“This is by far the biggest Lean project we’ve undertaken,” Hendrick said. “But perhaps the best thing about Lean is that it is one of the most effective ways to implement change.”

ATAC Lean Team members Dave Devore and Terri Lawrence have led AmTech’s most recent kaizen events. Both say that changes are successful and achieved with less resistance because it is the employees, themselves, who create and design the improvements.

“I started working with AmTech two years ago,” Devore said. “My first impression was that the company knew the direction it needed to go but no one was using a map. Returning a year later, it is clearly visible that the company has made a culture change. There is clearly a defined path, and supervisors, managers and staff are all working together to stay on that path.”

Value Stream Mapping is basic to process improvement and to ATAC’s hands-on approach to Lean implementation. Lean facilitators guide trainees toward identifying the company’s current state in its process flow and to the discovery and suggestion of a planned future state.

“Basically, a kaizen event is an intense focus on a dramatic or radical change in an area,” Lawrence added. “We begin by defining boundaries and setting an aggressive goal. Some experiments that are tried do not work and are replaced with others that do. Those that work are implemented into the process.”

Lawrence describes employee participation as a component that begins at the very start of a kaizen event.

“We ask immediately what changes they would make if they owned this company,” Lawrence said. “That gets them thinking about things from a different perspective than the one they might have on the job day-to-day, regardless of their job level in the company. But it is invaluable when

you get a vice president talking with employees from the production floor about how to solve an issue!”

Communication among all levels is resulting in efficiency improvements beyond simply production, according to AmTech Continuous Improvement Manager Cohen Vickers.

“Obviously the work flow improves, but other things begin to emerge,” Vickers said. “Quality control and quality assurance becomes built into the process. People begin to focus on both assembly and quality. They gain an empowerment and a control over their work unlike anything possible under a traditional manufacturing environment. A kind of ‘family’ atmosphere is created. Employees are now taking responsibility and they love it.”

### BODY BOARD HARNESS AREA KAIZEN IMPLEMENTATION SUMMARY:

#### Problem Statement:

- Excess inventory; Inefficient space utilization; Old equipment



Hank Czarniecki  
of the AU Lean Team

#### Improvement Opportunities Identified:

- Reduce defects caused by operator error, machine malfunction, and wrong materials at point of work
- Reduce waiting time
- Reduce walking and other avoidable movement

Maria Paredes,  
left, and  
Terri Lawrence  
of the AU Lean Team



#### Improvement Strategy:

- Job procedure standardization and visual controls
- Standardize and consolidate material ordering process
- Centrally locate quality check point
- Reorganize production floor area to minimize travel and movement waste
- Implement Total Productive Maintenance (TPM) on equipment

#### Projected Improvements Achieved:

- 75-80 percent reduction in defects
- 50 percent reduction in scrap
- 76 percent reduction in waiting for materials at point of work
- Complete elimination of unnecessary travel between work stations
- Reduced expense in inventory and unnecessary overtime



David Hicks,  
left, and Dave  
Devore of the  
AU Lean Team



*Auburn Technical Assistance Center was established in 1976 and is an affiliate of the Alabama Technology Network and an Economic Development Administration University Center. As an arm of the Auburn University College of Business Outreach program, ATAC provides business and technical assistance, customized training, and consultation in implementing value-added strategies to manufacturers and other businesses, not-for-profit organizations and government agencies in Alabama and the Southeast.*

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