



FROM DEVELOPMENT TO CLINIC - Faster, Smarter, and with Open Eyes



More Savings



More Therapies



At More Locations

ENABLING SCALABLE, INTELLIGENT CELL THERAPY MANUFACTURING FROM DAY ONE WITH THE ADVA X3

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CONS OF EARLY AUTOMATION

Cons of Early Automation

May **lock in** a process too early, before biological variability is fully understood



Early formalization may create concern for future process changes if the biology evolves



Scale-up **benefits may not be immediately** needed in low-throughput Phase I trials



Greater initial capital and operational expenses during early clinical stages.



Automation can **slow rapid process iteration** during early learning phases



Risk of collecting **extensive data** on a process that may **later change**



May **over-invest in manufacturing** sophistication before clinical proof-of-concept



Early teams may **lack automation, validation, or QA expertise**, creating friction



ROI is uncertain in Phase I when program attrition risk remains high

OUR SOLUTION

NOT LIKE ANY OTHER AUTOMATION PLATFORM

1 Smart

- **14 controlled Parameters**
- **Patented CAMP[®]** metabolic controlled culturing
- Integrated **machine learning and AI** optimization
- Remote control
- CFR 21 Part 11 reporting with EBR

3 Simple

- Technician-level operations
- Designed for scale-up/out
- Proprietary sterile connectors

2 Flexible

- One device for different therapies, **CAR T, TCR, NK, TIL, Exosomes**
- User Programable
- Media/supplements **agnostic**
- Seamless transition **from R&D to commercialization**

4 Cost Effective



ADVA X3 was purposefully designed to overcome the limitations of current cell therapy platforms by offering a smart, flexible, simple and cost-effective solution

OUR SOLUTION

MULTIPROCESS UNIT WITH SINGLE-USE KITS

ADVA X3[®]

Waste Bag Storage

Control System Touch Screen

4⁰ Bag Storage

Incubator

DUAL-CONTROLLED DISPOSABLE KIT

Cell Culture Chamber

Easy Connectors

Conditioning Chamber

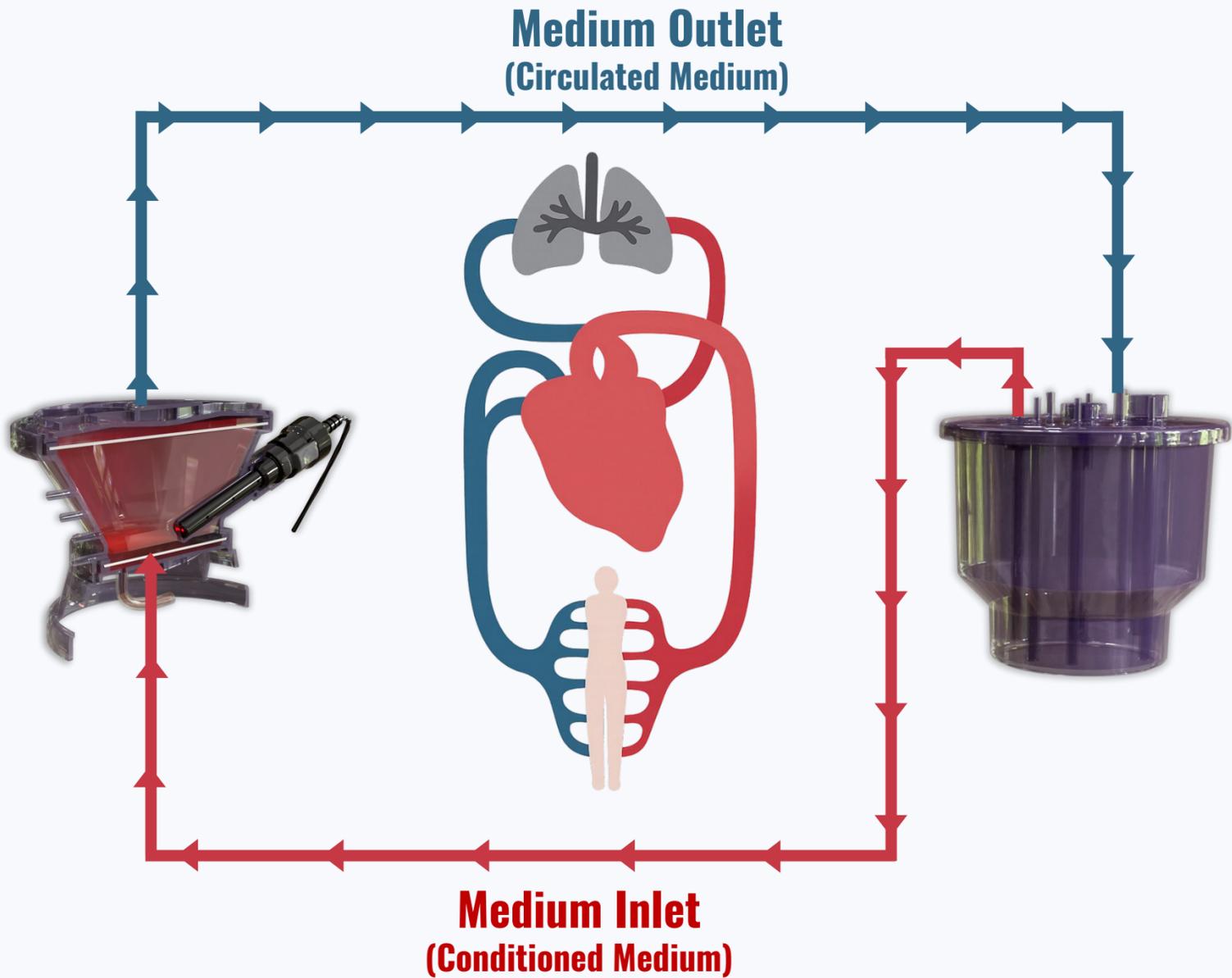
CONTINUES ADAPTIVE *MULTI-PARAMETER CONTROL*

