



## Minimize Electricity Consumption and Reduce Blower Wear and Tear

### Application

The aeration process is typically the largest consumer of electricity at wastewater treatment plants. The aeration blower optimization solution helps lower electricity usage, while reducing equipment wear and tear, and improving ammonia nitrification.

### Strategy

#### Energy Reduction

While aeration control is perceived as a complex process, it can have significant impact on power consumption. By utilizing advanced control strategies, energy consumption of aeration blowers is optimized by automating the operations that balance the oxygenation needs with the flow demand of the aeration process. Our approach eliminates the triple cascaded PID control strategy with model predictive control. This enables stable control and a consistent product over the long process time delays in DO and ammonia oxidation processes.

#### Blower Advanced Monitoring

By leveraging OEM blower design data and control system process data, our software provides information to help understand how the operations impact the reliability of blowers. The application improves maintenance expenditures by predicting unit maintenance requirements and minimizing equipment burden.

### Results

- Reduce electricity consumption
- Less process variability with flow demands
- Increase blower reliability by extending Mean Time Between Failure (MTBF)
- Product consistency is improved with constant controls on DO level
- Eliminates constant staff attention and improves productivity

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