



White Paper on Continuously Improving Manufacturing Productivity

How can you continuously increase plant output?

Every manager wishes to improve plant performance. However the day to day task of managing labor, materials, and inventory can be very time intensive. Coupling that with an endless parade of meetings and it seems like there are not enough hours in the day to just meet the schedule. In addition, high levels of safety and quality must be maintained throughout each and every shift, leaving the plant manager with little time to address potential improvement opportunities.

Plants were designed to produce products. They were not designed to automatically improve their throughput. Traditional methods for increasing output typically involves purchasing newer and faster equipment, adding labor to specific lines, and/or utilizing engineering expertise to modify processes.

Although effective, these solutions usually produce a one-time boost and so the question remains, “How can you continuously increase plant output?”

Or more importantly, “How much more money can be made by running a more efficient operation?”

The Game Has Changed

The days of MBWA (Management By Walking Around) are no longer useful, and effective communication is becoming a requirement for company success. However there exists a noticeable gap between communication and the mere exchange of data in plants that could be more meaningful. If proper communication does not take place throughout each aspect of the company, important information can be constantly overlooked causing problem solving to be more difficult than it need be.

One of the key components of problem solving is effective communication with valid and useful data. Although the idea may seem simple, the challenge lies within the implementation. Do we have good data? What does it mean? What topics should be covered and how often? Who designed the flow of information?

When asking why things are done a certain way, “That’s the way we’ve always done it.” is too often the answer. Processes are repeated and recycled through generations due to a sense of comfort and familiarity. But to achieve significant improvement, you need to challenge the process and ask , “Why do we do that?”

The solution to these issues is ProdoTrak^{SM/TM}, which is the culmination of over 25 years of operations knowledge and expertise, technology utilization, and continuous process improvement. It brings together people and data in order to achieve sustainable levels of higher output on the plant floor and in other areas of the company. On the following page is an example of the impacts that have resulted from ProdoTrak^{SM/TM}.

Case Study: Mid-Size Mfg Bolingbrook, IL

The company analyzed in this study is a mid-size spice blending company operating 8 blending lines and 13 packaging lines with approximately 300 employees. Their buildings are over 200,000 square feet, with 60,000 square feet allocated for production.

This company was on the tail end of a rapid growth curve and stabilization and increasing throughput was a top priority, and thus, the company decided to implement ProdoTrak^{SM/TM}. Although their systems at the time were providing adequate reporting and were showing record throughput produced each quarter, management strived for further improvement. With the utilization of ProdoTrak^{SM/TM}, the company was able to achieve the following significant results:

Result 1: An immediate boost of 10% in plant throughput

After working through the changes involved in conforming to the new way of managing plant performance, there was an immediate boost of 10% in plant throughput within the first 90-120 days of implementation. This outcome resulted without the addition of labor, the purchasing of new equipment, or the substantial re-engineering of processes.

Result 2: Specific lines showed an increase of over 25% in throughput

Once the company had successfully adopted the new methodologies, work flow processes, and reporting of ProdoTrak^{SM/TM}, a new project was undertaken. This included special emphasis to the lines that were producing significant revenue for the company, which were the All-Fill Lines. There were 3 lines of this type, and the line that was the most utilized, Line 3, was chosen. A project specification was developed which included consulting and analysis time, along with necessary modifications to ProdoTrak^{SM/TM} and the purchase and setup of a TargetMonitor^{SM/TM} hardware unit. The initial project specifications showed that with a 25% increase in throughput the ROI was 1.6 to 4 months or a 2 to 1 return in 3 to 8 months.

However, the actual payback far exceeded the company's expectations. The throughput increase resulted in a 7 to 1 return in 3 months, and this increased level of performance was maintained after the project.

Result 3: Turnover was reduced from 20% to 6%

Management also decided that there was a growing problem that needed to be addressed:

“How do we retain good people on the plant floor?” As a non-union shop, an enhancement to ProdoTrak^{SM/TM} was discussed, formulated, and produced. This was named “Employee Pay Per Performance,” and it included the integration of the following metrics: time and attendance, safety, quality, and training by operator. This integration resulted in the production of an operator score card and summary report.

All employees were given access to their individual scores and the process was also integrated into the human resources department review process. The results were simply astounding, within six months after implementation, turnover was reduced from 20% to 6%.

Result 4: A 20% increase to the bottom line

Not satisfied with the gains already achieved, the company sought to continuously improve in as many areas of as possible. This was done by expanding the tools, processes, and methodologies of ProdoTrak^{SM/TM} combined with its own philosophy and processes. Specific technology was developed for sales, purchasing, and R&D adding to the existing areas of operations and maintenance. As a result, the system has become a go-to source for analyzing company information and has helped improve the overall company profitability.

