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Using Industrial Big Data Analytics to Optimise Fermentation in Teva

The largest fermentation API producer Teva is committed to optimise fermentation operation by increasing automation and apply industrial big data analytics.

Fermentation operation has and always will uncertainty by the nature of cultivating living organisms. The day-to-day operation of fermentation is challenging because the process typically has parameters that are difficult to predict, long time delays that are difficult to control, and is never dependent on a single process variable.

The goal was to increase the production yield. A comprehensive big-data analysis has been carried out and statistically observable rules has been extracted from available time series data. The analysis has proved the feasibility. The solution introduced a new control strategy for the nitrogen source dosage and by implemented a soft-sensor to predict and control the dosage content in the fermentor.

The contracted benefits are achieved by the operational efficiency at the same time by advanced control solution adapted to redesigned control layer. The production stability is highly increased, and the autonomy of fermentation control is greatly increased.

István Nagy is a leader and process control consultant at MaxFlow company which works for process and control optimization projects in chemical, power, pharma, and hydrocarbon industries. Istvan has 22 years experience of optimization based on solution of stability, controllability problems, control strategy, soft-sensor and Advanced Process Control design and projects.

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