



## AVEBE LAUNCHES FACTORY 4.0 STRATEGY WITH PI SYSTEM INVESTMENT

*A cooperative of starch potato growers with a 100 years of history, Avebe is a niche player that breaks down its product into starches and proteins, which are used as raw materials in food and industrial markets like pulp and paper, adhesives and textiles. Avebe's competitive advantage depends on production plants that the company runs in the Netherlands, Germany, and Sweden. Recently, the cooperative started facing a dual challenge: a growing "technology storm" – demanding greater efficiency and compliance with increasingly complex regulations – and the aging workforce, with 20% of employees due to retire within five years. The company's management recognized that it was time to embark on a journey of digital transformation and build a Factory 4.0 manufacturing platform to put real-time data analytics tools into the hands of its personnel.*

### MODERN FACTORY, ACCUMULATED KNOWLEDGE

Prior to 2015, Avebe's PI System™ existed solely for data collection and storage. Striving to become more data-driven across its plants, Avebe expanded the use of the PI System to combine different data layers from its process plants, including its Manufacturing Execution System (MES), Enterprise Resource Planning (ERP) and process automation systems. The PI System became the heart of the

company's digitization strategy and delivered real-time data, analytics, and visualization to the Factory 4.0 solution. "OSIsoft is an important player ... because that's our central data collection and information platform within operations," said Jan Spijkerman, IT Manager at Avebe, at PI World Barcelona 2018.

To democratize operational data to more personnel, Spijkerman's manufacturing IT team deployed OSIsoft's Asset Framework (AF), a data contextualization layer of

### HIGHLIGHTS

- Launched a Factory 4.0 strategy that combines data from MES, ERP and process automation layers.
- Created a knowledge transfer repository for Avebe's aging workplace.
- Expanded data analytics cut energy costs, improve regulatory compliance and drive root cause analysis of plant machinery performance.

## Production Lines Overview Dashboard

PI Vision delivers 360 degree view into Avebe's production lines to help improve OEE and reduce energy costs.



the PI Server. AF structures real-time data into a standard hierarchy of assets and transforms raw data into actionable information accessible to all users. With the PI System and AF, engineers had a digital twin of the company's operations that pulled critical data out of spreadsheets and added calculations for KPIs. Today, the PI System is a repository for process knowledge accumulated by Avebe engineers over decades, and the knowledge of aging experts is preserved in an automated system where any worker can access it.

### VISUALIZING COMPANY ASSETS AND OPPORTUNITIES

To help engineers speed up troubleshooting and other maintenance tasks, Avebe engaged TrendMiner, an OSIsoft partner with a predictive analytics solution based on data from the PI System. Together, the PI System and TrendMiner delivered results for engineers who brought ongoing use cases to the company's training sessions. In one session, engineers resolved shut down issues in a protein coagulation line with a simple process automation adjustment. Previously, it took an operator an hour to cold-start the line, which would shut down multiple times. A root cause analysis with TrendMiner using PI System

data revealed that one of the line's valves opened too fast. The issue was quickly solved, but as Spijkerman noted, "you have to explore a lot of data to find that simple thing."

Visualization is another key driver of optimization. Dashboards in PI Vision help plant engineers across Avebe's production facilities find new opportunities to cut costs and energy usage. PI Vision's mobile-ready interface is particularly valuable for partners who operate outside Avebe's plants, such as logistical transport providers. Dashboards are shared with these partners, so they can help optimize operations within trucking fleets and other siloed assets in real time.

Cost controls are critical to Avebe's Factory 4.0 approach. Deviations in plant energy production can create imbalances in energy grids, which can result in fines. Conversely, Avebe plants in the Netherlands can earn money by keeping energy use below predicted levels. The dashboards in PI Vision enable Avebe engineers to see and predict energy use deviations.

Reducing water usage and carbon footprints are key pillars of the company's operations strategy.

*For more information about Avebe and the PI System, watch the full presentation [here](#).*

### PARTNER:



"We need data to see where we lose, where can we win. Business is asking for data driven solutions. If you want to make a success of IT, you have to bring it into daily operations."

— Jan Spijkerman  
Avebe Manager  
Manufacturing IT

Spijkerman, Jan / Wassink, Tom. "Avebe: Transformation to a Datadriven Organization" <<https://www.osisoft.com/Presentations/Avebe--Transformation-to-a-Datadriven-Organization/>>