CAMP® TECHNOLOGY



CONTROLLED

- pH
- Dissolved Oxygen
- Glucose
- Lactate
- Glutamine
- Glutamate
- Pressure
- Flow rates
- Temperature
- Volume
- O₂
- Nitrogen
- Air
- CO₂

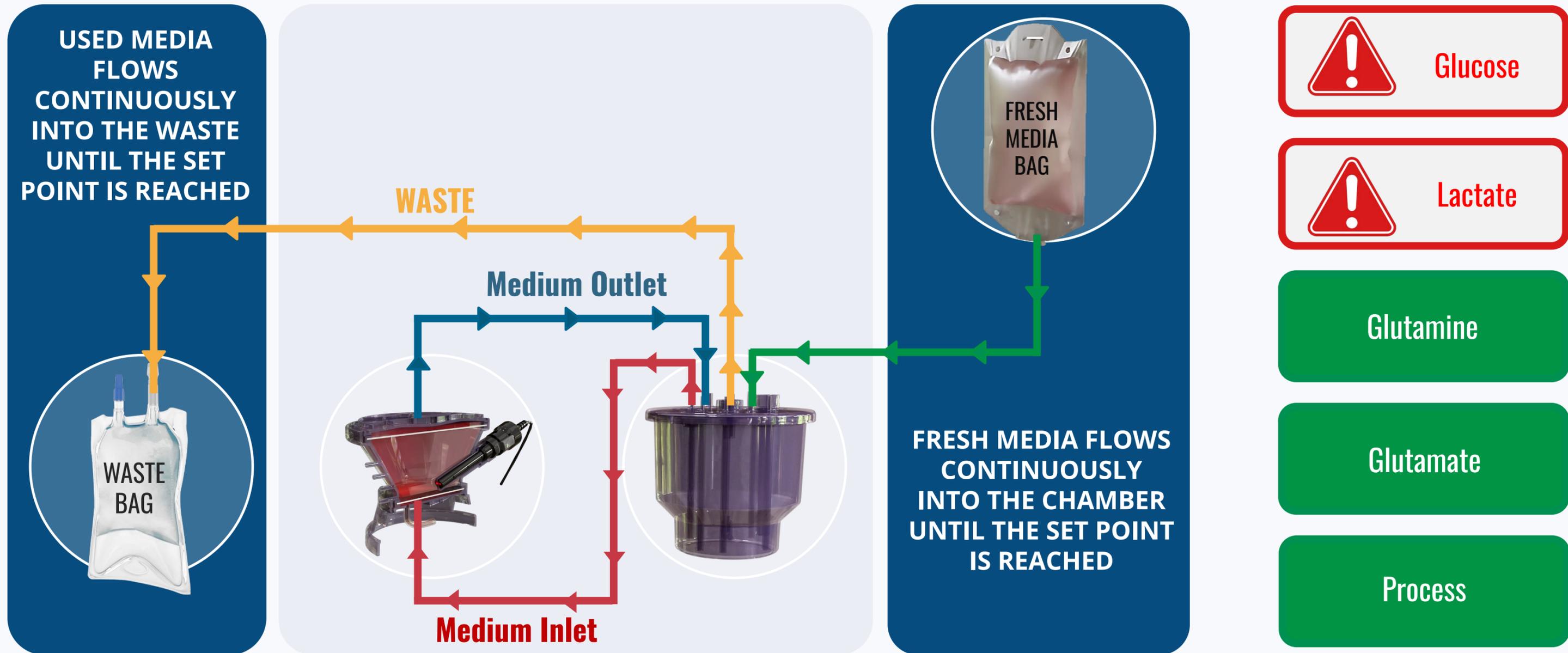


DYNAMIC

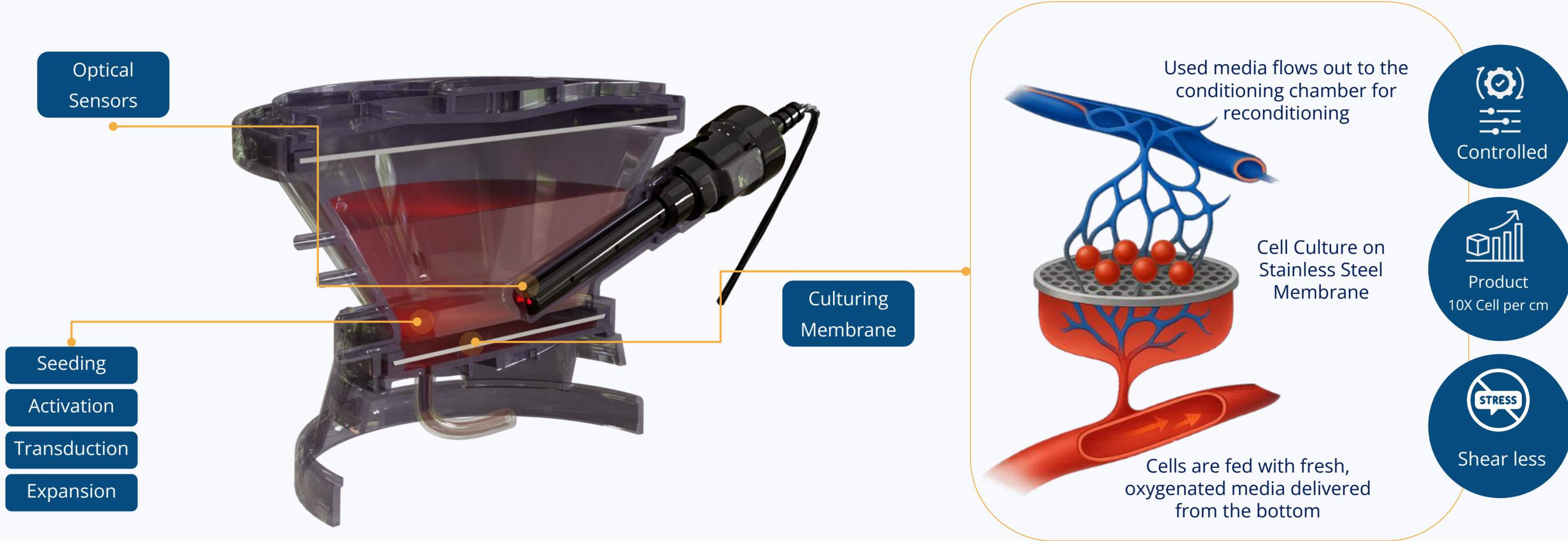
- pH
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- Glucose
- Lactate
- Glutamine
- Glutamate
- Pressure
- Flow rates
- Temperature
- Volume
- O₂
- Nitrogen
- Air
- CO₂

