

CLEANING SCIENCE

SMALL MOLECULE API CLEANING OPTIMIZATION

Europe - Confidential Client

At a Glance

This confidential client saved ~€3.75M per cleaning operation while limiting cleaning failures to less than 5%.

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



✉ info@hyde-ec.com

🌐 www.hyde-ec.com

📍 27/29 Orwell Road
Rathgar, Dublin 6, Ireland

PROJECT GOALS

- Reduce cleaning turnaround (previously 80 - 100 shifts, linear)
- Eliminate failures (previously 37 % of systems)

PROJECT COMPONENTS

- Solvent selection rationalisation
- Cleaning cycle analysis and refinement
- Cleaning sequence diagnostics, partition and re-sequencing
- Cleaning device efficiency assessment
- System flowrate analysis
- Sampling procedure and training review
- Sample testing and method validation review
- Work practices and protocol review and refinement
- Client led, SME consultation and assistance provided, partners and methodologies recommended



System Flowrate
Analysis



Solvent Selection
Rationalization



Cleaning Cycle
Analysis

PROJECT OUTCOME

- 1 Cleaning failures **limited to 5%** of systems (inherent design issue)
- 2 Cleaning turnaround **reduced to 32 shifts** (multi-stranded)
- 3 Operational **savings of ~ €3.75 million per cleaning operation**
- 4 Batch capacity **increased by 27 per annum**