

## ZIM joint research project MoNNitor

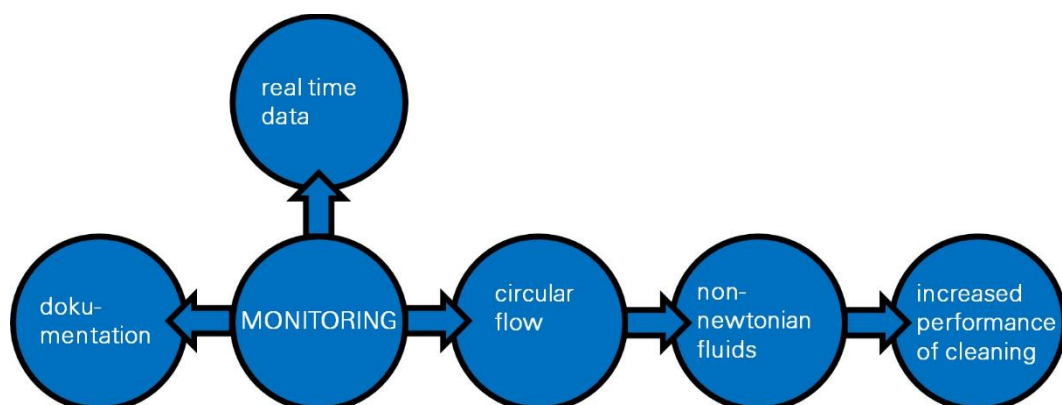
Robust Monitoring of the cleaning of heat exchangers with non-newtonian cleaning fluids

Development of a resource-saving cleaning process based on non-newtonian cleaning fluids and robust monitoring.

Duration: 01.05.2017 till 31.12.2019

Funding: approx. 520.000 Euro

The focus of this research project is set onto the monitoring during the Complex cleaning. The concept for real time measuring that is developed in cooperation with the Chair for Mechanics and Robotics permits the circular operation of the Complex-process for cleaning especially heat exchangers. The circular operation is a prerequisite of the use of innovative fluids for increased performance of cleaning. Furthermore, this type of monitoring permits the automatic documentation of the cleaning parameters.



The data for the monitoring come from a robust measuring unit that will be developed in this project. It should monitor the progress of the Complex cleaning in real time based on the optical and resonance properties of the fluid. The circular mode of operation allows the reduction of the quantity of the required fluid and the use of alternative fluids to improve the performance of cleaning.

## Partners

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