

Success Story

N-1 Perfusion High Inoculum Fed-Batch for Reduced COGS and Easy Retrofit

A mid-to-large biopharma wanted to increase productivity 2-3x in their fed-batch facility and also reduce their current cost of goods (COGS). With one small change in the upstream (USP) seed train, the customer was able to meet their goals.

Customer Challenge

- High COGS
- Existing fed-batch facility with ability to produce only one product
- Increase productivity with existing facility

Provided Solution

- Versatile, single-use, perfusion-enabled rockers and Biostat STR®s
- Integrated and scalable process analytical technology (PAT) solutions

Case Profile

Company Type:
Mid-to-large Biopharma

Related Molecule:
mAb



Before

- Standard fed-batch process that:
- Required 4-8 Biostat STR®s
 - Averaged 0.42 productivity per g/L/day
 - Produced 3-5 g/L



After

- N-1 perfusion high inoculum fed-batch process that:
- Increased facility throughput by 2x with same footprint
 - Achieved a two-fold productivity increase per bioreactor, reaching 0.8 g/L/day
 - Increased to 6-8 g/L titer with the same seed train in N-1 perfusion mode

2x productivity
increase per batch

20-30%
cost/g reduction in the
manufacturing process

Modest change to current facility,
increasing
throughput
while maintaining footprint

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