

Data Modernization and Machine Learning at the Urban Water Supply Bureau

PROJECT OVERVIEW

In the dynamic setting of a major city, the Urban Water Supply Bureau initiated a crucial project to elevate the standard of drinking water. The mission was to amalgamate various data sources into a streamlined data warehouse and enhance its performance. The initiative's highlight was integrating Machine Learning Algorithms for precise anomaly detection in water quality data, significantly enhancing data accuracy and reporting.

ABOUT THE CUSTOMER

The Urban Water Supply Bureau, allied with the Bureau of Information Technology, shoulders the responsibility of ensuring high-quality drinking water. Managing an extensive water supply system, the Bureau oversees a significant technological infrastructure, consisting of about 80 databases and 90 applications.



THE CHALLENGE

The Bureau's primary challenge was to maintain exceptional water quality. This task was complicated by data inconsistencies from various sources, such as temperature, turbidity, pH, and chlorine level sensors. The calibration of these sensors often led to poor data quality, impacting water quality readings and insights. Therefore, enhancing the data quality to ensure accuracy, consistency, and reliability was imperative.

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THE SOLUTION

Collaborating with Acuvate, the Bureau embarked on a comprehensive data modernization journey. This included:



Transforming Data Accessibility

Centralizing critical data sources like StarLIMS Downstate, EWRM, and Historical Data for Downstate. This centralization streamlined data access, saving time and effort in data retrieval.



Improving Data Quality

A significant step was using Machine Learning Algorithms to detect and rectify anomalies in Robomon and EWRM data, ensuring data reliability and bolstering confidence in the water supply system.



Enhancing Performance

The focus then shifted to boosting the data warehouse's performance. This enhancement was crucial for enabling the Bureau to generate more accurate reports promptly.



Proactive Anomaly Detection

The anomaly detection algorithms allowed the Bureau to identify potential issues swiftly, enabling proactive problem-solving.

The comprehensive solution included accurate data extraction and transformation, developing customized processes, and ensuring the data warehouse's accuracy and timeliness.

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THE RESULTS

- ✔ The project led to optimized costs and improved financial performance due to accurate and updated data
- ✔ It also achieved improved efficiency in data processing and reporting, enhancing the Bureau's operational effectiveness.
- ✔ These advancements significantly contributed to consistently providing safe, high-quality drinking water to the city's residents, underlining the Bureau's commitment to public service and water quality excellence.

ABOUT ACUVATE

With over 17 years of experience in digital solutions, accelerating enterprise-wide digital transformation with our AI accelerators, we provide solutions and services that modernize, automate and support organizations. We help our customers transform their conventional processes to match the next-generation technological trend. We have a strong presence in the US, Europe, and the Middle East, where we serve multiple Fortune 500 companies. We specialize in New-age AI solutions, Migration & Modernization, and Digital Workplace Solutions. With our multi-skilled experts and packaged AI accelerators, we deliver unparalleled efficiencies and accelerate time-to-value for our customers

