



## Business Impact

**\$4.2M saved by**  
client in bearing  
replacement parts

Out of 170 machine  
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from **90% before**  
training implementation

# CASE STUDY

## Bearing Down on Inefficiencies: Cost Reductions Through Improved Asset Management

### Situation

One of the largest North American steel companies was losing millions of dollars in lost time and production with a bearing issue throughout its plant. Needing a root cause analysis, they called on GP Strategies® for answers and solutions.

### The Challenge

Our client, through the analysis of its AMEX quality system data, identified that bearing defects were the leading equipment reliability issue for its 170 machine trains. The causes of the bearing defects were improper or inconsistent installation 55% of the time and alignment issues 60% of the time.

 GP Strategies helped this client save **\$4.3 million** in **bearing replacement parts** during the first full year.

## GP Strategies Solution

Based on the findings in the client's initial analysis, the team at GP Strategies collaborated with client representatives from the maintenance and training departments, maintenance engineering, and labor relations to create a custom, multifaceted solution.

Initially, a performance improvement analysis was conducted using data and delays from their CMMS. Using Pareto and Root Cause Failure Analysis techniques, the team identified opportunities for performance improvement and recommended the following:

- Establish a vibration analysis program.
- Improve training and procedures.
- Provide additional diagnostic hardware.
- Implement a training program for bearing maintenance and shaft alignment.

Once the areas of improvement and solutions were identified, GP Strategies completed a task analysis, documenting all pertinent job positions, duty areas, skills, and knowledge elements pertaining to bearings and shaft alignment. The data was gathered via direct interviews with designated subject matter experts, including maintenance personnel, supervisors, and engineers.

From the raw data, GP Strategies synthesized the information formulating a listing of each duty area, its related job tasks, and supporting skills and knowledge elements. Each major task area was independently documented with its related core elements. The data was then analyzed to develop a structured report in which GP Strategies provided specific recommendations:

- Training curriculum
- Hands-on training aids
- Training prerequisites
- Training objectives
- Training delivery options

In concert with the client's employees, GP Strategies developed the training materials required to support the performance-based objectives for Bearing Theory and Maintenance and Shaft Alignment. The final deliverables were training programs specifically designed to address the deficiencies found through AMEX. The Bearing Theory and Maintenance course covered theory, lubrication, failure analysis, and maintenance of bearings. The Shaft Alignment course covered theory, methodology, measurement, thermal growth, and couplings.

The courses were piloted with supervisory personnel to ensure the accuracy of the materials. The courses are offered on an open enrollment basis to maintenance personnel and supervisors alike. Addressing the philosophy that "people should not fail when they go to school," the courses cater to various levels of ability and learning styles. The training is presented in such a way that it causes maintenance technicians to think before they act. It also provides them with an opportunity to practice their skills and build up their confidence prior to making repairs in the plant.

••• The developed courses cater to **various levels of ability and learning styles.**

## Business Impact

In the first full year of solution implementation, GP Strategies was able to save the client \$4.2 million in bearing replacement parts. Significant savings were also realized in equipment uptime, including reductions in human defects. A recent vibration analysis finding showed that out of the 170 machine trains, only 23% needed repairs, down from 90% before the implementation of training. In addition, the client was awarded the North American Maintenance Award for this initiative.



- For more information about GP Strategies' ASSET MANAGEMENT solutions, visit [www.gpstrategies.com](http://www.gpstrategies.com).

## About GP Strategies

GP Strategies is a leading workforce transformation partner—one of the few truly dedicated global providers in the marketplace providing custom solutions. We believe our transformation focus, when paired with deep listening, a customer-centric approach, and innovative expertise, enables our clients to routinely achieve superior business and operational results from our evidence-driven and technology agnostic recommendations.

Whether your business success requires a change in employee performance and mindsets, learning technologies, or critical processes, GP Strategies is the transformation partner you can trust.

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