

# E3: ECONOMY, ENERGY & ENVIRONMENT



\$9.6 million in Environmental Savings  
\$4.1 million in Energy Savings  
57 million kilowatt Reduction in Energy

E3 – Economy, Energy, and Environment – is a coordinated federal and local technical assistance initiative that is helping manufacturers across the nation adapt and thrive in a new business era focused on sustainability. In the process, E3 is boosting local economies and benefiting the communities with creation of “green jobs” and reduced environmental impacts.

Joining forces with the local community, E3 provides manufacturers with customized, hands-on assessments of production processes and assists with the implementation of energy-saving projects. As a result, E3 is:

- Increasing manufacturers’ productivity, while making them more competitive;
- Driving innovation and encouraging global leadership;
- Helping foster a green workforce;
- Improving the regional economy by retaining jobs in companies; and
- Reducing environmental impacts.

E3 serves as a unique model by working directly with the local manufacturers, utilities, and business communities and streamlining the delivery of the most suitable technical and financial resources to the manufacturers. These resources are leveraged from the following pool of E3 collaborating agencies and programs: DOC, DOE, EPA, DOL, SBA and USDA.



The E3 framework is designed to be scalable and replicable. E3 is expanding throughout the nation. What began as two city pilots in 2009 has grown into a framework expected to operate in numerous communities among 15 states in 2012.

*For more information, contact:*

Ben Vickery  
ben.vickery@nist.gov  
301.975.2954



Jan 2011

## Advance Industrial Manufacturing

*"The way the numbers had been looking, a couple of my closest advisors did not think we were going to pull out of it. TechSolve was a big part of our turnaround. TechSolve's guidance was integral to our success. TechSolve exceeded our expectations."*

Jim Wintzer, President

## \$700,000 in increased and retained sales

Advance Industrial Manufacturing (AIM) is a custom metal fabrication company located in Grove City, Ohio. Founded in 1987, AIM specializes in components and replacement parts for stairways, handrails, mezzanines, and loading ramps. The company also provides very large fabrications for the power distribution, power generation, steel and coal mining industries.

Like many small manufacturers, AIM saw its sales decline as the recession took hold. But rather than waiting for the economy to recover, AIM decided to look for ways to contain costs, increase sales, and stimulate growth. In a manufacturing plant, one of the first places to look for cost savings is energy usage. Through their relationship with TechSolve, the NIST MEP affiliate in Ohio, AIM signed on to the E3--Economy, Energy, & Environment--program. Developed in part by the U.S. Environmental Protection Agency and the U.S. Department of Energy, the program is designed to improve production and profitability while reducing energy usage and environmental impact. E3 doesn't look only at cost savings – it seeks out opportunities for growth—another priority for AIM.

An energy analysis performed by the University of Dayton Industrial Assessment Center identified several opportunities to decrease energy use and reduce emissions. In tandem with the energy audit, the TechSolve team provided training and coaching to develop a pipeline of new growth ideas. TechSolve led AIM through a workshop that generated more than 50 ideas for new product lines. Among these were more effective sales messages, the identification of new customers and markets, and new and improved products and services. Out of the 50 new product ideas, AIM chose two to focus on immediately, holding the rest in the pipeline for future consideration. This process forced the management team to think outside of the box and achieve consensus on the direction they wanted to take.

## UEMC

*"E3 is about much more than just saving the company money and energy. The impact reaches far beyond energy, dollars or the environment. It is about people and community. When TMAC conducted our E3 assessment last year we had 100 people employed on the floor. We are now up to 279 employees."*

Linda Jordan, CFO, UEMC

## 179 jobs created

UEMC is a certified hub zone government contractor with over 50 years experience in contract sewing, screen printing and other textile related manufacturing. UEMC produces body armor, aircraft components and other sewn goods.

TMAC conducted an E3: Economy-Energy-Environment assessment of the company as part of the local Lean-Clean-Energy program. E3 is a coordinated federal and local technical assistance initiative that is helping manufacturers across the nation thrive in a new business era focused on sustainability. The assessment generated a list of six specific recommendations focused on energy and cost savings.

UEMC took immediate action on those items that did not require large investments. They implemented a system to fix compressed air leaks and prevent recurrence and lowered their operating air pressure. This combined effort provided an annual reduction in electric consumption of 10,000 kwh while increasing equipment uptime. In addition they converted over 100 task lights from 100W incandescent bulbs to 23W compact fluorescent bulbs. UEMC focused on a complete retrofit of all production, warehouse and office lighting. All lighting was converted to the most efficient available fluorescent lighting and motion sensors deployed where practical. The lighting upgrades significantly improved the overall lighting levels and quality while reducing consumption by approximately 84,000 kwh/year. The new lighting also provides the flexibility required to take full advantage of cellular manufacturing techniques, allowing work cells to be reconfigured as needed to adjust to production requirements. The project cost was largely offset through aggressive rebates offered by the local utility, CPS Energy. Linda Jordan, the CFO of UEMC, was quick to comment that E3 is about much more than just saving the company money and energy. "Every dollar that we don't have to spend on wasted energy or materials is one more dollar that we have available to invest in our workforce. That has a direct impact on the quality of life for our local community."