



# CASE STUDY

## Implementing Improvement Strategies *Reliability Engineering Training*



### SITUATION

*The client is headquartered in South America and its core business is to transform steel scrap and iron ore into steel products. The client produces long carbon steel, long special steel, flat steel, and forged and cast parts. These products are used in different sectors, such as industry, metallurgy, farming and livestock, civil construction, automotive industries, petrochemicals, railway, and naval sectors in addition to orthodontic, medical, and food areas. The client is also the main supplier of specialty steel for the international automotive network. With over 330 industrial and commercial units and more than 45,000 employees across 14 countries, this client is the largest producer of long steel in the Americas and the 14th largest steelmaker in the world.*

### The Challenge

Many industrial facilities are plagued with unreliable equipment and non-standardized work processes, and the client faced many of these same issues. The Maintenance and Reliability Director for the client understood that these challenges needed to be addressed, but also realized that he just didn't have the resources and processes in place to perform the necessary FMEAs and RCAs required in order to properly mitigate equipment failures and production downtime.

Although there were certain engineers who had been trained correctly to conduct these analyses, there was still a lack of qualified personnel with the relevant experience and knowledge of Reliability Engineering Principles that would be needed for the amount of work. The client previously didn't allow promotions for those without four-year college degrees, so they didn't have enough people to solve all of their problems within. However, once they were struggling to make customer commitments and saw their pricing became less competitive, they knew they had to take action.

Not only did GP Strategies save this company almost over **\$2M ANNUALLY**, a floor employee said **"I GET MORE**