CONTROL SCHEME

FULL/PERIODICAL PERFUSION MODE

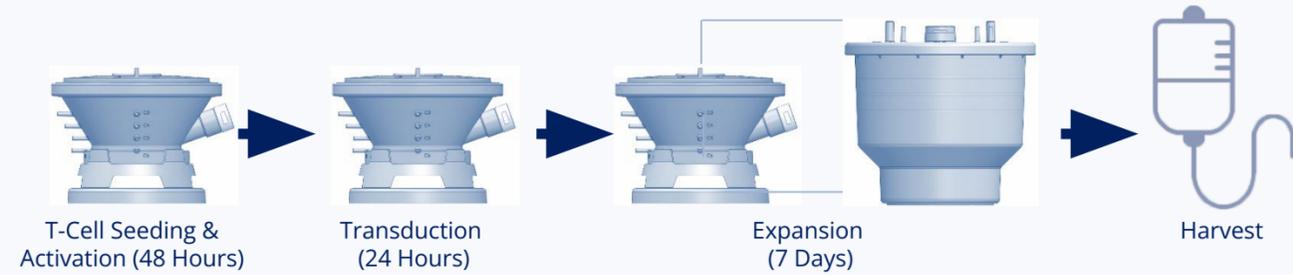


ADVA CONE - MODE OF ACTION AND FLOW PATH



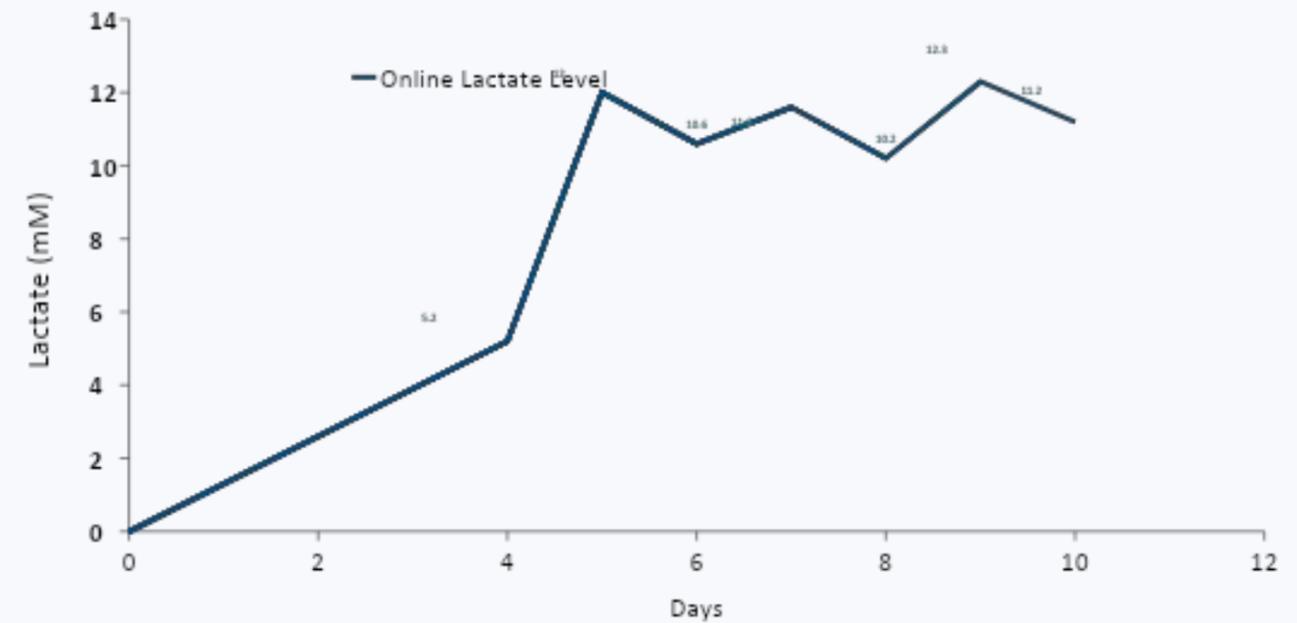
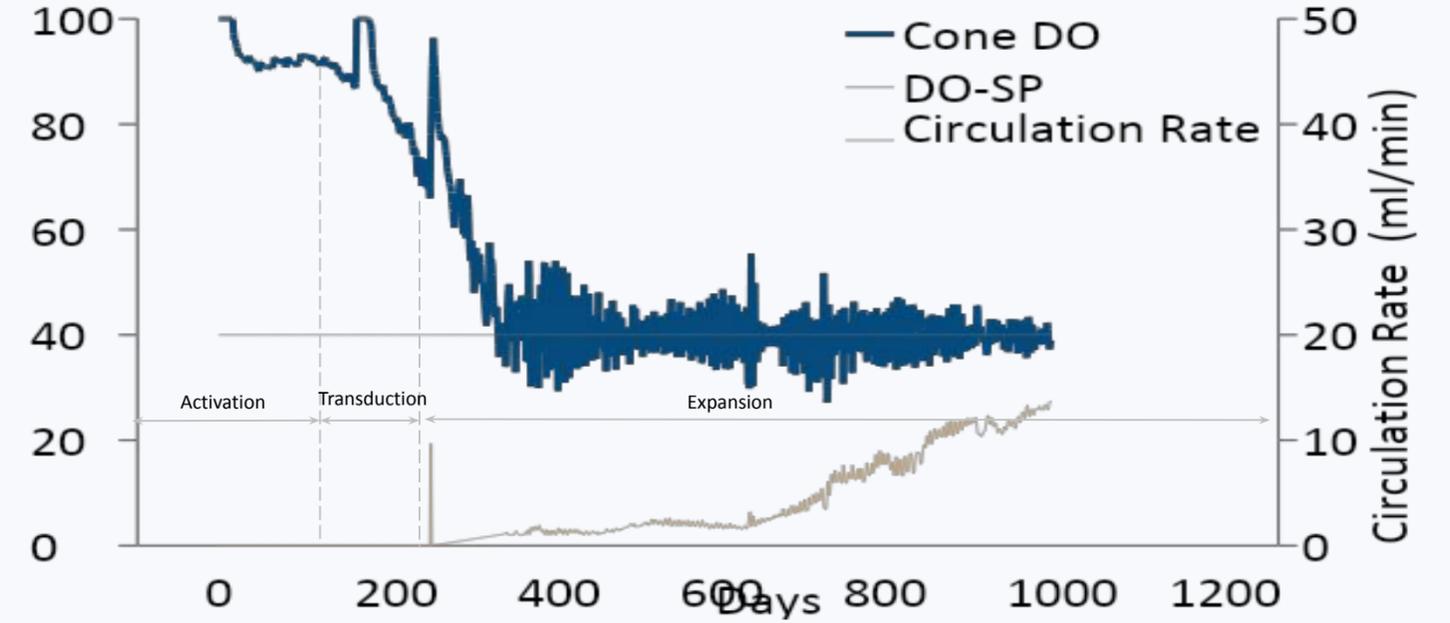
Our proprietary structured membrane allows media to flow from