

Data-Driven and AI-Driven optimization of cleaning in place (CIP)

Successful cleaning with minimal resources

Ensuring successful cleaning while minimizing the use of resources (chemicals, electricity, water) is challenging.

Sensor Integration

Adding sensors to measure temperature, cloudiness, pH, and other relevant parameters to gain insights into the cleaning process

Data Analysis

Analyzing the sensor data to identify the optimal cleaning procedures for different food products, leading to reduced resources

AI-Driven Optimization

Using statistics and machine learning allows to forecast the optimal cleaning procedure for a new product

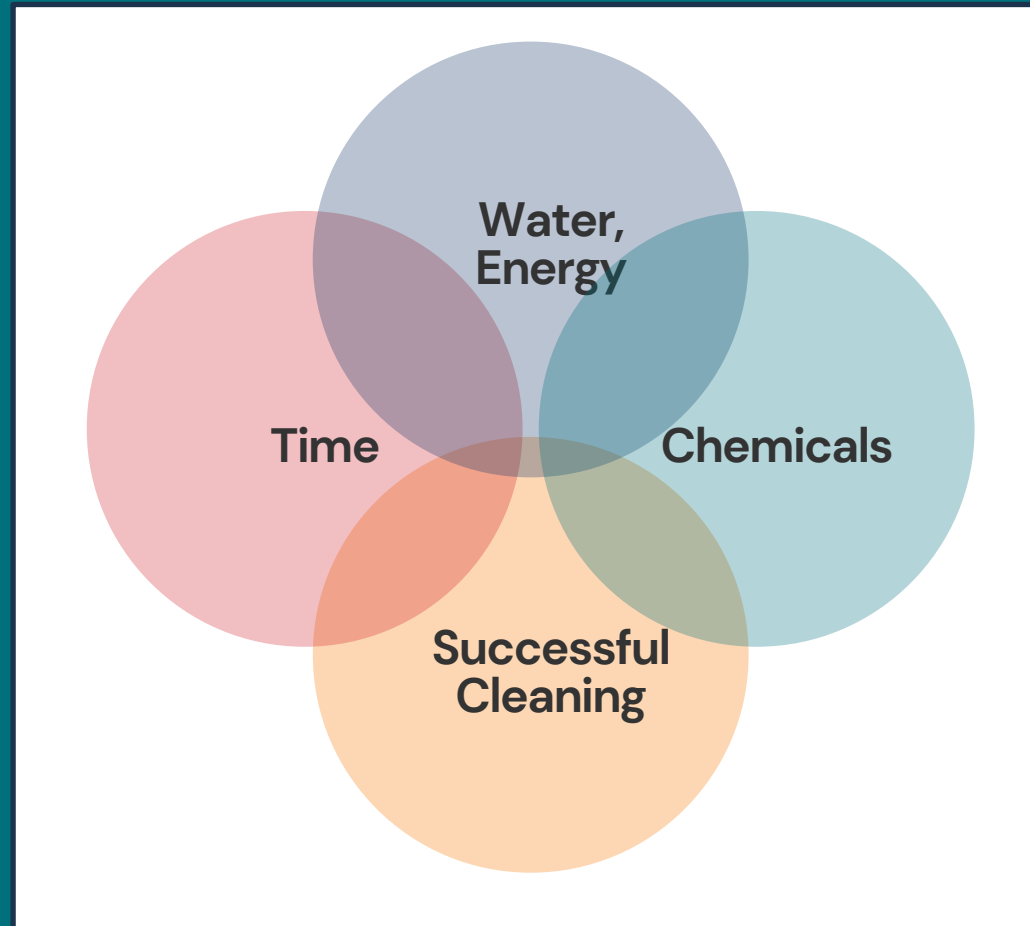
Auditing and Documentation

Storing the cleaning procedure information and results in PDF format for audits and documentation

Minimal resources and successful cleaning

Successful cleaning
with minimal
resources

Ensuring successful cleaning while minimizing the use of resources (chemicals, electricity, water) is challenging.

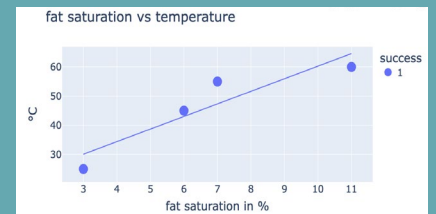
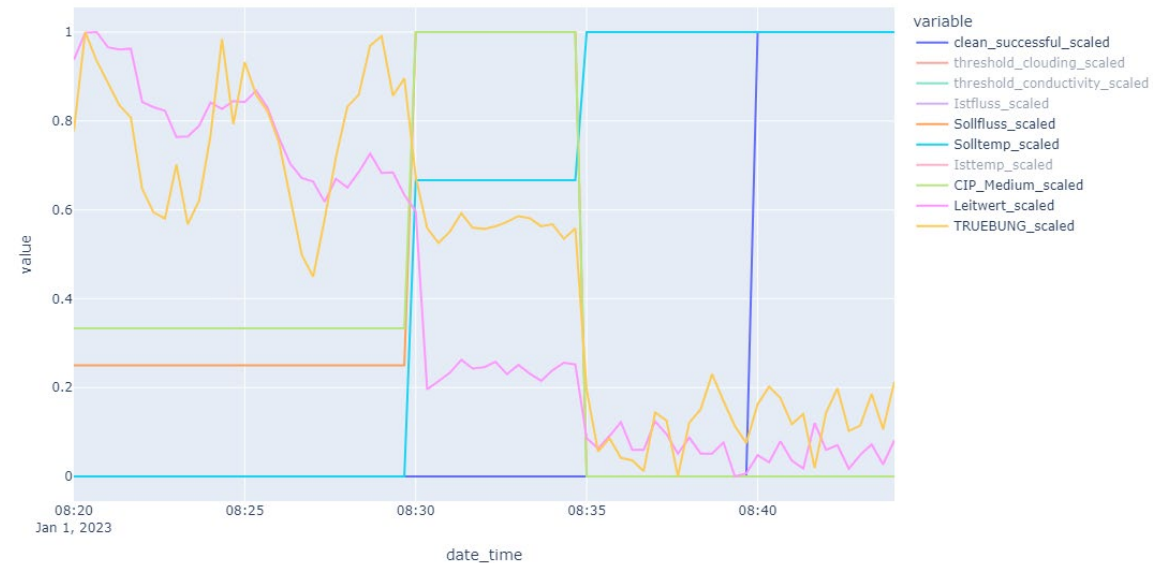


