

# Using process control as a strategic weapon

The benefits of advanced process control have been so great, its use has been a carefully guarded secret at many companies.

Improved control of a production process and especially the use of so-called 'Advanced Process Control' (APC) applications can yield very high credits in a short amount of time. This is, of course, not a new discovery. It was noticed by the major oil companies in the late 1960s when some of them started to investigate these credits in real detail.

As a result of these investigations oil companies have developed quite comprehensive stores of information on the economical mechanisms and detailed guidelines on how to calculate the benefits from improved control. Furthermore they have implemented strategies in order to gain the maximum benefits and advantages from APC.

## An example

One major oil company we know has gone much further than the others. It requires each of its plants to calculate and report its achievements in regular time intervals – expressed in hard dollar figures. These figures are then used to assess the progress made and to compare with other plants and activities.

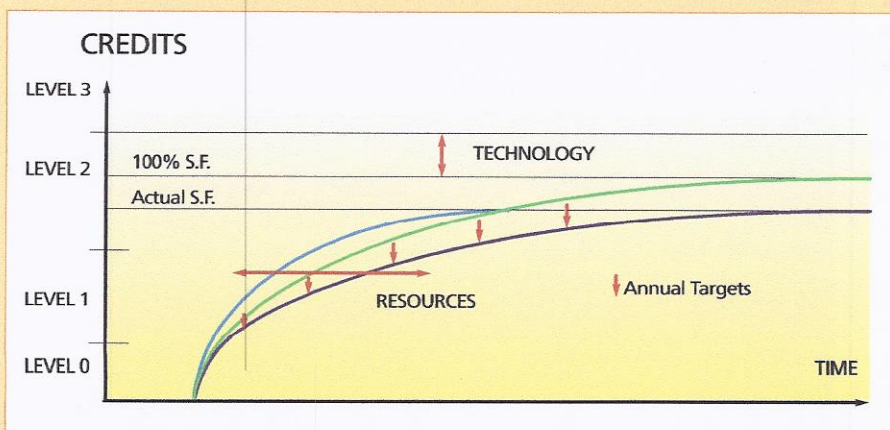
This system provides an enormous

stimulus to develop more and better working controls in shorter amounts of time. It also gives a wealth of data for engineers to examine, which helps them to accurately determine which factors make truly significant contributions to operations improvement and which do not. Based on this knowledge the oil company has developed a comprehensive strategy for the exploitation of process control benefits. Consultants like 3X Inc. have estimated that they have gained a competitive advantage of over \$10m per year for an average size plant.

Such studies and activities were typically carried out internally and the results never made accessible to the public. This is one of the key reasons why these enormous benefits are still not very widely known. As a consequence, most companies are much less active in this field than they could and should be. And it is the rare exception that process control is viewed by management as an effective means improve profitability.

## The need

On the other hand, both the needs and the prerequisites for advanced process



## APC credits over time

This figure shows the development of the expected and actual yearly credits from APC over time. Expected credits were determined by an earlier incentive study and the actual credits come from the Performance Measurement System in real time.



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mechanisms apply elsewhere just as well – and even the economics can be often in the same order of magnitude.

The key message for the process industry today is that process control technology and systems – especially APC – do bring large benefits. APC should be used intensively, in well planned and organised efforts to improve the plant operations on an ongoing basis to match the ever increasing challenges.

### The power of knowledge

However, in order to be able to realise this, the knowledge level of the plant personnel needs to be raised further. Of course technical professionals have to know the various approaches and techniques in order to be able to decide on their use and to apply them properly. But even more important is the knowledge of the changes in the process and operations that can be achieved by improved control performance, the dynamic effects, not just the static ones, and their impact on the plant economics.

The latter one is not only needed by control and operations staff but also by management in order to enable them to understand the value, to position process control properly within the plant and corporate organisation and to steer its activities adequately.

### Conclusion

Only where all levels in the organisation are fully aware of the benefits and the underlying mechanisms, process control will be recognised and adequately utilised as a most time and cost effective means for increasing plant's profitability and will be used as a strategic weapon to fend off competition. It takes certainly some effort and time to develop that knowledge and to implement a full strategy but the rewards are such that this may be easily the best investment ever made by the company. ♦