

Leading Chemicals Manufacturer Increased Annual Revenue by \$4 Million with AI

fēro
labs

Results

- 4.8% yield enhancement
- \$4 Million revenue increase
- Reduced Scope 3 emissions
- 130% production stability improvement

When a large European adhesives plant could not resolve negative production performance with their usual toolset, their in-house experts turned to Fero Labs to optimize their production using AI.

Fero Labs AI Provided Rapid Improvements

The chemicals plant had reached a plateau with their production optimization using their existing tools of Excel and Minitab. They needed a solution that would enable them to address the remaining - more complex - problems using the abundance of unused data that they had available.

By augmenting their engineering expertise with Fero Lab's AI, the work that would typically take their team weeks, yielded valuable and explainable insights within minutes.

Without interrupting production operations, they modeled their process within Fero Labs' Process Simulation environment which rapidly uncovered improvements to increase yield by 4.8%, while improving process stability by 130%.

This leader in Chemical manufacturing drove profit and sustainability in a fraction of time, gaining new production knowledge that had been impossible to identify through traditional methods.

Clean Data and Trusted Yield Insights within their First Hour

Within the first 30 minutes, the in-house team uploaded approximately 600 batches of data and 40 different variables from their advanced control system and data historian to Fero Labs' secure platform. Within minutes, they had a list of the main factors influencing their yield.

Fero's Root Cause Explorer identified which process parameters influenced their yield, even highly non-linear relationships, and quantified how even small changes to each process parameter would change relative yield.

After pinpointing the most influential parameters, they went deeper to identify what caused the values to vary, made possible with Fero's explainable insights. Within the **Batch Editor Toolkit** they were able to explore the time-series data of each process parameter for individual batches, to understand the differences between them.



Many of the differences identified were related to how quickly they were heating the batch, as well as setpoints they had used to control the batch temperature during specific phases of the reaction process. These were new learnings for the experienced team which were previously impossible to find through traditional methods.

Production Impact

- Improved process knowledge and outcomes
- Maximized profits by getting more product out of the same amount of raw materials
- Gained understanding of complex parameters and what to change to improve results
- Expedited knowledge retention and transfer by using Fero Labs as their single source of truth
- Quantifiably reduced Scope 3 emissions

Speak to an Industrial Expert at Fero Labs for more details on this case study