ENZENE

Passion. Innovation. Life.

Delivering higher productivity, quality and sustainability at a significant cost advantage using EnzeneX™

www.enzene.com

Advantages of EnzeneX™

Productivity

Up to **10x** higher than traditional fed batch

Streamlined induction

On-boarding in only **eight weeks**

Flexibility

Clinical phase GMP suppy in **30-50L** scale & modular design with variable bioreactor capacity accelerates development with scale-on / scale-out approaches

Superior quality

Minimized product contact with cell culture fluid reduces aggregation and degradation even for less-stable and difficult-to-express proteins

Accelerated pace

~ **10 months** from gene to phase 1

Sustainability

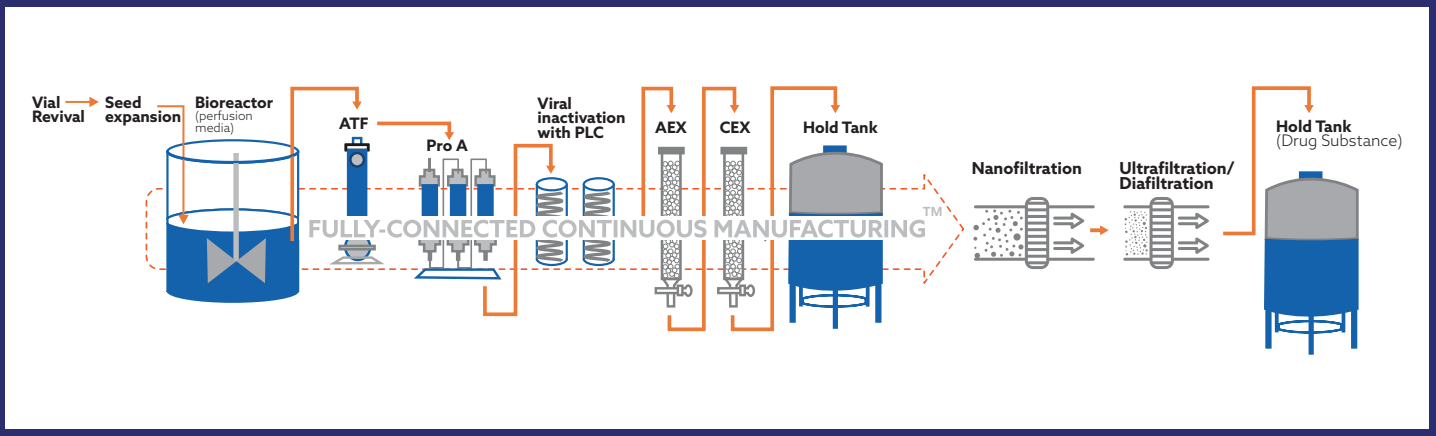
Up to **70%** reduction in footprint with **50%** decrease in carbon emission

Cost of Goods

Up to **50%** reduction in COGS

A key asset in our commitment to delivering maximum value is our fully-connected continuous manufacturing™ (FCCM™) technology platform, EnzeneX™

Fully-connected continuous manufacturing™ (FCCM™) represents an innovative and progressive alternative to the conventional fed-batch processes, particularly in the production of complex biologics. It entails seamless and uninterrupted processing from initial cell culture to the final drug substance. This patented technique optimizes quality, efficiency, and flexibility in delivery.



Five reasons to choose fully-connected continuous manufacturing™:

Enhanced efficiency & productivity: FCCM™ enhances efficiency and productivity by streamlining unit operations, reducing downtime between batches and optimizing resource utilization. Our patented EnzeneX™ continuous manufacturing platform has demonstrated increased upstream processing productivity by ~10-fold, and downstream processing productivity by 25-50%, over a traditional fed batch process.

Enhanced product quality: Continuous extraction of the product from the bioreactor (followed by purification) minimizes the product's contact with harmful metabolites and proteolytic enzymes, which would otherwise accumulate in a conventional fed-batch process. This feature allows for a significant reduction in protein aggregation and degradation (clipping, oxidation, deamination, glycation), resulting in higher product quality, even for proteins that are less stable or challenging to express (fusion proteins, bi/multi-specific antibodies, cytokines).

Reduced area footprint & emissions: Smaller equipment and single-use bioreactors reduce facility size and carbon footprint (up to 50% as observed with EnzeneX™).

Flexible design: Clinical phase GMP supply in as low as 30-50L scale and modular design with variable bioreactor capacity accelerates development with scale-on and scale-out approaches. Scale-on using the same size bioreactors with higher process duration and scale-out using multiple same size suites to enable right-first-time transfer.

Reduction in COGS: Lower operational costs combined with high productivity translates into ~50% reduction in overall cost per gram of manufacturing for the product.

Global R&D and Manufacturing*, Pune, India

*Our microbial and mammalian DS plants as well as our sterile fill & finish plant have received EU-GMP certification

USDA Designed Facility, New Jersey, USA

Ready to bring your next molecule to life?

Contact us today and discover how ENZENE can help you: bd@enzene.com | www.enzene.com