Sensor integration: for resource reduction optimizations

Sensor Integration

Adding sensors to measure temperature, cloudiness, pH, and other relevant parameters to gain insights into the cleaning process

Measure the cleaning process



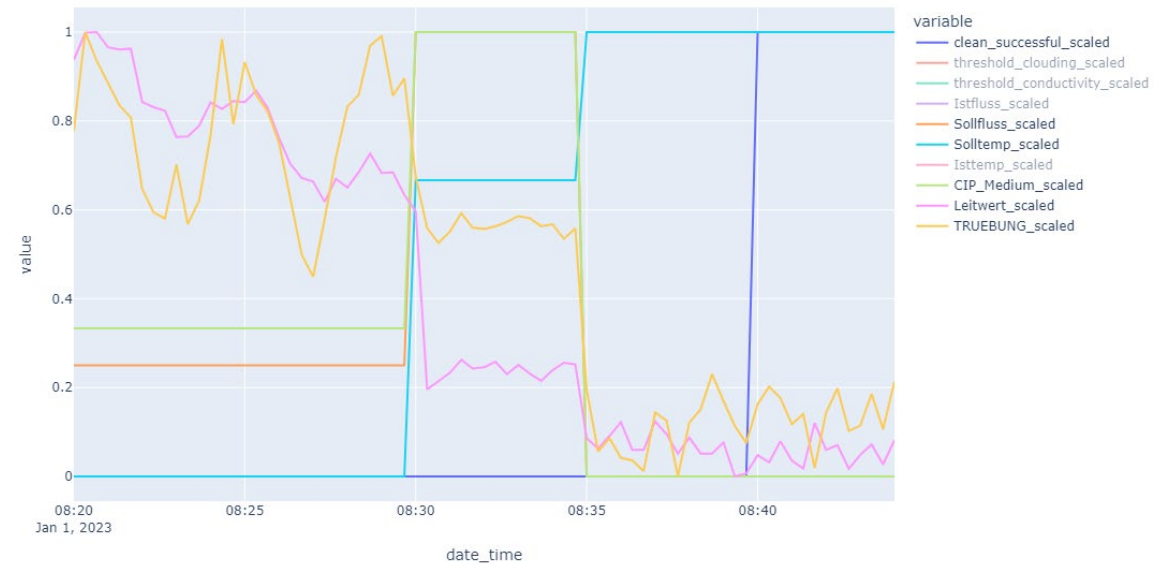
Time savings of 10 % while ensuring cleaning success

Sensor integration: for auditing

Sensor Integration

Adding sensors to measure temperature, cloudiness, pH, and other relevant parameters to gain insights into the cleaning process

Measure the cleaning process



Auditing and Documentation

- Cleaning successfull.
 - 322 g CO2
 - 56 l water
 - ...
- Store as PDF



Find the optimal cleaning procedure for new products

AI-Driven Optimization

Using statistics and machine learning allows to forecast the optimal cleaning procedure for a new product

New food product

- 4 % fat
- 1 % fibers
- ...

ML



Forecast

- Optimal cleaning procedure id: x34z
- Probability of successful cleaning: 99,7 %

The team behind the project



Günter Dorn

Expert in Cleaning Technologies

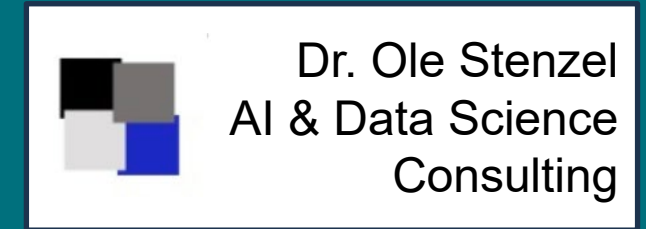
Panoramaweg 25
88339 Bad Waldsee – Germany
[+49 177 1547128](tel:+491771547128)
g-dorn.com
mail@g-dorn.com



Michael Rösch

SPS Programmer

Primelweg 5
88368 Bergatreute – Germany
[+49-170-6136255](tel:+491706136255)
info@roesch-automation.de
<https://roesch-automation.de>



Ole Stenzel

Data Scientist

Augsburger Str. 51
89231 Neu-Ulm – Germany
[+49-177-7093695](tel:+491777093695)
info@ole-stenzel.de
<https://www.ole-stenzel.de>