

Master Thesis

Water Governance: Digital Transformation of Industrial Water Management

*'The digital revolution in the water sector will be
about translating drips and drops into bits and bytes'*

*Rebekah Eggers,
leader of IBM global water business*

Digital technology offers enormous potential for enabling solutions to address complex water challenges including enhancing water efficiency and quality assurance through the deployment of emerging technology that includes hardware, software, and analytics to help solving problems through automation, data gathering and data analysis. This full digitalization of all operations will monitor conditions in real-time to connect and detect non-optimal water use and foster water-saving awareness, creating a quantum leap in the productivity, flexibility and quality of the operation, leading to an agile and adaptable industrial water efficiency system.

The role of a better water governance is to drive the industry in seeking different approaches to increase industrial water efficiency, including appropriate (waste) water treatment technologies and water reuse practices. While a series of regulations, standards and guidelines (e.g. Water Framework Directive, Drinking Water Directive, Urban Waste Water Treatment Directive ...) aims to protect the water ecosystems from industrial emissions supporting economic growth and competitiveness, there have not been enough digital components integrated in these directives to act as a driver towards a water smart industry.

Within the thesis, following aspects should be included:

- Literature review and evaluation of current best practices in industrial water management (including its digital parts)
- Review and summary of EU legislations related to the topic: (Digital) Water Governance

- Indication of possible rooms for integration of further (digital) water governance in the legislations and/or BREF documents related to the topic
- Identify the gaps to reach a water smart industrial status
- Development of recommendations (or soft law) to adapt the current water policies/BREF documents with the emergence of smart digital technologies

Duration: 5/6 months
(depending on the course of study)
Start: immediately

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