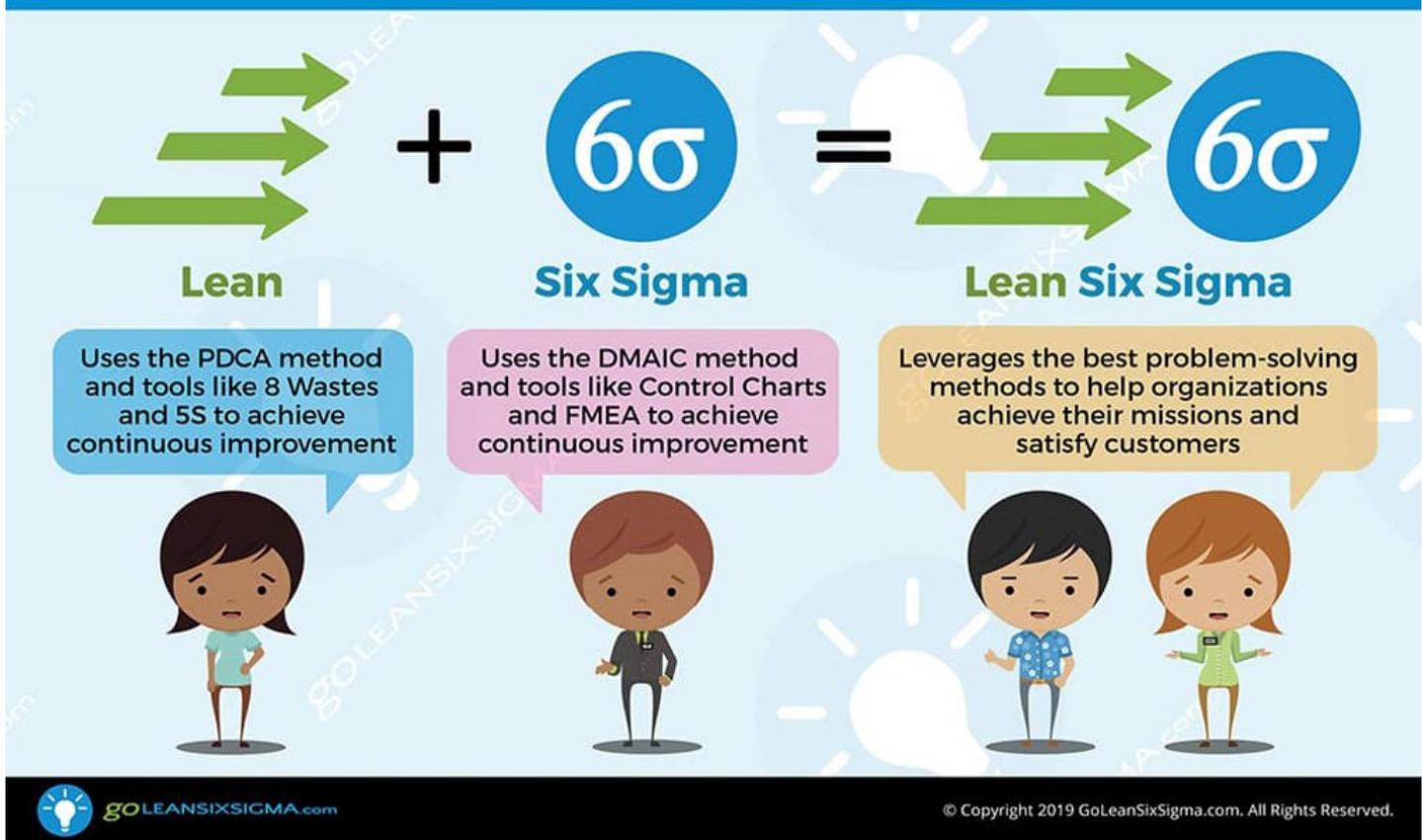


What Is Lean Six Sigma?



PROCESSES IMPROVEMENTS AT 3DATX: A CASE FOR LEAN SIX SIGMA

There are a number of process philosophies and improvement methods in the business world but, few are as popular or as effective as Lean Six Sigma. At 3DATX, these methods have had many positive impacts with far-reaching benefits for both the business and end-users. These methods are not only relevant to the PEMS industry or manufacturing but, have implications for any type of business.

UNDERSTANDING LEAN SIX SIGMA

Lean Six Sigma is the combination of two popular process methods. According to the American Society for Quality, "Six Sigma focuses on reducing process variation and enhancing process control, whereas lean drives out waste (non-value-added processes and procedures) and promotes work standardization and flow."

