

Continuous CIP Validation: Hundreds of Saved Staffing Hours



Monitoring and validating Clean-in-Place (CIP) processes can be a complex, time-consuming, and costly process, particularly for relatively modest operations.

However, production intelligence software powered by AI can make it significantly easier. That's why a German dairy, processing more than two million liters of milk, turned to MontBlancAI for help.

Producing high-quality milk, cream, yogurt, cheese, and butter, the dairy relies on CIP to clean and sanitize equipment and pipelines, ensuring product hygiene, quality, and safety.

Was there a way to streamline and enhance the existing CIP processes?

Let's take a look.

The Challenge

The dairy's primary goal was to monitor and validate hundreds of CIP processes to maintain both safety and quality. Optimizing existing resources was also a priority. The individual challenges in play included:

Time-Consuming CIP Processes

The dairy's existing CIP processes were cumbersome and time-consuming, requiring multiple people and staffing hours to monitor.

Delivering Consistent CIP Performance

The dairy needed to validate hundreds of daily CIP processes to ensure consistent hygiene and product quality across its equipment and pipelines.

Maintaining Compliance During Audits

Demonstrating compliance with industry standards during audits was challenging without continuous verification of CIP process execution.

Optimizing Resource Use

The dairy faced difficulties in identifying opportunities to reduce cleaning time and resource consumption, such as water, acid, and lye, in its CIP processes.

The Solution

This ambitious yet cautious dairy turned to our operational intelligence functions in order to find and address the solutions that would, ultimately, make its CIP processes more efficient and cost-effective.

The management team at the dairy took a systematic approach to enhancing its CIP processes that involved three key aspects of MontBlancAI's production intelligence platform.

◉ Integrated MontBlancAI's Data Pipeline

The dairy connected its CIP machine's S7 PLC to MontBlancAI's proprietary data pipeline via an OPC-UA interface for real-time process monitoring.

◉ Utilizing Process Validation Features

MontBlancAI's process validation features enabled the dairy to train ML models to deliver ideal and optimized cleaning processes.

◉ Streamlining with Intuitive Setup

The platform's intuitive user interface was set up in under a day and allowed all staff to access and verify CIP process execution effortlessly.

The Outcome

Since partnering with MontBlancAI in Fall 2022, the leading German dairy has transformed its Clean-In-Place (CIP) processes, achieving significant operational and environmental improvements.

Hundreds of Saved Staffing Hours

By implementing MontBlancAI, the dairy was able to slash the annual staffing hours required to run operations, making the business significantly more profitable.

◉ Enhanced Process Efficiency

MontBlancAI's Process Validation features provided actionable insights, giving the dairy the ability to reduce cleaning time by hours across over 5,000 validated cleanings.

◉ Conservation of Resources

The dairy saved thousands of cubic meters of fresh water, acid, and lye by identifying areas to reduce resource usage. This contributed to cost savings and sustainability goals.

◉ Continuous Validation and Compliance

Integration with the dairy's S7 PLC via an OPC-UA interface ensured real-time monitoring and validation of CIP processes. This provided verifiable proof of compliance during audits.

◉ User-Friendly Implementation

The intuitive MontBlancAI system was set up in less than a day, allowing staff to easily select datapoints, create triggers, and validate cleaning processes.

◉ Scalable Impact

The success of MontBlancAI prompted the dairy to use our production optimization software for additional CIP machines, enhancing operational efficiency and product quality.



By leveraging MontBlancAI, the dairy improved its CIP process consistency and achieved significant cost savings. There were also various environmental benefits.

Key Takeaways

The dairy's successful project revealed some fascinating facts and insights that will help the operation become more efficient and profitable going forward.

- Improved CIP process efficiency reduces cleaning time significantly
- Production optimization software powered by AI has the potential to save thousands of cubic meters of water, acid, and lye.
- Real-time CIP validation promotes enhanced hygiene and safety.
- MontBlancAI delivers audit-ready compliance documentation.

Start Using Powerful Production Optimization Software Today

Transform your CIP processes, and you transform your entire operation. Start using our production intelligence platform today to reap the rewards with minimal hassle or effort.

