

# WASTE & UTILITIES BURDEN REDUCTION VIA CLEANING OPTIMIZATION

 Europe - Confidential Client

## At a Glance

Hyde Engineering + Consulting reduced water usage by 29%, reduced chemical usage by 30%, and reduced cycle times by 30%.

## About Hyde Engineering + Consulting

Hyde Engineering + Consulting has been a global leader in process system design, commissioning, and FDA compliance for regulated industries since 1993.

### Our Results

**40-60%**

Reduction in Chemical Consumption

**45-70%**

Increase in CIP System Availability


**40-70%**

Reduction in Water Consumption


**1.5-2.5X**

Increase in Manufacturing Throughput



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## PROJECT GOALS

Enable capacity increase for new products & eliminate capital investment need by:

- Reducing cleaning times
- Reducing RO and WFI usage
- Reduce wastewater processing load

## PROJECT COMPONENTS

- In-depth cleaning cycle assessment
- Cleaning pinch-point elimination
- Focus on water usage in cycles only
- Detailed statistical analysis



Cleaning Cycle Assessment



Cleaning Pinch-Point Elimination



Detailed Statistical Analysis

## PROJECT OUTCOME

- 1 Total 29% water reduction realized
- 2 30% reduction in chemical usage
- 3 30% reduction in cycle times
- 4 Statistical approach reduced validation