Implementing Lean creates better value for customers of Cirtech

Company Background:

Circuit Technology Incorporated (a.k.a. "Cirtech") is a privately owned company in Merrimack, New Hampshire. The company was started by Claire Parker in 1984. Back then Cirtech had about 4 employees and focused on manufacturing electronics and low-technology consignment kits.

Cirtech has grown considerably in the last 30+ years. Today the company houses 60 employees at their company owned 17,000 square foot facility and offers a complete line of electronic manufacturing services beyond basic circuit boards and electromechanical assemblies.

Cirtech is experienced in the procurement and assembly of both flex and rigid-flex products. From printed circuit board design support to prototypes, procurement, and full production assembly, Critech becomes a trusted partner of their customers. Think of Cirtech's electronic manufacturing capabilities as an outsourced extension of their customers' manufacturing department. They work closely with the customer's engineers to integrate their ideas into reality.

The primary markets served by Cirtech are alternative energy, communications, defense and homeland security, aerospace, medical devices, and prosumer products.

Exceptional customer service and performance are what separates Cirtech from their competitors. They pride themselves on being flexible, responsive and having the ability to listen and meet their customer's needs. The strength of their customer relationships is their commitment to clear communication and collaboration in the manufacturing process. Their mission statement sums it up best, "*Our mission is to supply the highest level of service, quality, and reliability in the electronic contract manufacturing industry while focusing on customer satisfaction and partnerships that endure.*"

Situation:

About 2 years ago Rick Pelletier, Executive Vice President came on board at Cirtech and noticed something almost immediately. "We had very demanding customers," said Pelletier. "When we reacted to customer demands things had to get done quickly from initial quote to finished product. Service and flexibility had to get more organized and quicker especially on the front end." Rick saw the front end as having bottlenecks and this was causing him frustration. "Once things moved out of surface mount then everything ran smooth," he said. "It was our front end process that really needed to be streamlined."

Overall Rick found many challenges Cirtech needed to overcome:

- Crisis/Reactive Management
- WIP levels are high
- Long lead times
- Long changeover times
- Non-reliability of equipment
- Late shipments
- Numerous rush orders
- Raw material shortages

These resulted in added costs, less than desired productivity and less than desired customer service. What they needed were:

- Shorter lead times
- Reduced WIP inventory
- Eliminated waste from shortages
- Less deviation from the process
- Better on-time and full deliveries
- Better defined capacity

Solution:

"We needed a hands-on training program to show us how to eliminate the chaos, streamline processes to make them move smoother, and be able to react quicker to customer demands," said Pelletier. Cirtech found that training by turning to NH MEP's Lean manufacturing training workshops.

The first step for Cirtech was going through the Principles of Lean Manufacturing for the Job Shop workshop. This hands-on training walked participants through Lean concepts with four separate factory simulations to demonstrate the concepts. Participants learned the principles of lean manufacturing including standardized work, visual controls, set-up reduction, batch size reduction, point of use storage and quality at the source, cellular manufacturing concepts, workforce practices, and pull systems to eliminate waste and how to apply them in an organization. Participants left the workshop with a clear understanding of the key eight wastes in manufacturing and how they can be eliminated through the application of lean principles.

Next was the Value Stream Mapping training and implementation. Here the participants mapped the material and information flow for a production process or product family. NHMEP began with training on the techniques and a simple case study in order to teach the concepts of Value Stream Mapping. The participants then created a current state map for a product family or process starting with the customer's order, receiving raw material and conclude with the finished product at shipping. With input from the class participants and training on developing a future state, participants constructed a future state map for the same product family or process. The map identified how the manufacturing process will operate as an optimum state. This map became the basis for developing an implementation plan that identified the actions needed to achieve the desired future state.

Last was the Kaizen Event training and implementation. Cirtech's team learned the fundamentals of Kaizen as well as the structured "Plan-Do-Check-Act" 10 Step Problem Solving Approach in order to lead their own future Kaizen events.

Results:

The NH MEP Lean operation techniques and methodologies gave Cirtech the hands-on experience they needed to increase the skill level of their workforce. They created an entire business environment based on those principles. This led to the professional growth of the company while keeping with the support and attainment of the company's overall objective which is to create more value for their customers.

The NH MEP Lean training enabled Cirtech to teach and emphasize the importance of lean in all of their processes. They now use Value Stream Mapping to evaluate processes and identify where improvement is needed. They also host their own Kaizen Events to implement "good change" in the work environment. The team evaluates the current situation, creates a plan, and implements the plan to reach an ideal state. Everyone in the Kaizen team has a chance to voice their opinion and find ways to eliminate waste.

"One of the main benefits of the training was we went from 2 weeks to quote now down to less than a week," said Pelletier. He adds, "The driving force behind Cirtech's Lean Manufacturing is to provide quality products while practicing continuous improvement and eliminate waste." By using the knowledge from their team of professionals, they can solve complex problems and implement new ideas quickly that aid in continuous improvement. "The work environment is much better now. It's an environment where people want to work and management is there to make their jobs easier," said Pelletier.

The following results for Cirtech can be credited to having gone through the NH MEP Lean Training:

- Eliminated bottlenecks
- Increased workflow
- Fewer schedule changes
- Customer retention as measured by existing customer quote win rate up by $100,000 per year
- Customer survey results improved by 7%
- Customer return rate improved 70%
- Cirtech's first and most important Kaizen focused on their SMT and kitting processes. The SMT Cycle time per job was reduced by $150,000 per year
- Improved on-time delivery
- Fewer short ships
- Added 4 fulltime 1st shift employees
- Increased their competitive edge

Testimonial:

"NH MEP exceeded our expectations through great flexibility in their scheduling of our training and the very hands-on approach with our teams. Through our Lean journey with NH MEP, we have become much better in meeting our demanding customer needs and as an industry leader in our market space."

- Rick Pelletier, Executive Vice President of Circuit Technology, Inc.- www.circuittec.com