

Municipal Wastewater Case Studies

Case Study 1

Case Study 2

Case Study 3

Case Study 4

Case Study 5

1 Improved Reliability Through Automated Fault Detection

Key Challenge

Our client's plant had a lot going on, making it hard for operations and engineering staff to monitor and act on each process in real time. As a result, some events were missed, leading to unplanned downtime and higher maintenance costs.

Pani's Solution

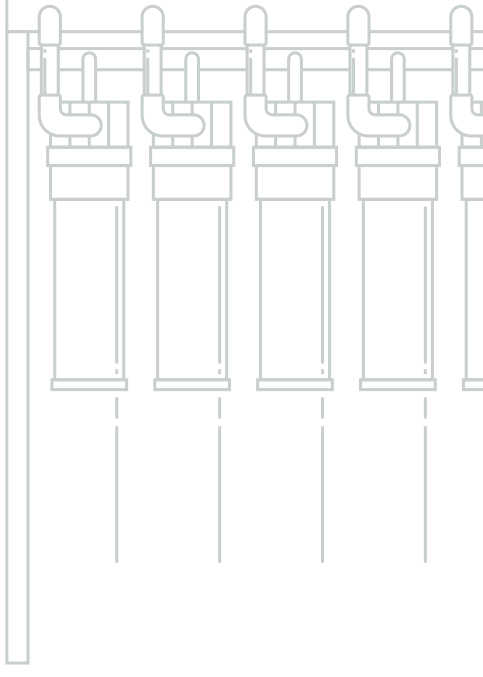
- Pani implemented its patented technology to cover various types of failure across the plant.
- Provided real-time and predictive insights into critical issues in different areas of plant operations.

Successful Outcomes

- Detected a broken filter screen binding the motor used in dewatering, preventing the motor being damaged and taken offline.
- If the motor had failed, heavy sludge streams to FMF must be stored or trucked out. Since secondary storage was offline, it would have cost trucking and landfill costs (6 months downtime x 3 trucks per week at \$0.65/lb = \$24,000 per truck per week).

\$250,000 Motor Replacement Avoided

\$1.5M In Additional Sludge Trucking Costs Avoided



2 Improving Resource Productivity with Digital Transformation

Key Challenge

Our client was still doing a lot of manual data collection, analysis and time spent filling out operational logs. They had 45 clipboards across the facility, and it took a lot of time to maintain and added a lot of human inefficiencies to the process.

Pani's Solution

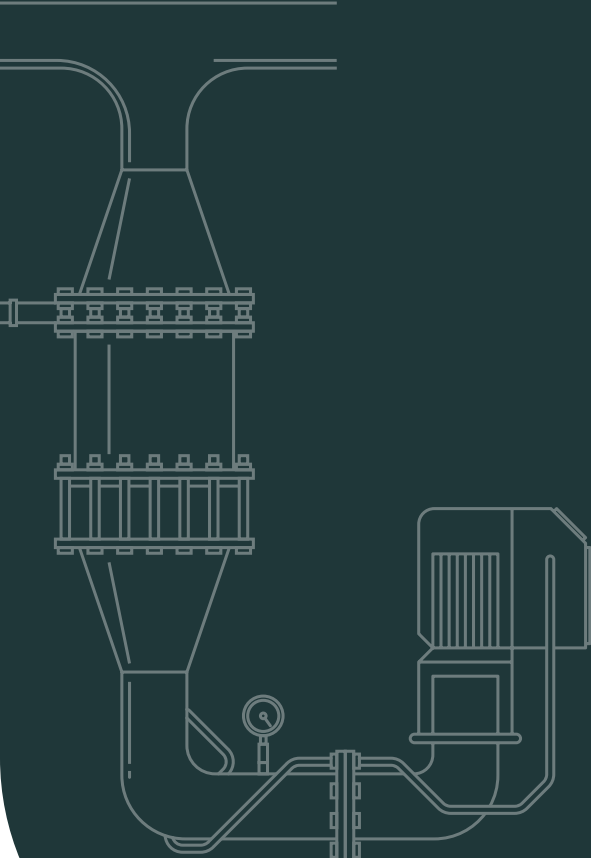
- Digitized all workflows, making the platform the single source of truth.
- Operators now enter data directly through tablets.
- Enabled automated data analysis with dashboards and trend forecasts.
- Provided real-time notifications feedback to operational team members.

Successful Outcomes

- Improved resource productivity.
- Enabled multiple hours invested into rapid and proactive troubleshooting, leading to lower operating costs from process inefficiencies and losses.

