

Master Thesis

Development of Key Performance Indicators for the Evaluation of Water Treatment Technologies in the Process Industry

Digitalization offers numerous potentials in water-intensive industries. Potentials range from data-driven process optimization to improving the entire water treatment engineering.

Key Performance Indicators (KPIs) are a way of benchmarking and capturing the state of a process enabling better control and management. Thus, by evaluating KPIs' changes on-site, improvement as well as degradation in performance can be readily measured.

Due to system complexity and different drivers when working with water, KPIs have not yet been defined universally in the water sector. Within the scope of this Master Thesis, a set of KPIs will be developed for the state-of-the-art water treatment technologies used in the European process industries.

Following aspects should be included in the thesis:

- Presentation of the main areas of water usage in the European process industries
- Description of the state-of-the-art water treatment technologies used in European process industries
- Development of KPIs for the evaluation of treatment/operational performance (short and long-term)
- Benchmarking of treatment technologies (long-term) using developed KPIs (data collection and visualization) based on literature values

Duration: 5 or 6 months
(exact timing to be discussed, depends on
course of study)

Start: immediately

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