

Smart Cleaning of Beverage Production

DIGITALIZING PIPE HYGIENE AND CLEAN-IN-PLACE PROCESSES FOR BEVERAGE FILLING LINES



20% SAVINGS,
UNDER 1 YEAR ROI!

Contamination that could be avoided

Beverage producers rely on Clean-in-Place systems to keep tanks, pipes and filling lines hygienic. However, most CIP processes still run according to fixed recipes: the same cleaning time, temperature, water and chemicals are used

regardless of the actual condition of the line. Biofilm and organic deposits can still develop in hard-to-reach areas such as pipe joints, valves, seals, bends and dead zones. This creates quality risk, unnecessary cleaning, higher operating costs and avoidable production downtime.



Existing Clean-in-place

Traditional CIP systems are essential for hygiene, but they often work like a black box. They monitor basic parameters such as temperature, flow and conductivity, but they do not directly show biofilm risk inside critical pipe sections.

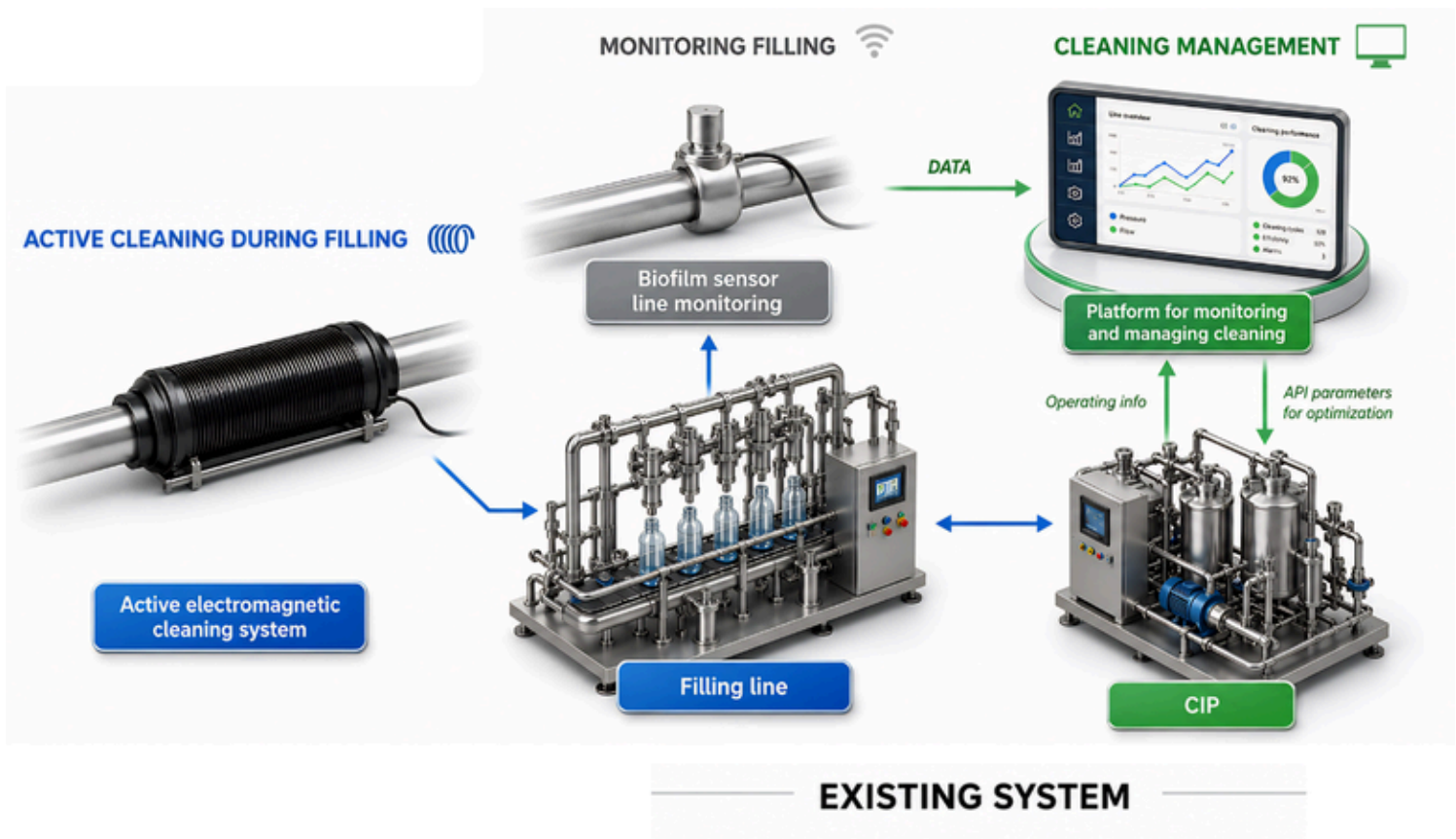
This can lead to two problems: over-cleaning, where water, chemicals and energy are wasted, and under-cleaning, where hidden biofilm remains in the system. Both increase cost, downtime and quality risk.



