Wessex Water
YTL GROUP

FOR YOU. FOR LIFE.

Smart Sewage: IoT-enabled AI System For Toxin-free Ocean Discharge

*A Microsoft Azure sponsored

MANTRA LABS

About Client

Wessex Water is a UK-based water supply and sewerage utility serving 2.9 million people with around 888 million litres of water a day.

The company offers sustainable water treatment services for enabling clean water supply, sewer transfer, renewable energy and bottled water.

Problem Statement

Wessex Water uses a legacy analytics and reporting tool to oversee operations of their entire network.

However, this current setup is bereft of any analytical or predictive capabilities.

01 **Lack of data ingestion and analytics** — extracting information from disparate sources for predicting trends, forecasting, planning for sewage discharge toxic element neutralization.

02 **High operational expenditure** — management's inability to make quick business intelligence decisions in real-time leads to more volatility in variable costs.

Key Challenges

The old methods of ingesting data were not scalable enough to keep up with the volume and range of varying data sources.

In order to extract value from that data, the **staggering volume of datasets** needed to be optimised.

Project Requirements

A variety of **descriptive**, **diagnostic**, and **predictive analytics techniques** would need to be applied on data coming in every few seconds from multiple sources.

Ability to **predict the demand** for digestive material required for treating wastewater.

Our
Solution

Mantra Labs followed multiple sprints with few iterations to successfully develop a predictive model that could forecast the demand of raw material required by Wessex Water.
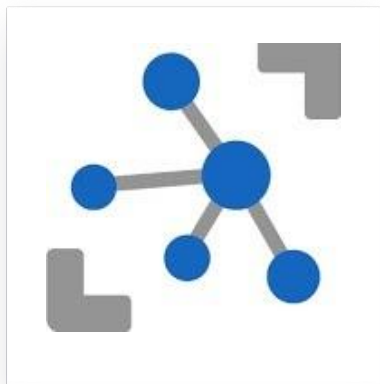
Solution Components

A Microsoft Azure sponsored POC was initiated that simulated a real time scenario with data coming in every few seconds.

This data was streamed to the Azure IoT Hub through Stream Analytics. Prediction models were built and trained with available data.

Finally, the analytics were presented on Power BI dashboards for further analysis.

Technology Stack

Azure IOT Hub

Power BI

Stream Analytics

Solution
Benefits

Enables real-time operational intelligence and seamless decision-making from data-driven analytics

Increases developer productivity by adapting quickly to newly ingested data from multiple sources and targets

Delivers information at zero latency with a unified approach from a single source of truth

Key
Results

Mantra Labs helped Wessex Water achieve significant operational & business intelligence outcomes to improve the overall quality of water discharged.

- Reliably predicts the amount of raw materials to be used for water & sewage treatment with **99.99% accuracy**

- Reduced deployment, administration, and monitoring efforts of the entire system, **improving operational cost-effectiveness by 75%**

Leading Clients

About
Mantra Labs

We **Build Intelligent Experiences** That Matter.

Thank You.

Get in touch with <u>us</u>.

+91-987- 033- 3426
+1-984-244-8766

hello@mantralabsglobal.com
asa.juhlin@mantralabsglobal.com

www.mantralabsglobal.com

North Carolina | Bengaluru | Kolkata