CLEANING SCIENCE

BIOLOGICS FACILITY CLEANING OPTIMIZATION

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At a Glance

Hyde Engineering + Consulting reduced caustic usage by 40%, overall cleaning times by 50%, and WFI use by 65%. This saved over 800 man-hour reduction in setup.

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

40-70%
Reduction in Water
Consumption

Consumption

45-70%

Increase in CIP System Availability

1.5-2.5X

Increase in Manufacturing
Throughput



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PROJECT GOALS

- Double capacity for new products by:
 - Reducing cleaning times by 50%
 - Reducing WFI usage by 50%

PROJECT COMPONENTS

- Engineering & program gap assessment
- · Cleaning design space exploration
- Automation & mechanical improvements
- · Cleaning procedure improvements



System Flowrate Analysis



Solvent Selection Rationalization



Cleaning Cycle Analysis

PROJECT OUTCOME

- 40% reduction in caustic usage
- 2 50% reduction in overall cleaning times
- 3 65% reduction in WFI use
- 4 800 man-hour reduction in setup