1,664 Hours Saved

\$56,920 Maintenance Cost Reduced



3 Accelerated Decision Making for Remote Assets

Key Challenge

This client's decisions around asset operations were siloed and dependent on various stages of data collection, consolidation and analysis leading to inefficiency in decision making and ultimately, poor performance.

Pani's Solution

- Centralized data from remote assets in one location for real-time visibility by the operations team.
- Coupled with proactive alerts on the data collected, real-time visibility enabled streamlined asset management like chemical replenishment requirements, daily operator rounds, and other service tasks.

Successful Outcomes

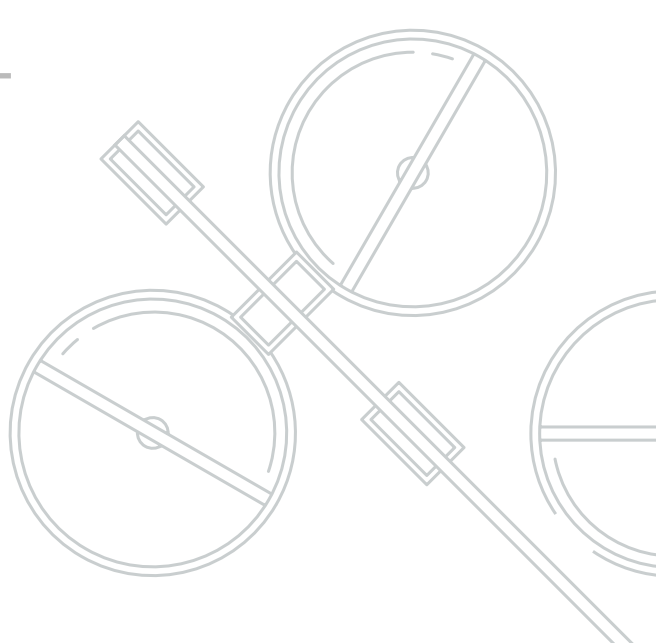
Less site visits to:

- collect data,
- monitor operations, and
- manage chemical inventory.

Enabled less experienced staff to conduct these tasks independently, as plant SOPs could be linked directly to digital service task lists and monitoring and management performed offsite.

50% Less Site Visits to Remote Assets

\$80,000 Savings in Labour Hours



4 Predicting Chemical Replenishment or Ordering Points

Key Challenge

Our client was manually tracking the consumption of a wide number of chemicals based on dynamic usage which is challenging. Certain chemical orders with longer lead times were not placed on time, requiring rush orders or running out altogether.

Pani's Solution

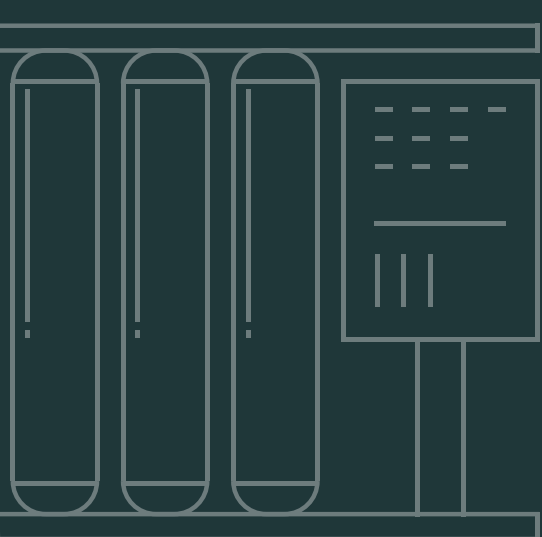
- Pani Zed deployed real-time chemical inventory management.
- Deployed proactive alerts to operations and procurement staff to replenish and re-order critical chemicals.

Successful Outcomes

- Staff can replenish and re-order critical chemicals in time to avoid buying at higher rates or downtime.
- Reduced considerable time in manual work.

\$34,000 Downtime Cost Avoided Yearly

100% Peace of Mind for Replenishment and Reorders



5 Improving Employee Onboarding & Training

Key Challenge

Our client's operator/manager was investing a lot of time to give a run through of the plant and processes to new hires. Significant time is spent getting new staff up to speed with plant operational philosophy.

Pani's Solution

- Improved knowledge retention by integrating plant documentation such as SOPs, service logs, and operational data and alerts.
- Enabled searching by issue type, process performance indicator, or assets.
- Provided insights into decision-making processes.

Successful Outcomes

- New operator/manager training went down from 3 months to 3 weeks.
- Made it easy for staff to understand plant operations and decision rationale under different conditions.

75% Less Operator Training Time

