



## ***Lean Management and Six Sigma***

The drivers of quality and cost improvements in manufacturing today are embedded in Lean Management and Six Sigma practices. Concurrent Manufacturing Solutions, LLC. is a strong proponent and champion of these efficiency and quality drivers.

Our facility in Ozark, Missouri long ago adapted the work cells approach and organized for success. The plant underwent a transformation and has continued to serve as a model for the company ever since.

### ***The company is committed to the 5 S's:***

**Sort** – eliminate all the things in the workspace that are not being used and store them away.

**Set In Order** – arrange the items used on a daily basis so that they can be easily accessed and quickly stored.

**Shine** – everything is cleaned and functioning properly.

**Standardize**– develop routines for organizing your work spaces as well as visual cues to assist in the process.

**Sustain** – create a culture that follows the steps of 5S on a daily basis.

### **Safety - the sixth “S”**

Although traditionally there were only 5 pillars or steps in the system, Safety is such an important part of Lean Management that it was included in the overall process.

Recently these Lean Manufacturing Processes have been shared across all facilities and now other plants are reaping the benefits of increased efficiency. Most notably, their Matamoros Mexico facility has benefited from a number of Lean improvements implemented by the team and by the company's 6 Sigma Master Black Belt. Concurrent currently has four 6 Sigma Certified Green Belts, one Black Belt and a Master Black Belt to continue driving Lean Manufacturing innovations across all facilities.

Ian Turnbull, Concurrent's Lean Management Champion, recently shared some of the innovations that are being developed at our locations. According to Ian, at Concurrent Manufacturing Solutions, the Quality Management System is the foundation of quality and comprised of the activities required to implement quality management. These activities include organizing procedures, processes and resources necessary to monitor, measure, and control the actions, enabling us to improve performance. Inputs to QMS are critical for the early detection of problems and to ensure continuous improvement, for that is the only path to ongoing sustainability. This is the way costs are reduced and customer satisfaction guaranteed.

The painting process in Matamoros is currently an important area of focus. Improving this process is an important step in our Lean Manufacturing/Six Sigma efforts. Through the painting project, Concurrent expects to achieve a significant reduction in defects generated during the process, reducing rework and scrap costs, thereby increasing value to our share holders.

The strategic process includes many familiar Lean tools. Key performance indicators were defined in order to collect the right data about the processes. Error-proofing (Poka-Yoke) is used; Failure Mode Effect Analysis can be used to help determine risk, to delineate the effects of potential failure and to generate solutions. Root cause analysis is performed to get to the heart of the matter. The Five Why's problem solving and cause and effect analysis are additional tools used to drive failure analysis to root cause.

A key element in Concurrent's Lean Management program is the Visual Factory/Management approach which uses visual aids to point out the steps of the process and to communicate process data so that they can be monitored at every point. Another technique is the Quick Changeover method enabling reduction of set up time by having all tools and materials available and ready for use. For example, the Press-fit presses are programmed to search for tools thus allowing the operator to load tools wherever necessary and shortening set up time. Additionally, the SMT Line maintains some magazines preloaded with components for high running assemblies with high component counts (requiring long set-up times). One of the foundations of Lean Six Sigma requires that the workforce be cross trained in multiple skills, increasing workforce flexibility and shortening downtime that hinders the process. The added benefit of this practice is that the workforce becomes more fully engaged because they appreciate learning new skills.

Utilizing readily available data and performing analysis has enabled Concurrent to make changes in existing processes by identifying areas for improvement and taking needed action to remedy. When examining the process scientifically, the apparent flaws in the process are apparent and allow the team to not only fix the instant case, but put into place a process that will be sustainable over time and for many customers.

### **About Concurrent Manufacturing Solutions**

Concurrent Manufacturing Solutions LLC offers manufacturing solutions as a valued partner to OEM Manufacturers of electronic assemblies. Concurrent provides a range of production design and contract manufacturing services including cable harnesses, printed circuit boards, backplanes, metal enclosures and complete box build services, all at competitive prices with world class quality, delivery and service. Concurrent has its business headquarters in Hialeah, FL and operates facilities at locations in Florida, Missouri, Texas and Matamoros, Mexico.

[www.concurrentmfg.com](http://www.concurrentmfg.com)