



LEAN CASE STUDY:

ACTIVE BURGESS MOULD AND DESIGN IMPLEMENT LEAN

A successful job shop (low volume, high product mix) that produces prototype and production moulds for automotive and non-automotive industries.

Active Burgess is a very successful Job Shop company that produces prototype and production moulds for automotive and non-automotive industries. It's an industry that produces a unique product every time: very low volume and very high product mix. There are three divisions in the Windsor, Ontario area: North Talbot, Photometrics, and Wallaceburg. All three plants have received certification in QS9000 +TE.

Active Burgess manages projects of every size. Their capabilities allow delivery of prototype as well as production moulds, multiple component tool programs, process fixtures, inspection gauges, and automation equipment. Their tool development experts pride themselves on innovative designs that optimize the operational performance of each customer's product.

Ongoing reinvestment in their facilities ensures customers that Active Burgess' capabilities keep pace with advancements in the industry. With customer partners across North America and around the world Active Burgess has a solid reputation for quality and reliability, with competitively priced products delivered on time.

Active Burgess Interview Team

-
- » Mike Bragagnolo - President and CEO
 - » Doug Brockman - Manufacturing Manager
 - » Bill Brockhurst - Manager of Continuous Improvement Lean Journey Timelines
 - » August 2000 - Introduction to Lean workshop with Lean Advisors Inc.
 - » Fall 2000 - several Active Burgess managers attend Value Stream Mapping workshop
 - » Value Stream Mapping rolled out to 20 managers in all 3 of the company's divisions.
 - » Management began to look at every operation in the company to assess what value was being added for customers and what was Waste - they completed both Current and Future State Maps.
 - » Began "Train the Trainer" in order to ensure the spread of Lean practice throughout the organization.
 - » After training in teaching Value Stream Mapping, managers worked with groups of 10-15 employees at a time. Part of the session was to walk out onto the shop floor and do Value Stream Mapping.
 - » After training in Value Stream Mapping and the preparation of Future State maps that highlighted where to focus their efforts, the team started a 5S (Sort, Set in Order, Shine, Standardize and Sustain) Red Tag blitz. This was a one-day process involving employees and managers in two of the three divisions.
 - » After the Red Tag blitz, Bill Brockhurst Manager of Continuous Improvement came on board to coordinate Lean activities and keep Active Burgess focused on the Future State Plan Why Lean Manufacturing in a Job Shop Environment? "After the Value Stream Mapping course it was obvious to management that there were real benefits in pursuing Lean. The market in this business is very competitive and fast changing. A change that would reduce lead time and eliminate waste would help us be more

competitive in quoting and getting new jobs." Doug Brockman, Manufacturing Manager

Was There Resistance? "Of course there was resistance. Not everybody bought into it at first. However, once small successes started to happen, more and more employees came on board. There will always be a small percentage of people that never accept change for various reasons." Doug Brockman, Manufacturing Manager

"It's not a cake walk. At the beginning resistance may have been as high as 60% when you looked at both managers and employees. This dropped in stages as the positive effects of the changes were seen in the plants. Interestingly, employees show far less resistance to Lean change than Management - it seems like practical and tangible common sense at work." Mike Bragagnolo, President

"Active Burgess has a very good Quality system in place. On the shop floor, employees sometimes get confused between Quality and Lean. There's still some education to be done but these practices meld well together." Doug Brockman, Manufacturing Manager Implementing the Red Tag Program

"North Talbot and Photometrics began the pilot program. We didn't want to start all 3 divisions at the same time. Tackling operations in all 3 divisions at once would have been a very big undertaking.

"The first Red Tag day started at noon and ran through the evening into the afternoon shift. Every employee received tags and they tagged everything they saw that was non-value added. We needed a dumpster to clean things off the floor.

"The process was to go to every initiator of a Red Tag and ask why they tagged the

item. They came to me, the Manufacturing Manager, to make a decision on the spot - Go or Keep. Other managers did the same process including the offices - they filled a 3-car garage with non-value-added items.

"Items Red Tagged included CNC machine equip., tools, nuts/bolts. They no longer added value to work processes but they still had value so an auction was held among employees first, and then opened to the public. Local machine shops came in to buy equipment/tools - some asked, "Are you going under?" - we laughed, "No we're getting better!" Doug Brockman, Manufacturing Manager

"Part of my job is to make sure we stay on track and only do things that have a positive impact on the Future State layout we did using Value Stream Mapping. I bring that map out whenever we start planning a new event in our improvement process." Bill Brockhurst, Manager of Continuous Improvement

Implementing 5S "Our next step in using 5S to deliver our Lean Future State plan was to begin Set In Order phased over a period of time. We started with the CNC machining area, built cabinets, put tools and equipment in place to be readily available.

"In one location we had two full time (FT) crib attendants and a crib that was 1500 sq. ft. over two floors. Employees would have to come and sign out tools to perform their job. This was an old way of thinking. The idea was that if you didn't keep all the tools in one place they would disappear. It was a management culture that didn't trust the employees. That's all gone today.

"Within twelve months the entire crib was gone and the tools were located where they were used. This was a big cultural change for senior management but it worked. They had to start trusting employees to do the right thing. We also had to get past the attitude, That's what we've always done.

"Of the two FT crib attendants, one was laid off and the other retired. The person who was laid off was an inventory control specialist. He got a job elsewhere in that field rather than retrain in another type of work here. Since 2000 we have reduced our workforce by 25%, largely through attrition. We've also reduced workspace used. That crib space of 1500 sq ft is roped off today and we have two signs saying Future Development." Doug Brockman, Manufacturing Manager Lead from the Top "When Mike Bragagnolo joined Active Burgess as President in '01, he was completely new to Lean concepts. What is this Lean? he asked. Once he learned about Lean and saw what the results could be, he got behind it 100%. Without Sr. management support you'll spend time spinning your wheels." Doug Brockman, Manufacturing Manager Implementing a Pilot Cell "When we started to use Value Stream Mapping, we saw we had the wrong job on the wrong machine a lot of the time. This greatly increased our lead-time and blocked flow. We needed to separate our products into families to get better flow.