**DONE. AND IT'S EASIER."**

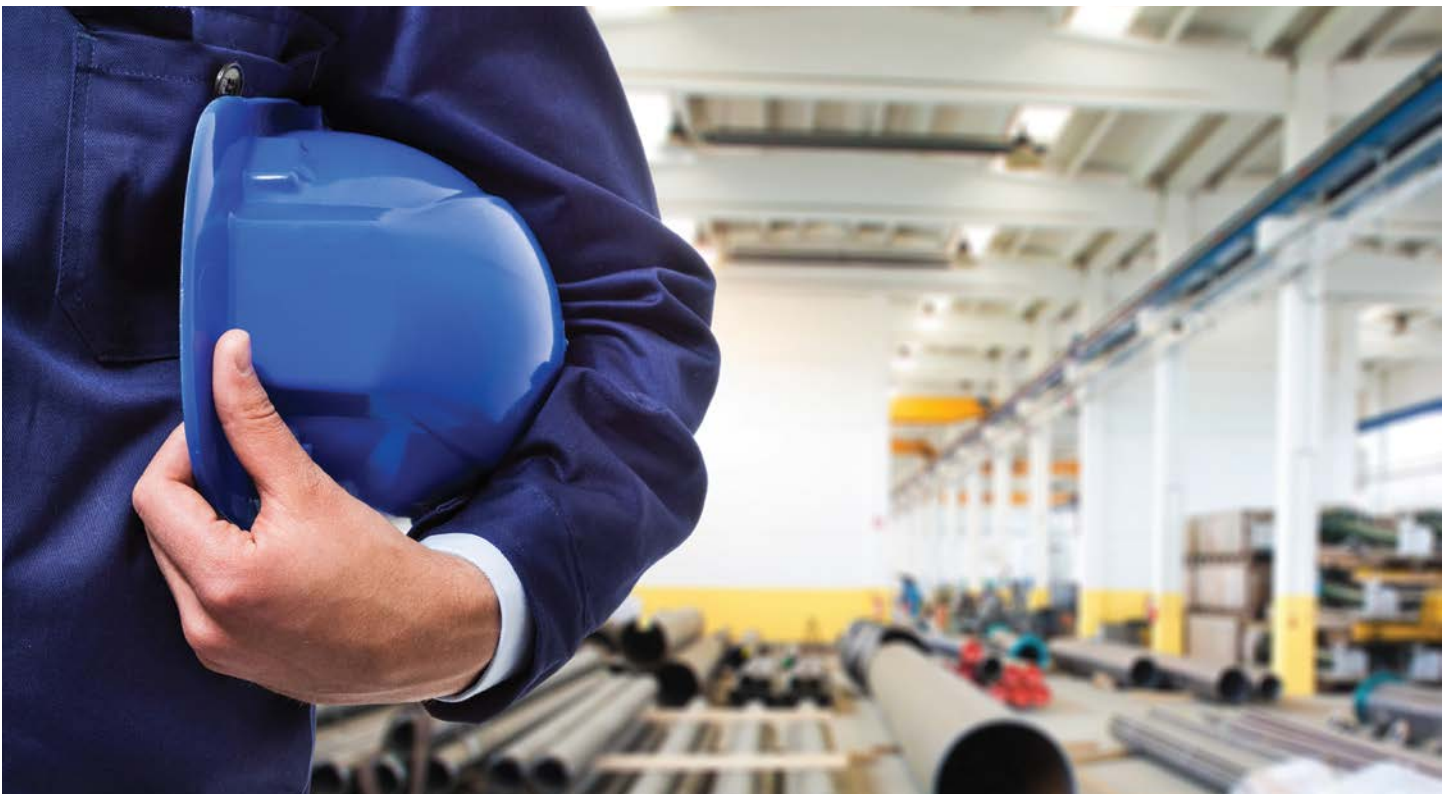
## GP Strategies® Solution

GP Strategies was selected as a consultant to help upskill their employees through training on the best practices of Reliability Engineering. It was determined that a two-week customized Reliability Engineering course needed to be created with specific input from the client.

Topics from the course included:

- Roles & Responsibilities of the Reliability Engineer
- SAP's Role in Reliability Engineering
- Criticality Analysis
- FMEA Principles
- Streamlined Reliability Centered Maintenance
- Equipment Maintenance Plans
- PdM - Predictive Maintenance Technologies
- Root Cause Failure Analysis
- PM Optimization
- Work Execution Management Best Practices
- Failure Analysis
- Team Facilitation
- Reliability-Based Lubrication
- KPIs
- Introduction to Reliability Engineering
- Failure Modes Analysis
- Reliability-Centered Maintenance Basics
- Root Cause Failure Analysis
- Work Procedures Development
- Maintenance Planning & Scheduling
- Operator Care
- Lean Work Environment
- Metrics & Statistics

During this training, the client's employees were asked to identify and use real-world issues that pertained to their facility as examples, and action items were assigned to be completed after the conclusion of the class.





## Business Impact

After the training facilitation was completed and action items were identified and assigned, GP Strategies set up six follow-up WebEx events, averaging 90 minutes each in order to follow up and support coaching initiatives and Reliability Engineering assignments that were identified for completion.

These action items were reported on and feedback was provided at each of the WebEx meeting events. Virtual Coaching was also offered on an as-needed basis for program sustainability.

These follow-up workshops, combined with the initial Reliability Engineering training, helped to create a cross-functional environment of collaboration that didn't previously exist for this client. This combined approach to training and coaching helped the client achieve the structure needed to increase efficiencies and minimize equipment failures by aligning standards, processes, and best practices among the different facilities.

GP Strategies' extensive experience in the steel industry allowed for the following cost reductions:

**\$1.3M Per Year**  
Mill changeover cost reduction



**\$0.5M Per Year**  
Furnace uptime cost reduction



**\$1.4M Per Year**  
Transferring routine maintenance to operators cost reduction



Billets between Cobbles  
120 in 2002    668 in 2003  
over 3,000 in 2004

Realizing cost savings is always an enormous part of any GP Strategies implementation, but perhaps the most evident indication of success with this project is a testimonial taken straight from one of the employees on the floor, "I get more done. And it's easier."

For more information about GP Strategies' **ASSET MANAGEMENT AND MAINTENANCE AND RELIABILITY EXCELLENCE**, visit

[www.gpstrategies.com/solution/technical-engineering/asset-management/](http://www.gpstrategies.com/solution/technical-engineering/asset-management/)

## About GP Strategies

Founded in 1966, GP Strategies delivers performance improvement programs that strategically align with your unique business objectives and differentiate your global workforce, leaders and salespeople to ensure business excellence. Our sole focus is performance improvement, and everything we do, from technical and compliance training to process improvement and human capital technology integration, is focused on helping your organization deliver meaningful results. Visit [gpstrategies.com](http://gpstrategies.com) for more information.

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