

Process Improvement

In a competitive world, organisations are constantly striving to improve their processes, whether the motivation is to offer better quality products or to reduce operating costs.

But most processes depend upon a number of generally non-linear, interacting variables and it is often hard to understand the effect that changes in these variables will have on the output of the process.

A Better Way

The traditional approach is to create a specific model of the process and through calibration and experimentation gradually to improve output quality. The drawback with this approach is that it is a specialist and time consuming task to develop effective models.

What if there were a better way? It would not require specialist skills, it would not require a bespoke model of the process and it would use existing process measurement data.

There is a better way: Analytical Decisions' Process Performance Analyst (PPA)—a software tool that extracts value from your historical data.

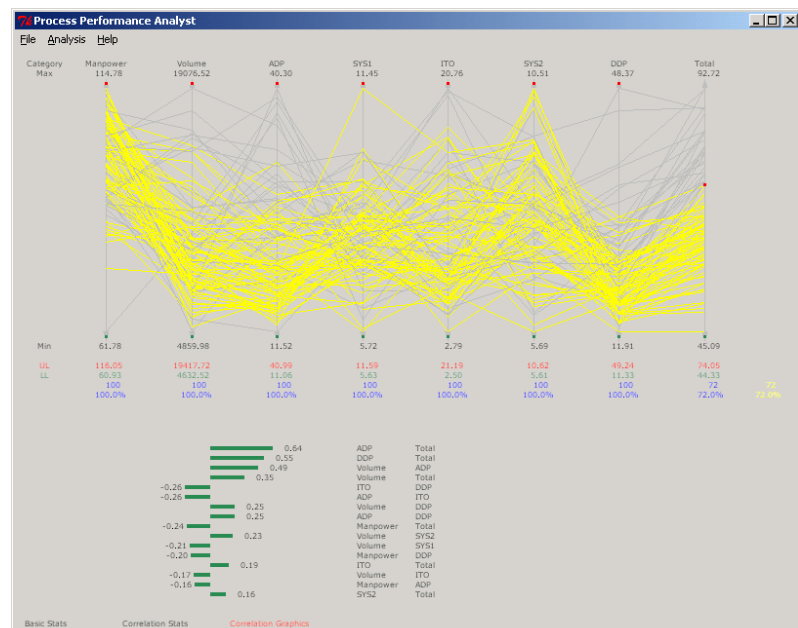
Process Performance Analyst

Your process measurement data is a rich source of information. The difficulty to date has been finding a way to unlock its potential.

Analytical Decisions' Process Performance Analyst (PPA) provides two complementary capabilities: process visualisation and analysis that, together, unlock the value that resides in your historical data.

Visualisation

At the heart of PPA is the simultaneous display of multiple process measurements. Some may be input/control variables (like temperature, shift, time, etc) and others may be output/quality



Process Performance Analyst—extracting the value from data

measures (like yield, weight, quality, etc). Each variable is plotted on its own scale and the scales for all variables are shown on a single screen.

Each item that passes through the process has its own trajectory, in other words, its own particular combination of variables that describe how it was processed and the end result.

Already this is an improvement on typical management reports that will only plot graphs of pairs of variables—now, with PPA, one can have a snapshot of the whole process on a single screen.

Analysis

PPA does not just provide a way of visualising complex data, although this is important. PPA allows the user to analyse and experiment with the data without any specialist knowledge of maths and statistics. You interact with your data by simply dragging on-screen markers, to select groups of trajectories.

As an example, say that the required output quality lies between two values. On the scale that plots this output quality, drag the on-screen markers to highlight all trajectories that fall between these required values.

Immediately, all trajectories that lead to the desired outcome are highlighted in yellow. Simply by looking at display, one can see which input variables have an impact on output quality and what limits need to be applied to these factors to maximise the required output.

Action

But PPA provides still further support. Using non-parametric tests, the tool will identify significant correlations between the measured factors. This allows you to highlight which factors will have the greatest impact on output quality. In other words, PPA will help to prioritise management action to improve the process.

Flexibility

Process Performance Analyst supports a number of other tasks. For example, it can be used to compare the performance of different shifts or even different plants. If you need to change the process outputs, PPA can show how to adjust the input variables to achieve the new results. Its instant visual appeal and simplicity of use make it an ideal tool as part of any quality improvement initiative too.