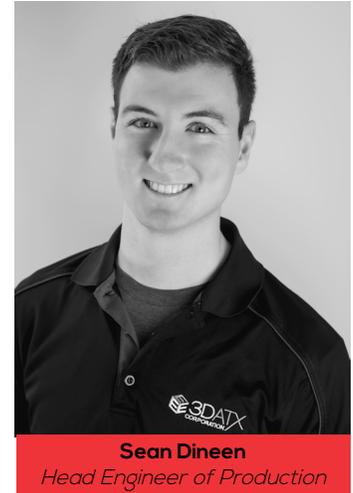
While the method may appear complicated at first, at its core it is very practical and straight forward. In the words of Sean Dineen, 3DATX Head Engineer of Production and a lean Six Sigma Black Belt, "It's commonplace stuff that everyone should know, but it's things you don't necessarily do every day." The method and training provide, "different tools to help you build off

of what you already know you have to – or should be – doing”.

CREATING A LEAN SIX SIGMA CULTURE

Dineen frequently heard about lean Six Sigma while pursuing his degree in electrical engineering. He had always been interested in the program, so when 3DATX offered to sponsor his training and certification he jumped at the chance. It didn't take him long to appreciate the benefits the methods could have at his company.

Lean Six Sigma certification ranks progress through a color-coded belt level system, similar to martial arts mastery. The progression is white belt, yellow belt, green belt, black belt, and master black belt. Dineen's eagerness to apply what he was learning propelled him to accelerate his training, earning his black belt certification in just under 6 months. With his black belt certification in hand, he got to work on implementation and execution.



The first step was to share what he had learned with his colleagues and create a common language to ensure buy-in throughout the company. One of the tenets of the method is that all parts of the company must work together to fully maximize effectiveness. As Dineen explains, "There can't be culture where there's marketing vs. engineering vs. production. Everyone has to work in tandem, everyone has to work together". This collaborative approach forces transparency and accountability leading to better results.

Lean Six Sigma culture also differs from traditional corporate culture in another way. It emphasizes the importance of not falling prey to the notion that management always knows best. It teaches that including people from throughout the organization and listening to those closest to a problem is imperative. It goes so far as to categorize underutilization of talent as a "deadly waste". Involving and empowering people from all divisions and all levels of the company has further perpetuated the lean Six Sigma culture at 3DATX resulting in higher quality systems.

PROCESS IMPROVEMENTS AT 3DATX

The implementation of lean Six Sigma principles has led to countless process improvements at 3DATX. Here are two notable examples:

Enhanced quality control through sub-assembly – There are two levels inside the core 3DATX product, the parSYNC®. In the early stages, the equipment was only tested upon assembly completion. Although rare, when errors occurred, the entire system may have to be disassembled before the problem was identified and resolved. This was a timely and costly issue. Through the introduction of a sub-assembly step – inspecting and testing the product after the first level is installed – hours of time have been saved. Now, when errors are detected after final assembly, only the most accessible portion of the parSYNC® needs to be inspected, drastically speeding up resolution time.

Sustaining improvements and streamlining training – When the company was young and the team was small, each technician's method for assembling the parSYNC® would vary slightly. Defects were uncommon but, as with any manufacturing process, they would occur. As the company grew, proper documentation – one of the key principles of lean Six Sigma – alleviated

this issue and reduced the occurrence of defects. Further, this documentation streamlined training of new technicians and ensured that prior process improvements, like the sub-assembly step above, are sustained.

THE UNIVERSAL LESSONS OF LEAN SIX SIGMA

3DATX provides great practical examples of how lean Six Sigma can be applied. However, the principles don't just offer solutions for the PEMS industry and they aren't even exclusive to product-based or manufacturing businesses. In Dineen's assessment, there are multiple benefits that lean Six Sigma provides to any company:

It allows you to stay relevant and competitive - "Lean is continuous improvement...You could be the best right now but, give it two weeks, a year, and other products and other companies that kept improving may come along and take your place."

It forces you to put your customer first - The benefit of applying all the principles of lean Six Sigma is it creates an environment that enhances the experience for your customer in multiple ways. This is imperative because at the end of the day, "your customer drives your value."

It enhances communication and accountability - Especially in a time when more people are working remotely and teams are often physically separated, lean Six Sigma's focus on collaboration forces companies to keep relevant parties in the loop on all matters that concern them.

It saves valuable time, money, and resources - At the end of the day, the main priority of a business is to make money but, there is also an increased expectation of businesses to operate sustainably. Applying lean Six Sigma principles will help ensure you are able to reduce waste literally and figuratively, now and well into the future.

CONSIDER LEAN SIX SIGMA FOR YOUR BUSINESS

The positive impacts of lean Six Sigma have permeated to every corner of 3DATX and they are admittedly a stronger company because of it. If you are yet to tap into this training or apply the principles at your company, consider empowering one of your own employees by sponsoring their training. You will likely become a stronger, more resilient business as a result.