bottom to top, creating a uniform, shear-free diffusion environment. This design feeds cells with optimal nutrients, mimicking the natural flow dynamics found in the human body

LIVE PROCESS INSIGHTS

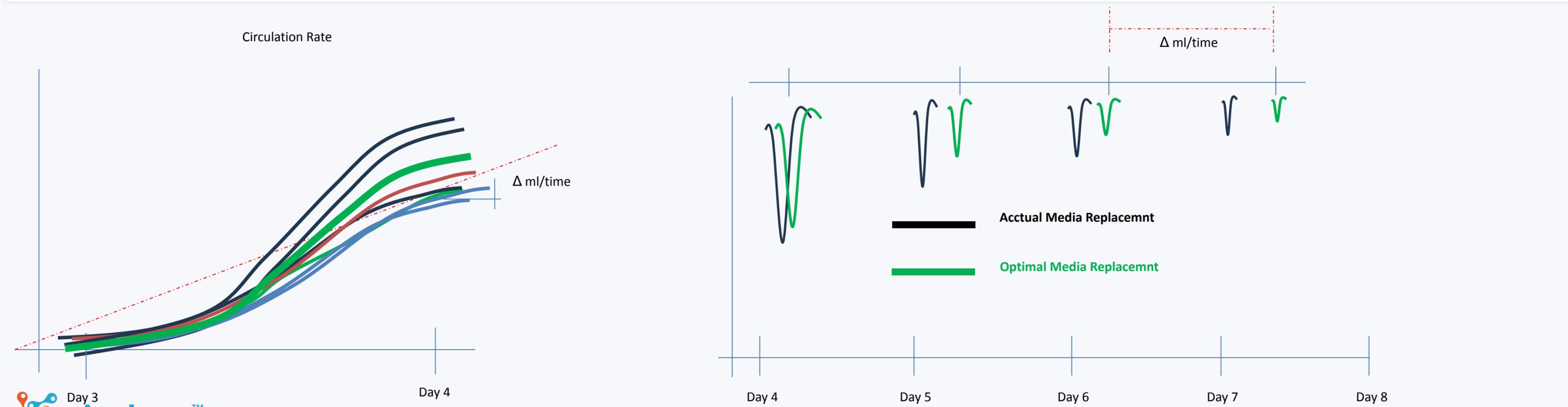
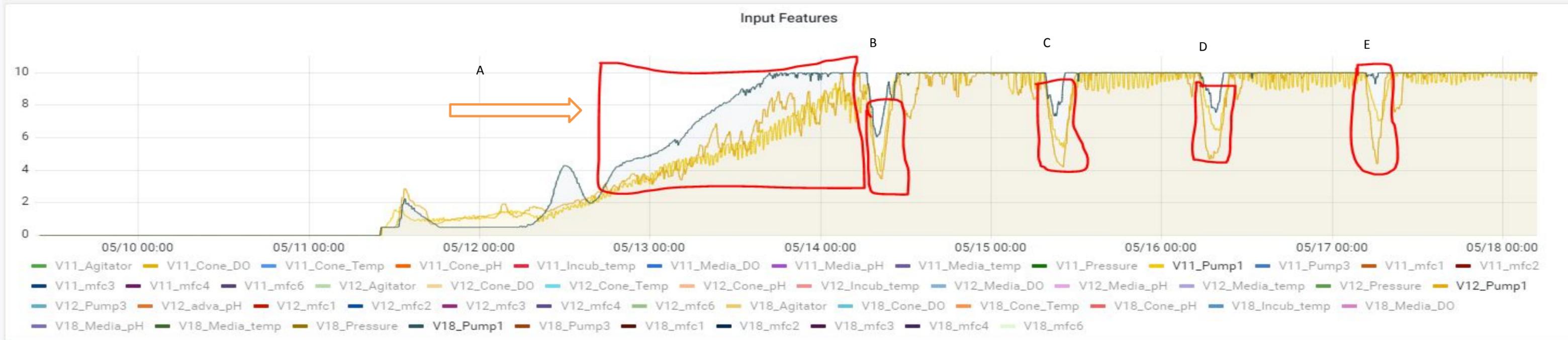


