AFRY

From digital controlling to predictive maintenance and operational excellence in WWTPs

Extending our waste-water treatment engineering services to the digital control of plant operations and predictive maintenance of infrastructures.

INDUSTRIAL DATA ANALYTICS

This is the process of collecting, analyzing and using plant data to harness the hidden value. Tools like e-DAP are capable of modelling a physical phenomenon on the basis of data collected over time. The insight gained helps improve operational efficiency, optimize process, and plan maintenance ahead of time.

SITUATION & CHALLENGE

— Live monitoring of operations during all treatment phases of urban and industrial WWTPs

— Plan to respond to external constraints, e.g. evolution of load due to increase of population, special events, meteorological conditions, changes in economics of operation, etc.

— Take measures ahead of time in case of technical incidents (predictive maintenance)

SERVICE & APPROACH

— IoT connection is established with the client's data repository system via a proper protocol

— The system collects and ingests data in the platform (waste composition, temperature, humidity, energy consumption, bio-chemicals...)

— Once sufficient data is collected, appropriate ML/AI algorithms are used for prediction

— The model is used as the engine of the "WWTP Digital Twin". Forecasting daily operations and planning maintenance is made on a click.

E-DAP: the *end-to-end* data platform

A cloud-hosted infrastructure for the treatment of plant data: from IoT sensing, through engineering, dashboarding, ML/AI, digital twinning, to insight

IMPACT & ADDED VALUE

— Access to a cloud-hosted platform for predicting and monitoring asset's operations and health, and act in response to external constraints

— Clients can interrogate the "WWTP Digital Twin", or create their own ML/AI predictive model

— E-DAP can be used as an asset management tool dealing simultaneously for various plants
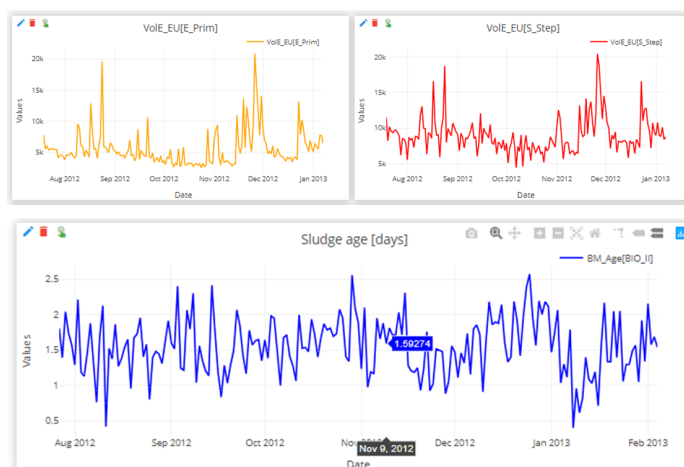
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