

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### Central Metal Finishing Inc

#### Massachusetts Manufacturing Extension Partnership

#### Metal Finishing Company "Shines" as a Result of GSN Lean and Clean Project

##### Client Profile:

Founded in 1977, Central Metal Finishing Inc. (CMF), is a service business which applies precision functional plated or anodize coatings which are specified to enhance the capability of the customer supplied product to meet engineering requirements such as corrosion, wear resistance and other value added characteristics. Central Metal Finishing Inc. has maintained supplier approvals to perform specific processes for GEAE, PWA, Lockheed Martin, Rolls Royce Aerospace, Ford Motor Company, Boeing Aircraft, Textron Defense System, Bell Helicopter, Honeywell Systems, and other prime manufacturers. CMF services over 200 customers and has developed business relationships with manufacturers throughout the U.S., Europe, Canada, Turkey, and India. CMF has facilities in Windham, New Hampshire and North Andover, Massachusetts. The North Andover facility employs 50 people.

##### Situation:

In 1998, due to a downturn in aerospace and military business, Central Metal Finishing began pursuing high quality industrial applications such as electronics, automotive, and other industries which require specialty coatings. In 2003, the company added a second manufacturing location to provide for capacity expansion, space for development of new processing services and replacement processing capabilities that are more environmentally accepted. Pratt & Whitney, one of Central Metal Finishing's largest customers, nominated Central Metal to participate in a pilot-project aimed at improving the overall competitiveness of U.S. based Aerospace Supply Chains. The Green Suppliers Network (GSN) is an innovative industry-government partnership that links the combined resources of multiple aerospace original equipment manufacturers, including Boeing, Lockheed Martin, Northrup Grumman, Pratt & Whitney, Raytheon, and United Technologies to the Environmental Protection Agency (EPA) and the Manufacturing Extension Partnership, a program of the National Institute of Standards and Technology (NIST).

The GSN Lean/Green Manufacturing program is designed to help small and medium sized manufacturers to remain competitive across multiple aerospace supply chains. The GSN works with all levels of the manufacturing supply chain to achieve environmental and economic benefits. The overall objective of this process is to identify cost saving opportunities and methods for optimizing resources and technologies by eliminating waste. NIST contacted Joe Rizzo, Lead Project Manager for the Massachusetts Manufacturing Extension Partnership (Mass MEP), a NIST MEP network affiliate, and alerted him that a local company was interested in the GSN program.

##### Solution:

To begin the assessment process, CMF filled out a questionnaire which captures information on the company's business and operating metrics. The data was entered into an internet software program that compared CMF's metrics other companies in the same or similar industries. The software provides a numerical graphic report outlining projected savings in nine different categories. Using the collected

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

data, value stream maps, and projected savings, Mass MEP presented a final report to CMF's president, Carol Shibles. The report showed that the company could expect to see an increase of approximately 25 percent of total sales, and a cash flow improvement of approximately 4 percent of sales, if these improvement goals were attained. Mass MEP and CMF's management team conducted a Value Stream Mapping Session and completed Current State and Future State maps for the Cadmium Plating operation. Spaghetti diagrams were done for both states. This exercise revealed significant reductions in the material and personnel travel distances with some relatively minor and low cost revisions to the plant layout. By observing first pass yields in the plating area, it was determined that the process could be enhanced significantly with a study of the masking operations. Improvements in yields would also eliminate four steps in the process and reduce the amount of material treated at the internal waste treatment plant. The GSN final report outlined ten recommendations for improvements that CMF could handle with their own resources. It also listed three key areas where the Mass MEP could provide Lean training and Implementation that would form the basis for a Continuous Improvement Program at CMF.

### Results:

- \* Improved productivity by 10 percent.
- \* Improved adherence to delivery by 5 percent.
- \* Established the capability to reduce lead-times.
- \* Estimated savings of \$100,000 for reduction in rework.
- \* Reduced toxic and hazardous material inputs and outputs.
- \* Reduced energy usage.
- \* Reduced process wait time.
- \* Improved efficiency of workforce.
- \* Improved capability to manage processing and problem solving.

### Testimonial:

"The goal I had for Central Metal Finishing Inc. from this program, provided by the Massachusetts Manufacturing Extension Partnership, was to achieve improvement in our competitive position operationally and environmentally. Based on our actions in the past six months, I project a savings of \$125,000. The total savings over an 18-month timeframe, which represents the timeframe to complete our project outline, is \$400,000. The most significant improvement which cannot be quantified is the capability and capacity of the CMF organization to understand the needs to be efficient in all that is done and to be flexible towards meeting the needs of the business and our customers."

Carol Shibles, President