

# Success Story

Lean Manufacturing

Brillcast inc.

## Finding Profit in the Process

Brillcast leads the industry as an innovator in decorative and functional zinc die castings. The company excels in the manufacturing of small precision castings and very large decorative castings used by the most demanding customers in their industry.

Brillcast is one of the few die cast companies with machines ranging from 8 to 900 ton. The company's machines, processes and team members produce superior castings able to hold very tight tolerances and yet provide great finishing characteristics.

### The Problem

Brillcast faced increased pressure from one of its largest customers to further reduce cost and improve lead times beyond previous expectations. The company requested a 5% price reduction on top of a 3% price reduction the previous year. To comply with the requests, Brillcast would have to make significant improvements in several areas of their production processes and plant layout.

During production, products traveled through multiple work centers. Unfortunately, because of complications in the production flow, in-process components spent a significant amount of time waiting at a work cell for the next operation to become available. This was where Brillcast found the biggest opportunity for improvement.

### Defining Success

Brillcast turned to the team at MMTC-West, and their expertise in lean manufacturing, to help build efficiency and improve production flow.

A team was assembled to focus on reducing cost, improving quality and reducing lead time throughout the plant. Specific objectives included:

- Increase the value added per square feet by 20%
- Increase efficiency within assemble and inspect by 50%
- Reduce the number of times the unit is transported
- Save \$50,000 to \$60,000 per month (including rent, packaging, efficiency, labor, transportation).

The objectives were based on a strategy of consolidating all the operations to the main facility, creating standard work cells and improving production efficiency.

Consolidation into the main facility would generate savings in leases, utilities and employee travel costs.



**BRILLCAST INC.**



Improving production processes would create additional savings by reducing extra handling, creating better flow, and improve efficiency.

### The Solution

MMTC-West facilitators began by assembling a team to document the current condition. This involved calculating the current value added per square feet, the distance and number of times product is transported, and conducting time observations.

The current value added per square feet was calculated at 5.02%. This was determined by measuring the work surface and work space used by the operator to perform the task and dividing that number by the total available square feet.

“MMTC lean manufacturing experts improved production flow and increased efficiency that saved thousands of dollars a month in lost time and facility space.”

*Jeff Doombos, CEO, Brillcast inc.*

The team also documented that there was an average of 1,839 skid transfers per week. The facility had 14 available forklifts, which were used 190 hours per week and required constant investments in propane and maintenance. At the same time, employees traveled 985 miles per week back and forth between facilities.

The team’s time and waste observations discovered several common repetitive processes that occurred during production that could be improved. For

example, the team found that a significant amount of time was wasted wrapping, packing, unpacking, and unwrapping individual components at each work cell. The team knew that there had to be a better way.

### Results

The team’s documentation and observations provided them with multiple opportunities for improvement. MMTC-West facilitators worked with the team to create operator balance charts to identify the cell contents and balance production and part flow. MMTC experts also helped the Brillcast team create a master plan for the new layout.

This change linked the inspection into the assembly processes, ultimately moving some of the assembly work to the inspectors. More importantly, once the part is unpacked and unwrapped, it is not repacked until it is a finished part.

By creating dedicated collaborative work cells, weekly order times were reduced by almost 50%. The team worked with vendors to better manage orders and inventory, and reduced packaging costs by \$9,382.50 per month. The consolidation reduced the need for forklifts by two units, saving the company the rental and propane costs. There was also a cost and time savings by reducing skid movements from 1,839 per week to approximately 640.

