3M France Uses *STATISTICA Enterprise* for its Manufacturing Process Control

Pierre Mazoué is the Quality Manager at 3M Beauchamp. He is very happy with the implementation of *STATISTICA Enterprise* on the production lines. He explains how this tool creates a "visual" manufacturing process control system that also eases the continuous quality improvement process and at the same time, saves considerable time when accessing the data.

About 3M

An uncontested leader in research and development, 3M is producing thousands of imaginative products for scores of markets. 3M success begins with the ability to apply more than 40 technologies – often in combination – to an endless array of real-world customer needs.

3M employs 79,000 people worldwide and has operations in more than 60 countries.

In France, with 13 different sites including 11 plants, 3M employs around 3,000 people. The Beauchamp site is manufacturing Post-it® notes, Scotch™ adhesive tapes, and Scotch-Brite™ integrated abrasives.

Visual Manufacturing Process Control

STATISTICA Enterprise has been used at 3M France for more than ten years. The operators record quality measurements in a database, and *STATISTICA Enterprise* creates visual displays of the possible drifts in quality control charts. The use of SPC runs tests can uncover trends and help operators to adjust the manufacturing process according to pre-defined rules.

With many Six Sigma projects implemented at 3M France, it was important to maintain the progress achieved with these projects and keep the processes and the variables critical to these processes under control. With this purpose in mind, quality control charts with specific parameters have been deployed.
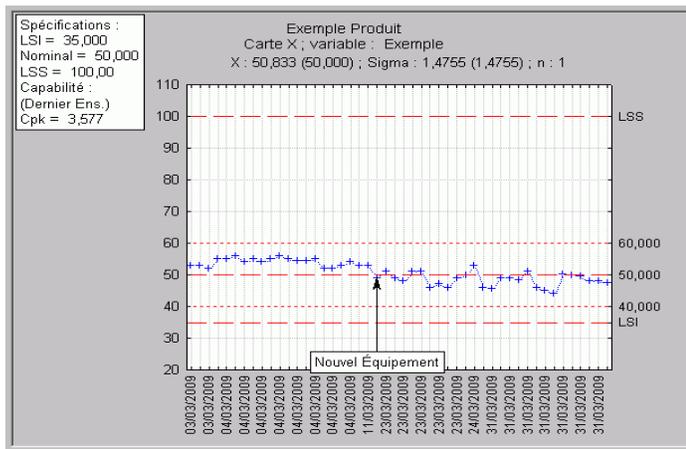
Monitoring Critical Process Parameters

The process parameters, already recorded in a database through automated supervision systems, are also monitored with quality control charts.

Comments

Comments can be assigned to singular points. A comment is entered as soon as possible by the operator, or later the next day by a technician or an engineer when they review the charts These comments help with keeping track of the cause and

Continuous Improvement

The deployment of the Lean method on the shop floor supports the continuous improvement that is driven by visual performance indicators on the workstations. With this respect, the *STATISTICA Enterprise* charts displayed on the device monitoring screens enable instant adjustments in case of quality or performance drifts. Having those indicators updated every minute with no additional resources is essential to analyze the trends and take relevant actions.

New Operating Indicators

The SQL language available in *STATISTICA Enterprise* to retrieve records from the database allowed creation of new indicators that are made available weekly to the operators and their management:
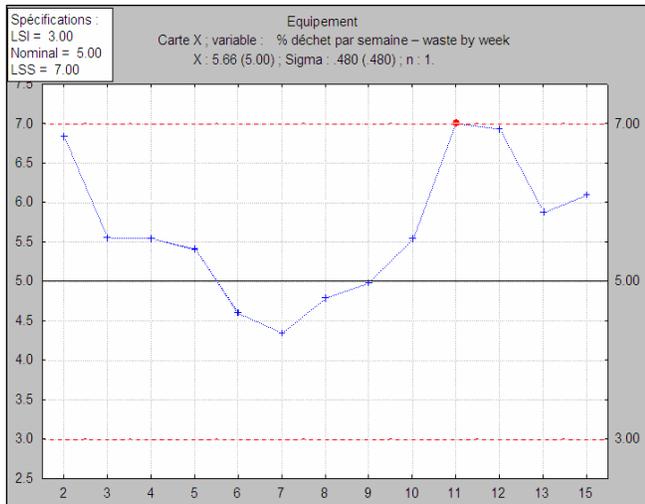
- The percentage of quality measurements entered in the database

- The percentage of acceptable incoming material (indicator of supplier's quality)

- The number of defects by type and by week

- The manufactured outcome by input lot

- The percentage of waste by week. As can be seen in the graph, the waste from week to week has a lot of variability and this is something to be investigated.

Monitoring Cpk

Statistics such as Cpk, which are also reported in the quality control charts, assist the manufacturing technicians and engineers with their data analyses and allow new projects to be implemented in order to reduce the non-quality costs.

Dashboard Cpk

The 'Dashboard Cpk' monthly review enables the management to ensure that the manufacturing processes are under control and also to challenge the engineers with new projects.

Summary

STATISTICA Enterprise is a tool that delivers continuous and useful information to the various individuals involved at different levels of the business. It adds a visual dimension to statistical process control and helps us review indicators of interest without any time lost to access the data.
The staff at StatSoft France helped us substantially to implement the software and optimize its use.

P.Mazoué, (April 10, 2009)