



Pharma sector sample Business Case: PAT (Process Analytical Technology) for powder vacuum drying

Vacuum drying is often used to remove traces of solvents from a finished, powder-form pharmaceutical product. The **simevo Process Simulation technology** can be used to create a first-principle, steady-state model of the drying process. Thanks to the flexibility of the simevo technology the model can be deployed directly onto the control system and reconciled with live plant data, yielding a “soft sensor” capable to infer what is going on inside the device. These informations can be used for quality control and for process optimization.

Costs: The development effort for the solution is in the range of a few man-months and can be spread over the small-series production of drying plants. The software license is perpetual and the fee is charged on the basis of the number of plants installed. The cost impact is in the range of 2% of the total installation cost of each plant.

Soft savings: Increased reproducibility and better understanding of the process and of the effects of the operating conditions on the product quality.

Hard savings: The drier + soft sensor qualify as PAT (Process Analytical Technology) with quantifiable gains in terms of reduced off-spec and shorter certification times.



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