Manual Gold Standard	ADVA X3 	
60E6	60E6	Seeding Cells
10	10	Expansion Days
3.3E9 ±0.7E9	8.55E9 ±0.8E9	Harvest
±1.4% 92%	±1.3% 95%	Cell Viability
±0.15 5.76	±0.15 7.17	Cell Doubling

n=3

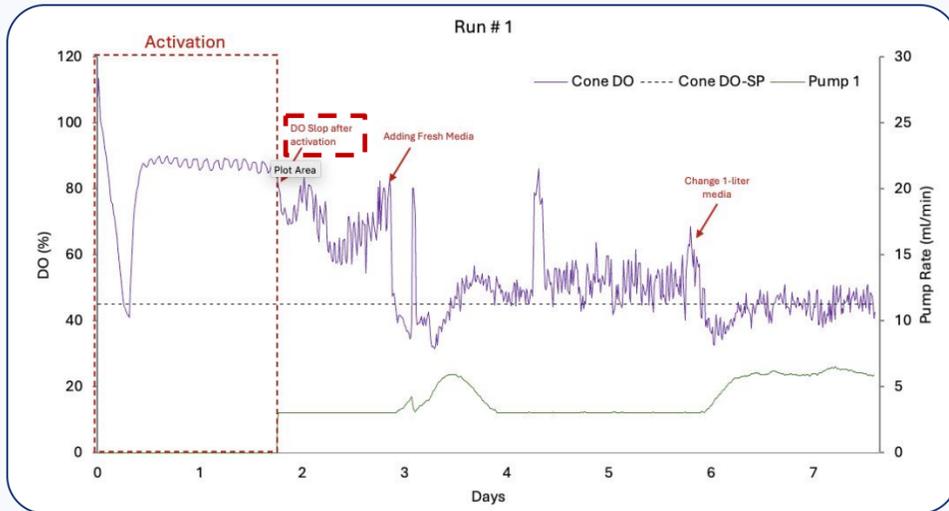


USE CASE – ESTABLISH STANDARD GROWTH

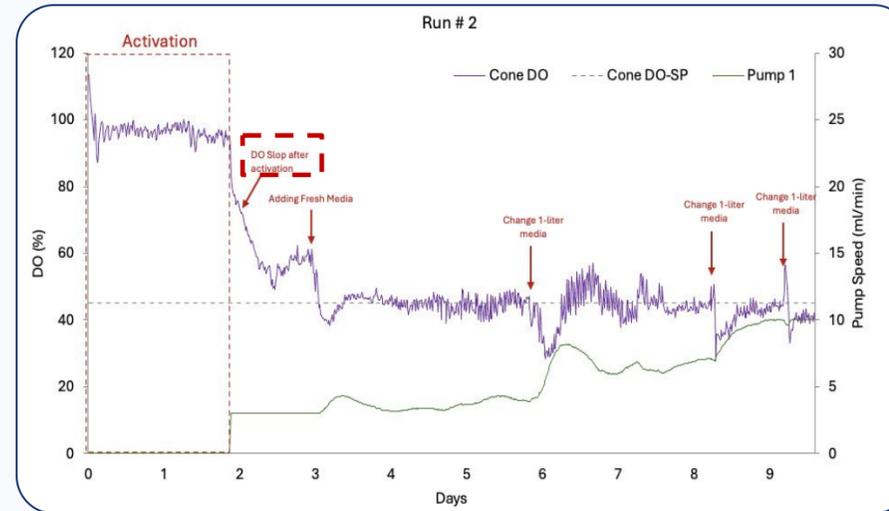


FROM R&D TO AUTOMATED GMP

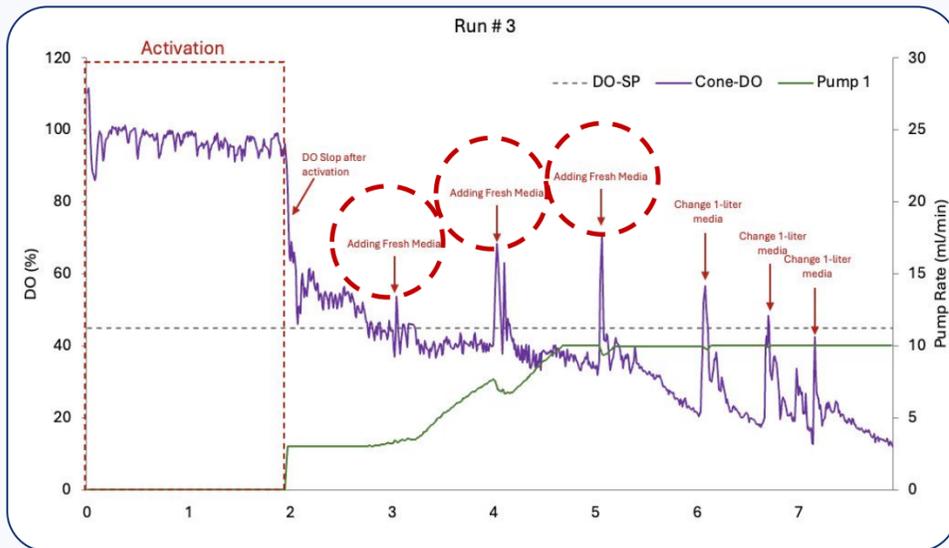
ADVA X3's live process control enables rapid transition from manual or R&D workflows to full automation. Cellipont, a leading U.S. CDMO, achieved this shift in just three months