Optimizing CIP

With IoT monitoring and active pipe-cleaning support, CIP becomes visible, measurable and optimizable. Operators can detect early signs of

contamination, understand where cleaning is needed most, and adapt the CIP process based on real line conditions.

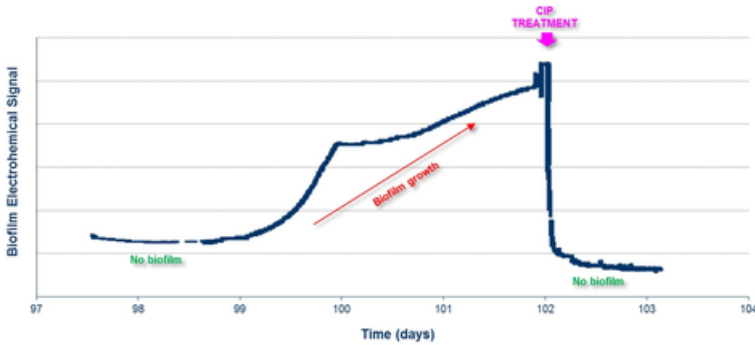


Retrofit-ready IoT solution

The smart CIP optimization system combines a biofilm sensor, smart electromagnetic coil and IoT cleaning management platform.

The biofilm sensor monitors critical sections of the line. The smart coil supports active cleaning during filling and CIP. The platform collects process data, detects trends, and helps operators optimize cleaning parameters.

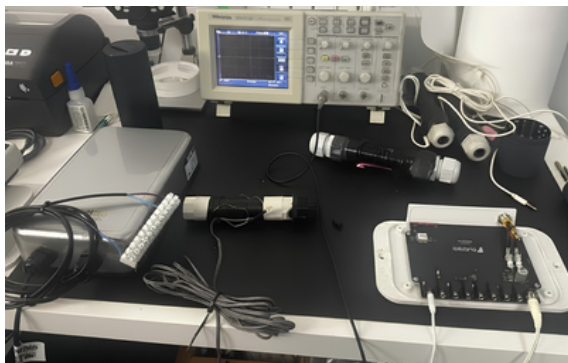
The result is a condition-based CIP process that helps clean pipes more effectively, reduce unnecessary cleaning cycles and improve hygiene confidence without replacing the existing production infrastructure.



Smart Coil



Biofilm Sensor



EU Quality

Designed and assembled in Slovenia, European Union, the solution combines industrial IoT, sensor development and practical knowledge of beverage production. The modular retrofit design supports easier installation, maintenance and future scaling across multiple production lines.

How it started

Slow response on biofilm buildup

High OPEX

High water use

How it ended

+15% faster CIP

Savings on chemical cleaning 20%

20% water savings