# Anomaly Detection for Water Distribution Networks

Project and Activity Plan

## Project

Water distribution networks has a critical social impact, directly affecting the well being and health of large segments of the population. Long-term maintenance of such networks is known to be challenging, leading to widespread leakage and adverse effects both from an economic and a sustainability perspective.

In relatively recent times, District Metered Areas are becoming increasingly prevalent, on the one hand enabling more accurate monitoring at scale, but on the other hand requiring reliable automated analysis methods to take full advantage of their potential.

This project will investigate the use of Anomaly Detection methods in the context of water distribution networks, with an emphasis on merging data-driven methods and expert knowledge for more reliable results. The scholarship will build over recently completed work on the same topic.

The ideal candidate should have solid coding skill, experience on AI methods and anomaly detection in particular; past experience on data from distribution networks and/or time series will also be positively evaluated.

## Activity Plan

- M1: revision of existing work, problem analysis
- M3-4: design and test of new anomaly detection methods