

# Tanzanian Water Pumps

## Client Situation

Your client is the Tanzanian Ministry of Water. Providing access to clean water for the entire population is their top priority. The main water source for many Tanzanian citizens is a water pump. Recently our client collected data on a sample of all of their water pumps, to get an idea of how many of them are still working. They concluded that some of the pumps either need to be repaired or replaced. The Ministry wants to know in advance which pumps are most likely to be non-functional, so that they can triage their repair efforts. They ask help to come up with a repair and replace strategy, that minimizes time/cost and optimizes water access.

## Assignment

As a consultant at Sia Partners you are given the assignment to help this customer. Come up with a solution for the client's problem. Use the available data, your data skills and your business sense. Your solution demonstrates both consultancy and data science skills. We ask you to spend between 8 and 16 hours preparing the case. This is a relatively short time, so do not spend all your time on data analysis and coding, but also take time to put together a good business presentation.

## Requirements

- Use the **provided data** as a basis for your analysis and approach (use of other data sources is also allowed)
- Build your data analysis in **Python**
- Make a **PowerPoint** presentation to demo your findings and recommendations

## Evaluation Criteria

- Clear storyline
- Interpretability of data visuals
- Applicability of your solution
- Creativity
- Tidy code

## Interview

During the interview, we ask you to present your solution, as you would do to the client. Think carefully about what is relevant to your audience. After the presentation, we will walk through your code together in detail and ask technical questions about it.

## Data

The dataset and more information about it can be found and downloaded here:

<https://www.drivendata.org/competitions/7/pump-it-up-data-mining-the-water-table/page/25/>.

## Code

Send your code the day before the interview, so that we have a chance to evaluate it before we start the interview. Make a zip and send it directly to: [coen.seinen@sia-partners.com](mailto:coen.seinen@sia-partners.com)