"We saw the amount of waste and how much could be saved. We saw how much time we lost as parts sat waiting between departments. "Our first test mould through the cell was a 2 cavity aluminum prototype tool for a side seat shield. Normally that would have taken 6-7 WEEKS from design to first try out. We did this in just 13 DAYS and received

grain approval from the customer to go to the next level.

"We have seen a 50% reduction in lead times and we're not done yet! "Cutting the lead-time reduces costs and that can open the door for innovation. This was the cell where we started a new product, non-automotive tool making. Applying our Lean practice we found ourselves competitive beyond our wildest dreams - with a brand new product!" Doug Brockman, Manufacturing Manager.

Lean Helped Cut Capital Expenditures "Prior to going Lean there was a fair amount of new high tech equipment purchased. What we found out as we went through the Value Stream Mapping process was that we weren't taking advantage of the equipment we already had in place. The Lean process forces you to maximize the use of equipment present to minimize the purchase of additional equipment." Mike Bragagnolo, President.

"Lean has really taught us how to do it better and helped us to understand how products need to flow. In our industry everyone wants the biggest, fastest machine available to be more competitive. With Lean, we realized we didn't need to spend that kind of money. In fact we've cut our capital expenditures significantly! We're constantly asking, How does that machine affect our flow?" Doug Brockman, Manufacturing Manager.

"Lean is one of the best ways to help you make better capital decisions - in fact it's the best I've ever seen!" Mike Bragagnolo, President.

"We've had a new piece of machinery come in and we used Lean principles to

determine whether or not it was essential to our business. Before the purchase we completed several tests to ensure this new machine was going to improve our process, result in elimination of waste and reduce lead times." Doug Brockman, Manufacturing Manager.

Implementing Standardized Processes in a High Craft Job Shop "We are now moving to implement standardized processes. We're moving away from Tribal Knowledge and a culture where everyone does it their own way. That's how things evolve in a craft-based industry but that's not always best. You don't want to have to learn everything by individual experience and gut instinct. It's going to be a real challenge and a major cultural change. "We'll use the phased approach again and start small."

Bill Brockhurst, Manager of Continuous Improvement Learn by Doing "We like people to learn by seeing and doing - it's not theory. We don't even call it Lean here. It's about 'best work practices' and a lot of common sense. Once you do the Value Stream Mapping, you really open your eyes to the waste and the savings." Mike Bragagnolo, President.

"Once you start to have successes, even small ones, it spreads quickly throughout the company. People really want to improve things when they see what can be done." Mike Bragagnolo, President "We had two formal blitzes to set in order.

There were two areas designated and we did it over four days. We applied what we learned from the first blitz and really saw phenomenal change after the second one. You could eat off the floor and we're sustaining it! Now we're rolling it out to the other

areas in the plant." Doug Brockman, Manufacturing Manager.

Committed to Lean for the Long-Term "We want people to see the benefits and run with the program. We want it to be long lasting and never go back to the way things were. That means we have to take our time. We are very committed to what we started." Doug Brockman, Manufacturing Manager.

"Change is hard and the best approach is to have the patience to let employees take it one step at a time." Bill Brockhurst, Manager of Continuous Improvement.

"If you talk to a Toolmaker on the floor today, he or she will tell you, I don't know how it happened but we've got a lot more work with less people and fewer problems. They will tell you that life is a lot easier today. That's great motivation." Mike Bragagnolo, President

Lean Training Tools

"Value Stream Mapping is important, it helps people see the benefit of good business practices." Doug Brockman, Manufacturing Manager.

Valuable Lessons Learned "From a Senior Management perspective, you have to spend time to understand the road you're about to go down. You have to be prepared to back it up with resources." Mike Bragagnolo, President.

"Communication is key from a Manufacturing Manager standpoint. You have to

communicate the goals to every employee throughout the organization and then you have to work with them to help them understand the process. That takes time, it's a long haul." Doug Brockman, Manufacturing Manager "It's important not to attempt to go too fast. There's a beginning and not an end - it's a journey that keeps going, keeps getting better." Mike Bragagnolo, President.

"You need to keep things on track and keep your eye firmly on your Future State Map. "When developing a culture of change it is key to have the coordinating position at a level where it is very obvious that change is important. When developing and implementing change it's critical to assess how much change can be managed at a given point in time. You also need a very methodical approach to reach your Future State. If you don't have a plan to manage the change process, you risk delaying or voiding the improvements." Bill Brockhurst, Manager of Continuous Improvement

Next Steps "In a way you keep tripping over the next steps. You use Value Stream Mapping to map another process as it comes up and there are always more opportunities for improvement. We will now go the next step, flowing a mould, and change the way we're organized by making one person responsible (the Value Stream Manager) to keep making the improvements and removing the waste." Doug Brockman, Manufacturing Manager "We've got some aggressive goals. In building fascia moulds we have a challenge to reduce build time by 50% over the next six months! ." Doug Brockman, Manufacturing Manager.

Next Steps List

-
- » Implement the Standardize and Sustain elements of 5S guided by the Future State maps
 - » Improve communications between Design and Production by moving Design closer to the shop floor
 - » Reorganize from the traditional departmental process to Value Stream Management
 - » Move carbon cutting and the whole EDM function to their final resting place in the Future State plan
 - » Add Flow to the building of components