



Associated Environmental Systems: Lean, Technology and Teamwork Achieve Results

A GBMP Client Case Study

Associated Environmental Systems (AES) has always been, and continues to be, known as the environmental test chamber company that is easy to work with. Customers deal directly with manufacturing ensuring a nimble delivery of a quote within days, and often hours, of a request. The culture is fun and that resonates with customers; the lines of communication are always open.

Established in 1959, Associated Environmental Systems designs and manufactures [standard and custom environmental test chambers](#) and supports their users. Beran Peter, CEO and President of AES, knows that, “AES would not be competitive if we were not willing to increase efficiencies and adapt our product to keep up with new technologies. Lean has allowed us to be proactive with our customers.”

Over the years AES has built a large, loyal and worldwide customer base spanning the fields of aerospace, pharmacology, electronics, automotive, semiconductors, computers and many other industries. Their mission has always been to provide consumers with high quality environmental test chambers that allow for independent, efficient, accurate, and controlled product testing.

While some companies rely on test labs to execute their performance, uniformity and reliability testing, many companies realize the benefits of faster time-to-market, cost savings, and quicker revenue recognition gained through performing their own in-house testing. Additionally, these companies gain the flexibility to test according to their own schedule and the ability to optimize the type of testing that works best for their product design. With in-house testing, designers can make real-time improvements without delay. Some customers have reported that the test chamber pays for itself within 18 months.

In 2016, AES was awarded a Workforce Training Grant, administered by the Commonwealth Corporation, to train team members in Lean and Six Sigma methodologies so as to improve operations and streamline processes. AES had recently moved into a larger facility in Acton, Massachusetts and utilized the funding to help create an environment conducive to continuous improvement.

Through a series of training events team members identified impediments to process-flow and used problem-solving techniques to overcome many issues. Some of the reliable methods used to combat waste included: 5S (Workplace Organization), Value Stream Mapping, Team Problem Solving, Visual Control Systems, Cell Design, and Six Sigma tools.

Standard operating procedures were developed through direct observation, eliminating variation in many assembly processes. During the training, productivity and on-time delivery metrics were monitored to ensure that progress was being made.



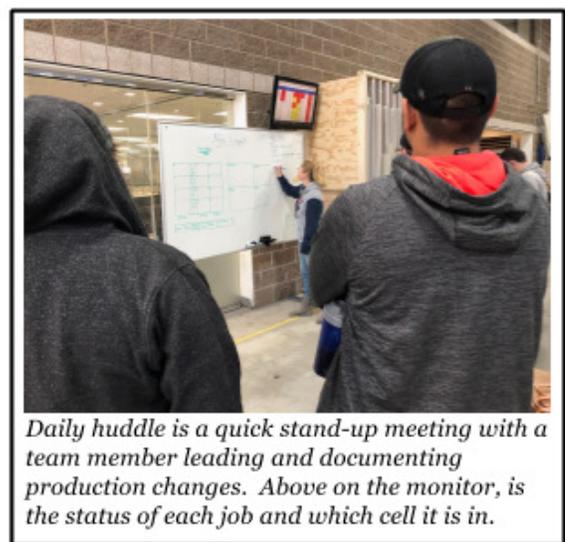
One key change was the implementation of a Visual Control System. Lights installed above each cell give a visual representation of the status of the operation. A red light indicates the process has a work-stopping issue and a white light indicates the operation is proceeding normally. Other colors have been implemented to signify various production statuses. All lights can be seen at a glance throughout the facility.

Other improvements included Kanban systems and work cells being developed for the each of the product families, reducing lead times and improving inventory accuracy. A program using barcodes was created, in-house, and placed in set locations to reduce search-time for assembly components. The barcode system brought about a reduction in re-work due to less handling and loss of components. A prototype small-chamber production-process reduced lead times to customers from 4-6 weeks to 0.5 to 3 weeks.

Daily huddles were instituted at which all departments were represented. This has helped to communicate opportunities for improvement and priorities across the plant.

Technology plays an important role in Quality Assurance. Pictures are sent via smart phones to QA at the completion of each process in order to validate that quality in manufacturing and engineering remains at the highest level possible.

Ron Pujalte, CI Manager from Greater Boston Manufacturing Partnership, said, "It's great to see the improvements being implemented by all



departments in the facility. Teams, from the entire company, meet on Tuesdays after the morning break to share victories and challenges.”

In 2017, AES saw on-time deliveries improve by 50% and, as of December, productivity improved by 27%. Sales are increasing and the team at AES is rising to the challenge of serving both existing and new customers. Beran Peter commented, “It’s awesome to see the teams consistently looking at ways to make their jobs easier while improving the quality of our products for our customers.”

About AES: [Associated Environment Services](#) designs, manufactures, and supports standard and custom test chambers to meet the most demanding requirements of customers. Products vary in size from small bench top test chambers to walk-in or drive in environmental rooms and simulate hot and cold temperature extremes and variations, humidity and moisture conditions, salt spray and thermal shock. While some companies rely on test labs to perform their testing, many companies realize the benefits of performing their own testing in-house. These benefits include: the flexibility to test according to their own schedule - even when it changes, the ability to optimize the type of testing that works best for them, and substantial time and cost savings. AES customers include a large and loyal base from the aerospace, pharmacology, electronics, automotive, semiconductor, computer and many more industries around the globe. Associated Environmental Systems mission has always been to provide consumers with high quality environmental test chambers that allow for independent, efficient, accurate, and controlled product testing.

About GBMP: [GBMP](#) (The Greater Boston Manufacturing Partnership) is a not for profit offering customized Lean and Six Sigma training with a mission to increase global competitiveness and employment opportunities in the United States. GBMP is a licensed affiliate of The Shingo Institute with 4 certified instructors on staff. GBMP also produces the annual Northeast L.E.A.N. Conference which attracts more than 600 manufacturing professionals from around the country each autumn in New England, now in its 12th year. GBMP provides a membership community for Lean practitioners from manufacturing, healthcare, insurance and other industries and produces an award-winning library of Lean training materials comprised of more than 30 DVDs (available streaming by subscription at www.leanflix.org), games, manuals and workbooks, including Toast Kaizen, the #1 selling Lean training video in the world. Learn more at www.gbmp.org

For more information about the Massachusetts Workforce Training Fund Grant please visit workforcetrainingfund.org