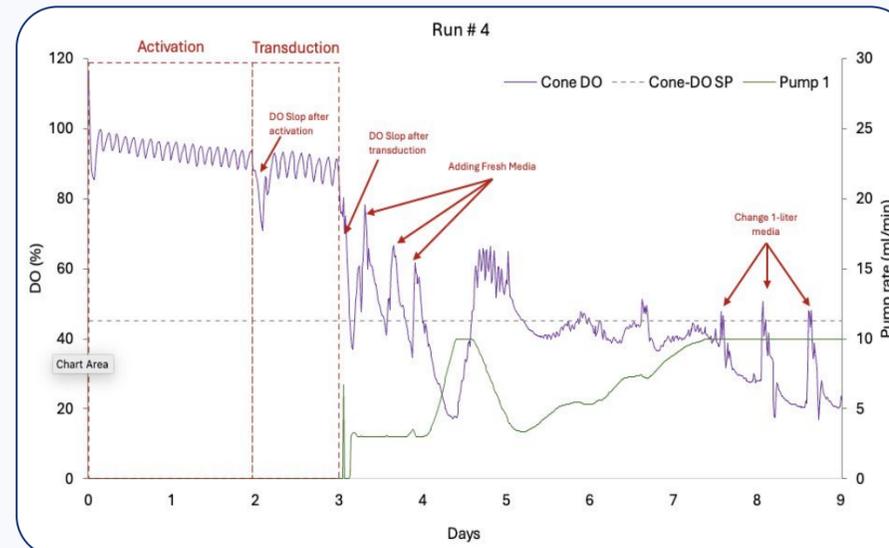
Run 1: 774.6E6 □ 76.6% Viability



Run 2: 3.15E9 □ 72% Viability



Run 3: 5.89E9 □ 93% Viability



