Case study
IOI OLEO GmbH

Machine learning for process optimization

Task

For the Witten production plant, divis was asked to solve a task concerning the production process of an important product which is produced in a batch process and subject to highest quality requirements. The task was to identify the essential parameters which influence the product quality and to give recommendations on how to set the process parameters in order to consistently get a product of ideal quality. This setting is called the »golden batch«.

Solution Approach

To achieve this, we used machine learning methods to analyze the data of 29 batches, each as multivariate time series with nine sensor signals which are recorded in 20sec intervals. Based on this, we determined the influencing parameters and their dependencies, and built forecasting models for the product quality. These models enabled us to find the main parameters and the optimal setting. During the second project phase, the results are now used within the technical environment.

Video

You can also watch the video of the case study on our YouTube channel [in German]. Thomas Kummer, COO of IOI Oleo GmbH, has presented this case during the Digital Week together with Prof. Dr. Thomas Bäck, CEO of divis intelligent solutions GmbH.

https://youtu.be/
iW1Unc3Ygvg

Testimonial

»Thanks to the AI-experts of divis, we are now going the crucial step for the optimization of our product. We are very impressed by the results. The cooperation was very pleasant and we experienced the team as highly competent and efficient. We are using this approach also for other products of IOI Oleochemicals and are looking forward to further cooperation. We recommend divis as a competent partner. Next to the professional competence of Thomas Bäck's team, we are also impressed by their ability to focus on our technical requirements and to employ AI-methods specifically, just as required by the task.«

Thomas Kummer, COO of IOI Oleo GmbH

IOI OLEOCHEMICAL

The company

— one of the leading providers of medium-chain triglycerides (MCT) in Europe

— the German production site is located in Wittenberge and Witten

— part of the IOI Group with headquarters in Putrajaya, Malaysia

Applications

— prodzction of active ingredients for pharmaceutics, emollients, emulsifiers, texturizers, and a large selection of multifunctional ingredients for cosmetics

— production of special esters and additives for the food industry

— process auxiliaries and greases for technical applications and basic oleochemicals, e.g. polyunsaturated fatty acids