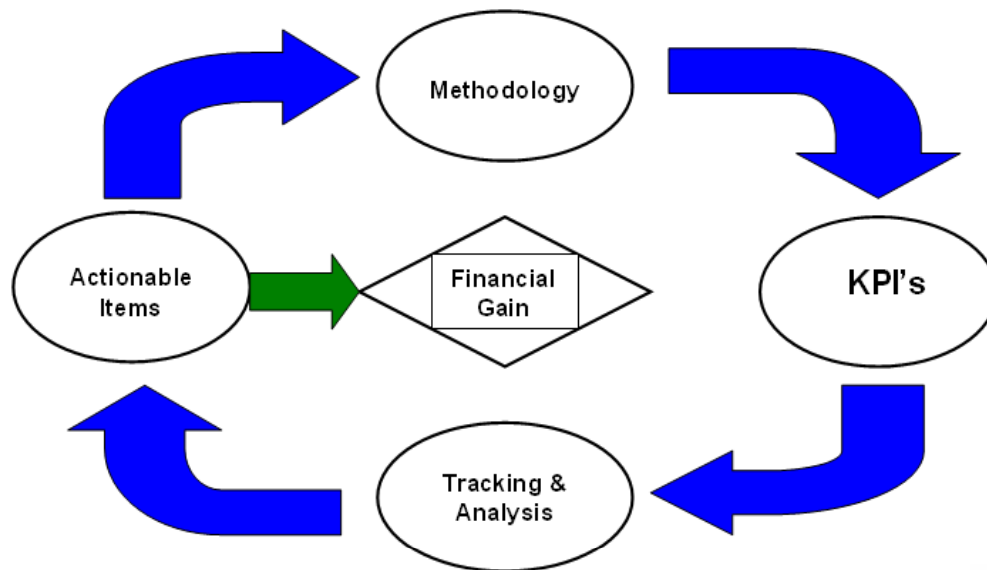
The company directly attributes **20%** of its bottom line **every year** to the continued use of ProdoTrak^{SM/TM}.

Additional Result: A reduction of energy footprint of greater than 90%

Understanding the importance of sustainability, the company sought to reduce its footprint, and by utilizing all of the tools at the company’s disposal, they were able to receive the Illinois Governor’s Sustainability Award in 2015 for achieving Zero Landfill.

There are three fundamental criteria to measure a facilities impact on the environment: total energy use, total water use, and total waste to landfill, and if these criteria are normalized against production, measurements can be made for future improvement and in relation to competitors. Through the use of ProdoTrakTM, the company was able to achieve a documented reduction of its environmental footprint with an energy reduction of greater than 90% per unit of production, water reduction of greater than 85% per unit of production, and water to landfill reduction of 100%.

Critical Elements of the Continuous Improvement Cycle



With a defined methodology, KPI's and the right tools, management can begin to increase profitability

In the past, the discussion has mostly surrounded around KPI's or Key Performance Indicators. This philosophy is embraced and improved upon through the use of Prodotrak^{SM/TM}.

All the elements of an effective continuous improvement process are defined in the methodology and KPI's. But it is the technology and implementation that makes the all the difference and the financial gain a reality.

Enterprise Resource Planning (ERP), Supply Chain Management (SCM), Shop Floor Control, Customer Relationship Management (CRM), Statistical Process Control (SPC), and a host of other software based solutions all manage part of the problem.

What is the problem?

The problem is maximizing profits. For manufacturers that can only be done in 3 ways. The first is by reducing operating expenses, the second is by reducing inventory, and the third is by increasing throughput. It is in this third area where ProdoTrak^{SM/TM} achieves the most success.

Regardless of your philosophy, whether it is World Class Manufacturing, Lean Mfg, Six Sigma, Kanban, Total Quality Management, or Total Productive Maintenance, they all strive to achieve the same goal. However, without adequate visibility, people intimately involved with the right data from the beginning, and proper data engineering expertise, performance gains cannot be sustained.

Summary

“Clarity Through Data Driven DecisionsTM” is our philosophy. If you don't have clarity, then what are your decisions based on? Plants or plant groups should always be striving to improve, and hiding poor plant performance in the P&L with other aspects of the business does not solve the root cause of poor performance.

The solution can be summed up in one word: **Empowerment**. The people that manage and run the plant must be provided with the tools and methods to see where and how to continuously improve. Only then can they not only be held accountable for their efforts, but also rewarded.

About Strategic Performance Company, Inc.

Strategic Performance Company, Inc. has been helping manufacturers increase performance since 1992 with its complete line of Downtime and Efficiency Tracking Products, Engineering/Operational Consulting Services, System Integration Offerings, and Custom Tool Development all geared toward increasing plant profitability.

For more information you can email us at info@3dspc.com . 12-23-21