Schlumberger Owings Mills Improves Processes, Efficiencies with *STATISTICA Enterprise-wide SPC System (SEWSS)*

BACKGROUND.   Schlumberger Owings Mills Advanced Card Center is a manufacturing center for smart cards and magnetic stripe cards in the United States. A smart card is a plastic card, the same size as a banking card, with a silicon chip embedded in it. A microprocessor smart card's chip contains a miniature computer that can perform calculations and store data in its memory. The card is "smart" because it is "active", in that it can receive information, process it and then "make a decision."

CHALLENGE.   In 2001, Schlumberger Owings Mills Advanced Card Center Management faced the challenge of reducing costs from a product line experiencing a reduction in average selling price. Management decided to use Lean Sigma, a methodology for improvements through waste reduction and variation removal, to address this need.

SOLUTION UTILIZING *SEWSS*.   The implementation of an SPC Program was performed in three major steps: 1) Altering the layout of the production process, 2) organizational changes, and 3) empowering employees with information and SPC tools.

The first step was to change the layout of the plant to incorporate Manufacturing Cells, Inventory Kanbans, and 5S (see references for more details). The next step was to establish high performance Teams, including Total Productive Maintenance (TPM) and Setup Reduction, and a problem solving process.

These teams wanted more information from the process. *STATISTICA Enterprise-wide SPC System (SEWSS)* is a software tool used to provide process information and facilitating the approach to chronic problems. *SEWSS* is used for data collection from each manufacturing cell, real-time Quality Control charting, and ad hoc analyses for needs such as Design of Experiments (DOE). With *SEWSS*, teams are easily trained in 1-2 hours to create and interpret control charts for quality control and supporting continuous improvement efforts of their manufacturing cell.

Data summaries and analyses are easily and automatically aggregated into HTML reports for problem solving presentations to the Steering Committee and Customers (both Internal and External).   To improve insights into the status of key processes, Schlumberger Owings Mills uses *SEWSS* to automate the generation of key reports in HTML for daily review by the management team every morning.

Teams also use Pareto analysis, process capability, and various charts to determine and focus their attention on the most important inputs of the process. One example involves a team who was tasked with improving printed graphical registration. The Team started by collecting data from the product produced in their manufacturing cell. After removing special causes and providing a stable process, a process capability study was performed resulting in a Cpk value of 1.04. After providing a root cause analysis to determine potential sources of variation, it was realized that controlling an upstream process would result in Cpk values of >2.0.

In support of the cells, Quality and Engineering are also able to view the same process data from their workstations or from any computer on the floor. Another feature benefit is that manufacturing cell Facilitators are notified of out-of-control conditions with automatic email, enabling them to respond and support in cause analysis.

RESULTS.   The above examples show the importance of a comprehensive SPC program that includes the combination of process and organizational changes along with the utilization of SPC tools to improve processes and efficiencies. The *STATISTICA Enterprise-wide SPC System (SEWSS)* empowered the Schlumberger Owings Mills Teams and management staff with the information and analyses to understand and improve the processes.