Industrial Water Solutions

Industry leaders turn to advanced asset monitoring to manage the flood of data and improve operational efficiency.

Clean water is one of the essential resources in the world, and proper treatment of water and wastewater is challenging and expensive. Operational efficiency is always of utmost importance and has driven innovation. Significant advances have been made in the development of technologies to help manage this infrastructure, but challenges still remain.

**Significant Challenges are Looming.**

- **AGING INFRASTRUCTURE:** There is increasing pressure to extend asset life as much as possible. Prioritization of capital spending and improvements in maintenance and repair practices are required.

- **COST AND COMPLIANCE PRESSURE:** Facility managers are struggling to do more while reducing costs and are limited by their existing assets. Increasing operating reliability to maximize throughput is key to meeting demand.

- **ENERGY CONSUMPTION:** Water treatment is estimated to consume 2-3% of a developed nation’s electrical power per year. Plant operators are looking for ways to reduce overall energy consumption through efficient management of their infrastructure assets.

- **WATER DISCHARGE AND POLLUTION:** The need for cleaner return flows may force expensive upgrades, updates to existing assets and increased maintenance costs.
What three operational areas do you feel data analytics and automated monitoring will help improve most at your organization?

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Operational Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>55.1%</td>
<td>Monitoring Performance</td>
</tr>
<tr>
<td>49.3%</td>
<td>Asset Maintenance</td>
</tr>
<tr>
<td>44.9%</td>
<td>Treatment Operations</td>
</tr>
</tbody>
</table>

2018 Strategic Directions: Water Industry Report and Survey, Black & Veatch

Manage the Flood of Data to Boost Efficiency

- **ENHANCE RELIABILITY:** Enhance reliability through early detection and quantification of emerging issues.

- **DRIVE OPERATIONAL EFFICIENCY:** Aggregate all the data across industrial facilities to enable infrastructure-wide awareness and improve operational efficiency.

- **INCREASE SUSTAINABILITY:** Optimize efficiency and sustainability by setting quantitative goals and tracking incremental progress over time.

- **IMPROVE PLANNING:** Advanced modeling proactively help users make vital asset operating and planning decisions.

- **IMPROVE DECISION-MAKING:** Use prescriptive calculations and advanced visualization for capital prioritization, risk analysis, budget, and operations & maintenance decision-making.

- **PREDICT PROBLEMS:** Build predictive models based on machine learning. Forecast equipment life expectancy and raise alerts when anomalies take place.

As we move into the era of Big Data and the Internet of Things (IoT), industrial water plant operators will be able to deploy advanced sensors that can pick up previously undetectable changes in infrastructure performance. These predictive technologies will help companies anticipate equipment issues and failures, as well as build a roadmap to improved maintenance and programmatic equipment replacement.

Smart technologies also can help water and wastewater facility engineers improve their process control, water quality, monitoring and reporting. Industrial facilities often have highly complex waste streams that need detailed real-time evaluation to stay ahead of developing issues. The use of advanced data analytics moves these operations from a reactive to a proactive stance, helping managers develop new opportunities for cost control, risk management and improving levels of service.

To learn more about Atonix Digital and our **Industrial Water solutions**, visit: [atonix.com](http://atonix.com) and [@AtonixDigital](https://twitter.com/AtonixDigital)