

# 14. Treatment works optimisation



## Situation

We have a challenge in PC21 to find every opportunity to save money. Our operators have limited tools to help them understand what is occurring process costs at both our water and wastewater treatment centres.

## Action

This optimisation project is ensuring we provide customers with water at the highest quality level whilst identifying potential cost and process stability opportunities. And it is about ensuring we provide a fully compliant, cost effective wastewater treatment process.

A detailed assessment of the works has been carried out using large volume data sets that are broken down by each process step. This is a first-of-a-kind for us in taking the data and flipping it into Microsoft Azure cloud environment which has the capability to crunch the high volumes of data and provide analytical results to help us identify the opportunities for improvement. We then combine this with use of sub-metrics where each of the main processes is then analysed at a more detailed level with input from an industry specialist.

Dashboards will be developed (using our world class analytics and data management platform) to provide operators with better process visibility and control.

We have carried out detailed analysis of five of our water treatment works broken down by process step and applied analysis to the data that we have gathered

## Results

The approach has broken the benefits into two categories:

1. Hydraulic opportunities which have been passed on to the energy team to establish feasibility and delivery.
2. Process opportunities have been presented to the production line teams to establish priority and delivery plan.

At Castor Bay water treatment works for example, we are now already trialling a reduction in the use chemicals which when replicated across the whole business may save £100k p.a. We have also identified potential energy savings; for example, in the production of ozone and with dispatch pumping.

The process will be repeated across multiple water and wastewater treatment works.