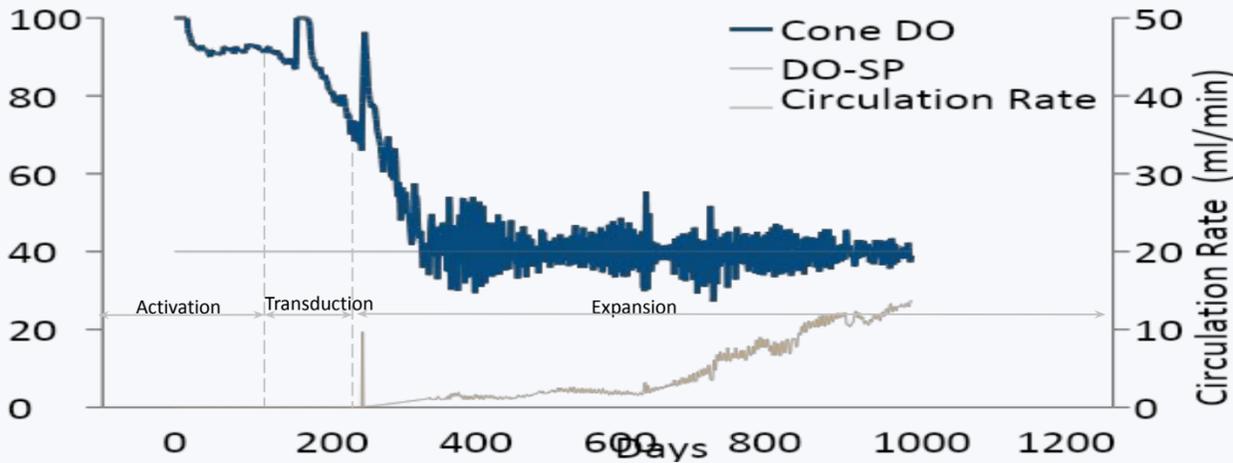
Run 4: 4.14E9 □ 92% Viability

**Transduction rate - ADVA X3 58%
(control 38%)**

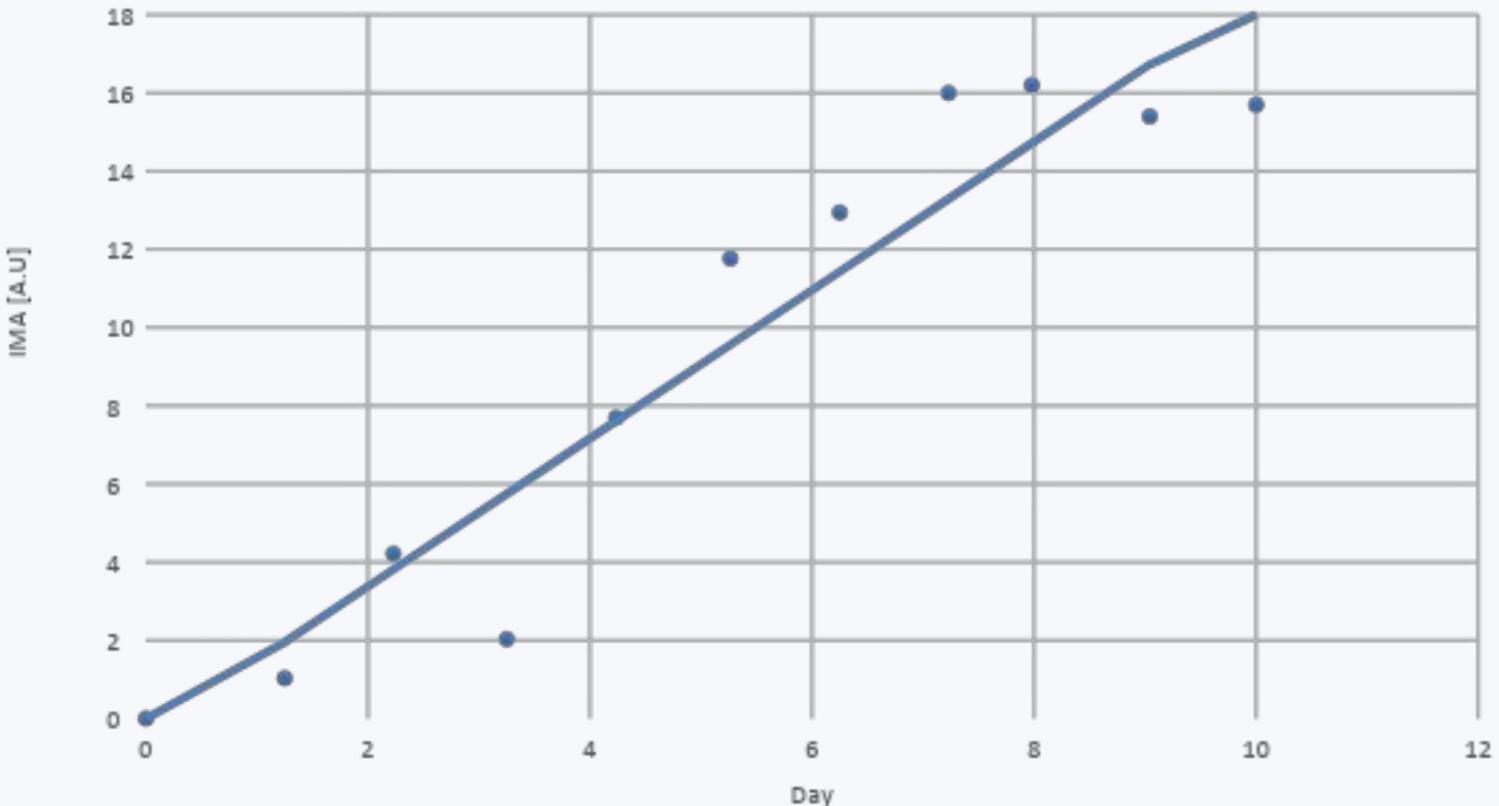


