

## Sharing knowledge...

Shift your horizon.

Feel free to contact us.

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### Improving production processes with PAT.

Making products with consistent quality is an unending challenge for pharmaceutical manufacturers. What is the most effective way to ensure product quality? The current belief at the US FDA is that rigorous testing does not ensure the best quality. Quality is something that has to be built-in to your manufacturing process.

**Process Analytical Technology (PAT)**

Process Analytical Technologies have been defined by the US FDA as a mechanism to design, analyse and control pharmaceutical manufacturing processes through the timely measurement of Critical Process Parameters (CPP) which affect Critical Quality Attributes (CQA) during processing. PAT is not a product or service.

It is a working principle or a framework for operating, depending on you implement it. PAT includes chemical, physical, mathematical and risk analyses that are conducted in an integrated manner.

**What can we do for you?**

At DSM Resolve, we are experienced in designing and adapting Process Analytical Technologies to give you more control over your on-line manufacturing processes, and ultimately over the quality of your pharmaceutical products. Based on our analytical experience and your process control requirements, we can help you find the right PAT solution for your problem.

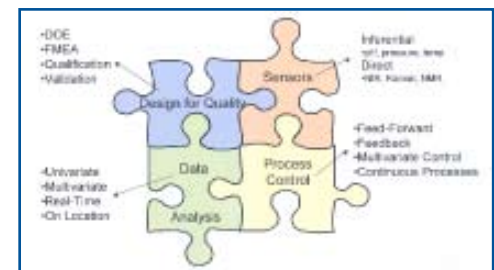
*We can:*

- Select the right analyser for your measurement problem
- Select the most efficient calibration method
- Design and construct the PAT installation
- Manage your PAT project
- Perform advanced chemometric analysis of multivariate data sets
- Implement (Multivariate) Statistical Process Control methods

*Some typical examples of PAT elements include:*

- In process analysis of raw materials
- Moisture analysis in a fluid bed dryer
- Analysis of polymorphism during the production process

Our advanced facilities and longstanding experience in traditional pharma, biomaterials, biomarkers and sports testing produce creative solutions for your most challenging pharmaceutical issues.



*PAT tools applied in an integrated manner*