

Advanced Process Control (APC)

Leverage for operational plant excellence

APC – an effective lever to increase product quality

Advanced Process Control (APC) is one wording for a wide range of tools and methods.

Fuzzy Control, Model Predictive Control (MPC), Model Based Control, Statistic Models and Neuronal Networks are just some examples for different approaches.

Soft Sensors can be developed based on Statistical methods and Neuronal Networks.

APC-methods allow the reduction of variances of control variables and makes it possible to move a set-point closer to critical process constraints without the risk of violating these constraints. This is called "constraint pushing" and enables more efficient operation of a plant by significantly reducing the consumption of raw materials, energy, optimizing product throughput and quality and, by contributing toward, more flexible production.

Using APC-methods to describe even complicated combinations of key process parameters in a mathematical model, achieve often better results than using conventional optimization approaches.

Advanced Process Control is an effective lever to increase product quality and productivity, cost-effectiveness and environmental sustainability of chemical production plants.

For example the pay back period of an APC optimized distillation column is typically between 1 to 2 years.

Project examples

- Separation of phenol and acetone by distillation
- Controlling of reactors, distillation columns and coupled systems
- Control of start, load, and product change-over processes.

Interested? Contact us!

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Your Benefit

Operational plant excellence with a high degree of manufacturing agility and responsiveness:

- Increased throughput and product quality
- Reduced consumption of raw materials and energy
- Reduced operator workload
- Support of grade-change, load change and product-change processes
- Optimized closed-loop controller

Our range of services

- Identification, analysis and evaluation of key process variables, choice of APC method
- Optimization of control concepts
- Delivery of necessary hard- and software
- Consulting, Engineering and implementation - all-in-one services
- SIMATIC PCS 7 embedded application & training

