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LIFE 2 IMPROVE – PERFORMANCE OPTIMIZATION
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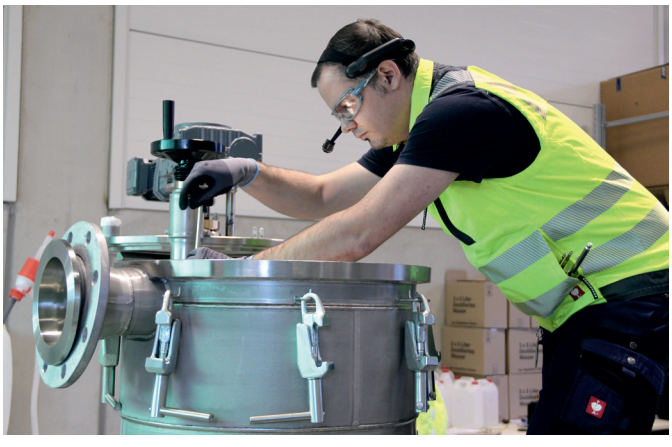
CASE STUDY
Optimization Starch Preparation and Working Station to Filmpress



Task & definition of the problem

An enzymatic starch processing plant at a customer in America was running at a much lower capacity than originally planned after four years of operation.

- Amongst other things, steam hammering and vibrations in the system caused production stops every 120 minutes.
- Concentration fluctuations in the slurry preparation as well as temperature fluctuations throughout the system were also observed.
- At the working station, overused rejection of the filter systems generated a large amount of wastewater and product loss.
- The operating staff was new and insufficiently trained.

Consequences & Impact

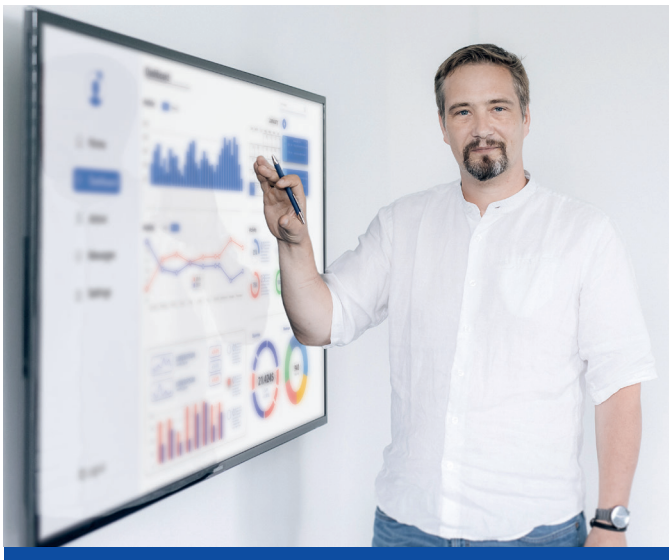
THE PIPING SYSTEM AND THE COOKER WERE ALREADY SHOWING WEAR AND TEAR

HIGH LEVELS OF WASTEWATER AND PRODUCT LOSSES AT STARCH PREPARATION AND WORKING STATIONS

HIGH STARCH AND ENERGY CONSUMPTION DUE TO FLUCTUATIONS IN CONCENTRATION

PAPER QUALITY PROBLEMS (STRENGTH)

VARIOUS OPERATING ERRORS



Solution statement & approach:

All parts of the system were observed and analyzed by a **GAW Performance Coach** during operation, using trend recordings.

Furthermore, intensive conversations with the operating staff followed with discussions about the operation mode as well as the best possible operation of the entire system.

Measures & actions:

1. Maintenance and cleaning works were carried out.
2. The operating personnel received in-depth training.
3. By optimizing the controllers/levers, concentration fluctuations with a maximum of ± <0.5% and temperature fluctuations of ± <1.0°C were ensured (which were <3% and <5°C before optimization).
4. The flushing times were optimized.
5. A general optimization of the plant capacity was executed.
6. Reduction of the amount of wastewater by optimizing the filter systems.

Customer benefits & added value (figures, data, facts)

- Thanks to the optimization, the starch preparation and the working station now operate synchronously with the production consumption of the paper machine.
- The amount of wastewater and starch losses was significantly minimized.
- Due to the training and optimization, the customer achieved increased availability of the system and thereby also reduced the production costs.
- Furthermore, the lifetime and operational life of the system was significantly extended.

SAVINGS IN STARCH PROCESSING (THROUGH CONTINUOUS OPERATION AND REDUCED CONCENTRATION/TEMPERATURE FLUCTUATIONS):

STARCH AND ENERGY SAVINGS: € 90,000 / YEAR

MINIMIZING WORKING STATION LOSSES:

STARCH AND ENERGY SAVINGS: € 60,000 / YEAR

TOTAL WASTEWATER/FRESH WATER REDUCTION:

WASTEWATER REDUCTION: 1,193 m³ / YEAR

TOTAL: AROUND € 150,000 / YEAR

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