



PM + Calibration Traceability Stabilized Output in Just 4 Weeks

CLIENT PROFILE

A large water & wastewater treatment plant serving an entire metropolitan region. Their operations rely on blowers, aeration equipment, pumps, DO sensors, flow meters, SCADA-connected instruments, and clarifier mechanisms, each crucial for maintaining stable treatment output and regulatory compliance.

Blowers, being the heart of the aeration process, directly influence treatment quality, energy usage, and plant throughput.

CHALLENGE

The plant experienced repeated blower failures that were disrupting treatment efficiency:

- Frequent breakdowns in blower motors, belts, bearings, and couplings.
- Missed or rushed preventive maintenance (PM) due to poor scheduling visibility.
- Calibration lapses for DO sensors, airflow meters, and pressure gauges, leading to false readings and delayed corrective actions.
- No unified record of blower performance, maintenance history, or failure reasons.
- Inconsistent technician logs with missing vibration readings or temperature data.
- Difficulty tracing RCA (Root Cause Analysis) for repeat incidents.

These issues caused aeration instability, lower treatment efficiency, and rising energy consumption.



WATER



SOLUTION IMPLEMENTED

Asset Infinity deployed a centralized maintenance, calibration, and equipment-health management system across the treatment plant.

1. Automated Preventive Maintenance for Blowers

- Standardized PM checklists covering:
 - V-belt tension
 - Bearing lubrication
 - Temperature & vibration checks
 - Filter cleaning
 - Motor inspections
 - PM triggers set based on runtime hours and OEM guidelines.
- Overdue PM escalations ensured no tasks were missed.

2. Instrument & Sensor Calibration Traceability

- DO sensors, flow meters, pressure gauges, and air velocity sensors logged into a unified calibration calendar.
- Calibration certificates stored digitally.
- Equipment automatically flagged as "Do Not Use" if calibration expired.
- Technicians captured calibration evidence via mobile app.

3. Centralized Breakdown & Repair Logging

- Technicians submitted detailed work logs with photos, readings, spare usage, and root-cause notes.
- Geo-tagged and time-stamped entries validated work.
- Supervisors monitored repeat failures instantly.

4. Blower Health Dashboard

- Real-time visibility into:
 - Runtime hours
 - Failure frequency
 - Overdue PM
 - Temperature/vibration trends
 - Spare consumption patterns
- Highlighted blowers at risk of imminent failure.

5. RCA Visibility for Recurring Issues

- System auto-grouped failures by cause:
 - Belt wear
 - Bearing failure
 - Motor overheating
 - Airflow obstructions
- Helped engineering teams implement targeted corrections.



IMPLEMENTATION & ROLLOUT

- Rolled out across mechanical, electrical, and instrumentation teams.
- Field engineers trained on mobile PM checklists and calibration workflows.
- All historical blower logs migrated into the system for RCA continuity.
- No disruption to ongoing treatment processes during deployment.



MEASURABLE BENEFITS

- 27% reduction in blower failures within just 4 weeks.
- Strong improvement in PM compliance and execution quality.
- Zero missed calibrations, improving data accuracy and process control.
- More stable aeration leading to predictable treatment output.
- Reduced emergency repairs and lower spare-part wastage.



OUTCOME & IMPACT

The treatment plant achieved:

- Consistent aeration performance and stable dissolved oxygen levels.
- Fewer operational interruptions and more predictable treatment cycles.
- Higher equipment reliability and extended blower life.
- Improved coordination between maintenance and instrumentation teams.
- Faster corrective planning due to clear RCA insights.

CONCLUSION

By digitizing PM workflows, centralizing calibration traceability, and improving blower health visibility, Asset Infinity helped the treatment plant achieve a 27% reduction in blower failures in just four weeks, ensuring stable output, operational reliability, and regulatory compliance.

