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INTRODUCTION

We've all seen it! Growing inventories, excessive defects, late deliveries, unnecessary material handling and inadequate production capacity are just a few of the paramount problems many manufacturers face every day. Manufacturers continue their search for answers to these problems and still find themselves stressed out and losing their hair as they watch the bottom line continue to plummet. While tax incentives are offered for new capital expenditures manufacturers are finding that even with new equipment performing at a higher throughput rate and greater precision the symptoms are not going away and the problems are growing while the bottom line is shrinking. While the frenzy continues the customer requirements continue to evolve in an ever changing market place making it more and more complicated for the manufacturer to survive in a market place filled with sharks. Unfortunately, the manufacturer is left asking, "Where is the answer?"

Since 1998 there has been a growing movement happening in North America that has been providing the answers that many have been looking for. As a result of research documented in the book, *The Machine That Changed the World*, written by Wolmack, Roos, and Jones (1990), in 1998 many manufacturers began to look at what Toyota was doing that was enabling them to capture more of the automobile market share year in and year out. People referred to Toyota's method as the Toyota Production System. As a result, manufacturers and fabricators alike began to learn from Toyota's success and took notes of the principles which were being applied. The general message that was taken away from studying the Toyota culture was this, "identify and eliminate waste." Thus, the term "lean" was derived and a movement begun that is now bringing out a mass exodus of manufacturers and fabricators from seeing their bottom line from being in the negative to now recording record breaking profits for the year end. Typically, you would hear from mass volume producers such as the Terex Corporation or Caterpillar reporting these incredible results, but many reports are coming from small job shop manufacturers and fabricators as well. Lean works for any company of any size and is gaining world acclaim and recognition as the common practice in the industry today.

In conjunction with lean, another methodology that has emerged out of this movement came out of the Motorola Corporation after they were taken over by a Japanese firm in the late 1970's. A couple of engineers from Motorola were studying methods for reducing its warranty cost and defect rate which had sent Motorola back to the drawing board in order to determine how to regain its market share in the industry. As a result of much study and under the leadership of CEO Bob Galvin, these engineers developed a method that enabled them to improve and measure their overall quality performance to such an extent that they found themselves to be the first among many to achieve a production capability index of 3.4 defects per 1 million opportunities. This meant that for every 1 million opportunities where a defect could be produced in their end product, only 3.4 defects were actually found and reported! Needless to say, Motorola won the Malcolm Baldrige National Quality Award in 1988 and found themselves back

in the game again recapturing a large share of the market. Out of this was birthed the “six sigma” methodology that has many people, such as Jack Welch, advocating and implementing its principles in companies like GE and returning amazing results to the bottom line profitability of its organizations.

Today, many manufacturers and fabricators are combining the lean and six sigma methodologies together to accelerate their ROI in record breaking time. Manufacturers and fabricators who were once reporting losses for the quarter are now seeing profits for the quarter within three to six months time and in the end finding themselves sustaining profitability for the years to come. This growing movement is infecting many manufacturers and the like year in and year out. Many will agree that to achieve this level of success, the key lies in understanding the lean and six sigma methodologies and how to customize them to the unique challenges and needs that may face your specific organization.

WHAT DOES IT MEAN TO BE WORLD CLASS?

What makes many world class organizations so successful is in understanding that the goal is not just in becoming lean or performing at a six sigma level of performance, but rather the goal is to be a world class organization amid global competition in a world wide market place. However, lean and six sigma methodologies are powerful tools that can help you achieve world class status with your customers.

What does it mean to be world class? As customer requirements constantly evolve and economic generations come and go, world class organizations are able to supply any customer in any economic generation to meet customer demands. World class is a state of being it is not a destination. The root of the issue comes down to building trust with your customer. What the customer is really looking for is whether or not they can trust doing business with you. Isn't that right? Think about how you feel when you are choosing a doctor for your children. Don't you want to know that you can trust them before you allow them to treat your children let alone pay the enormous medical bill for their services? Cultivating and sustaining that level of trust with your customers is the number one priority in becoming a world class organization.

World class characteristics must be at the heart and soul of every organization. Characteristics like innovation, discipline, honesty, confidence, integrity, understanding and many more are all characteristics that when applied build trust with those you do business with. Think of it on an individual basis first. People like Michael Jordan, Martin Luther King Jr., Oprah Winfrey, Bill Gates are people who have separated themselves from the pack so much so that by merely mentioning their names implies a specific standard of performance. These characteristics must also exist within the heart and soul of every business.

These characteristics never change over time, whereas methodologies will come and go. The point to bear in mind is that lean and six sigma are powerful tools that can help reinforce these characteristics with your customers and move you from being ordinary to being world class. When you maintain the goal of being world class in your sight gauge then how you use lean and six sigma methodologies will always be directly related to customer requirements.

DEFINING LEAN

The NIST Manufacturing Extension Partnership Network has defined lean in this manner:

“A systematic approach towards identifying and eliminating waste (non-value-added activity) by flowing the product at the pull of the customer in pursuit of perfection.”