Download
Whitepaper

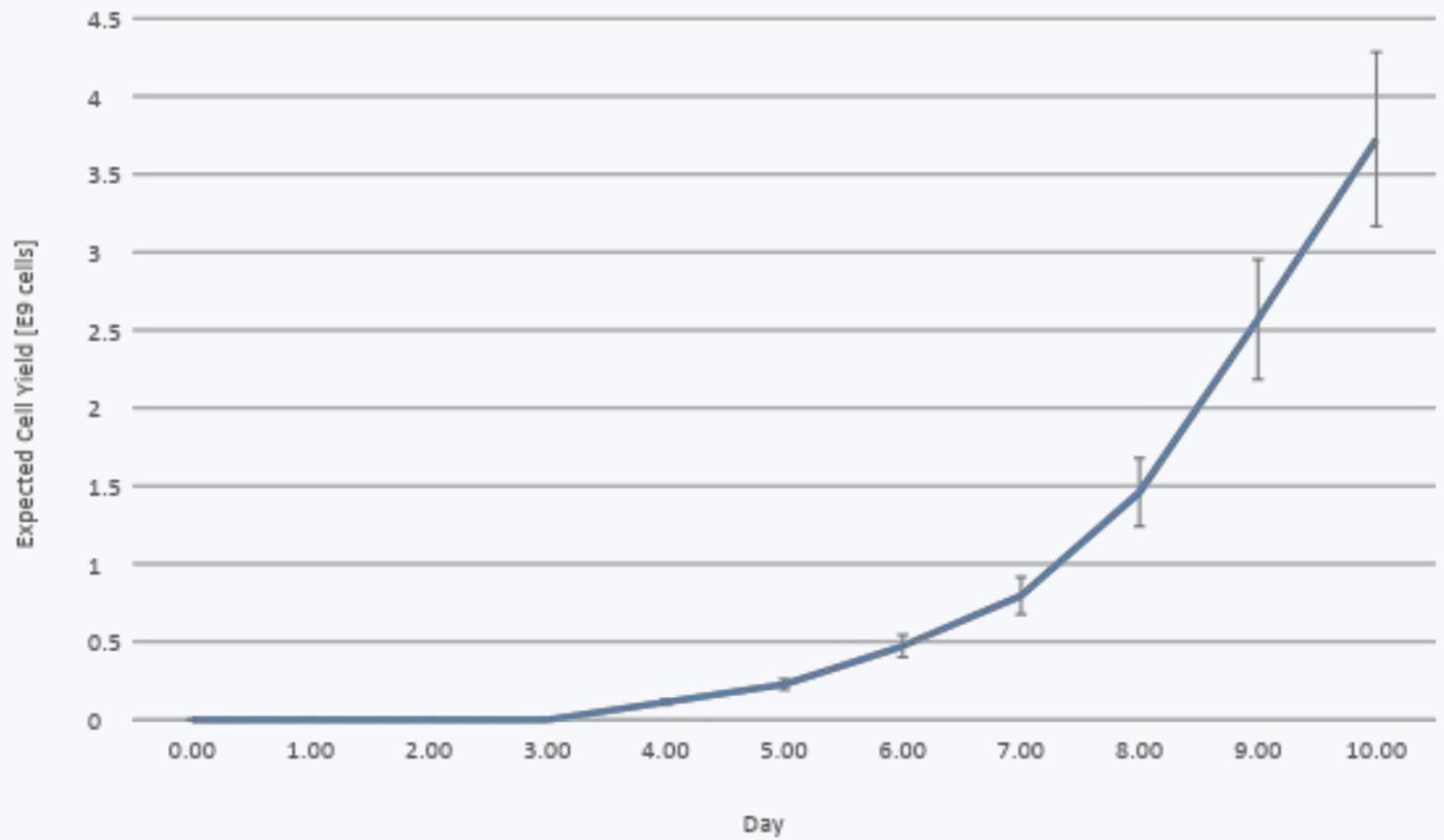
DATA-DRIVEN PROCESS METABOLIC ACTIVITY



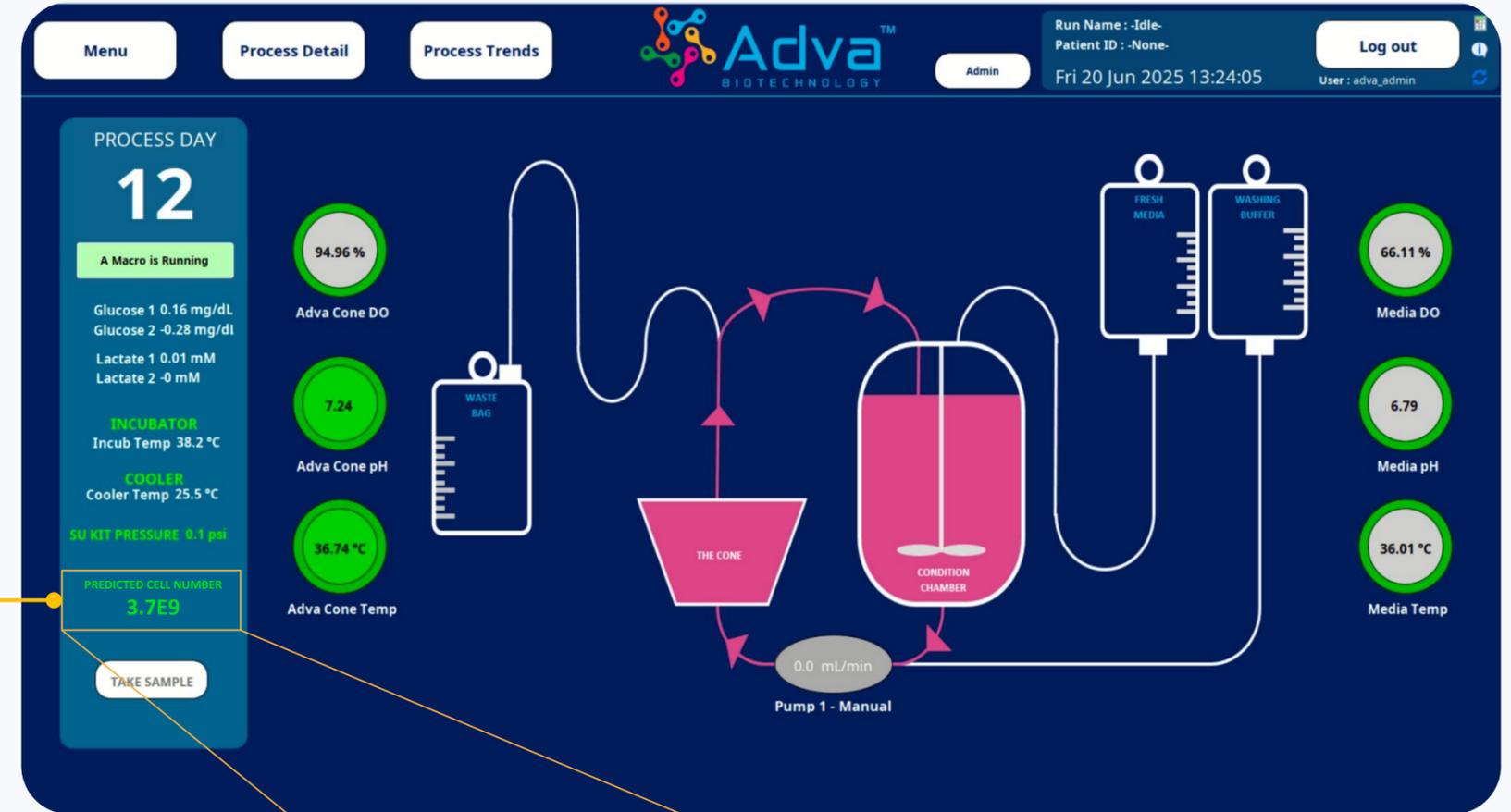
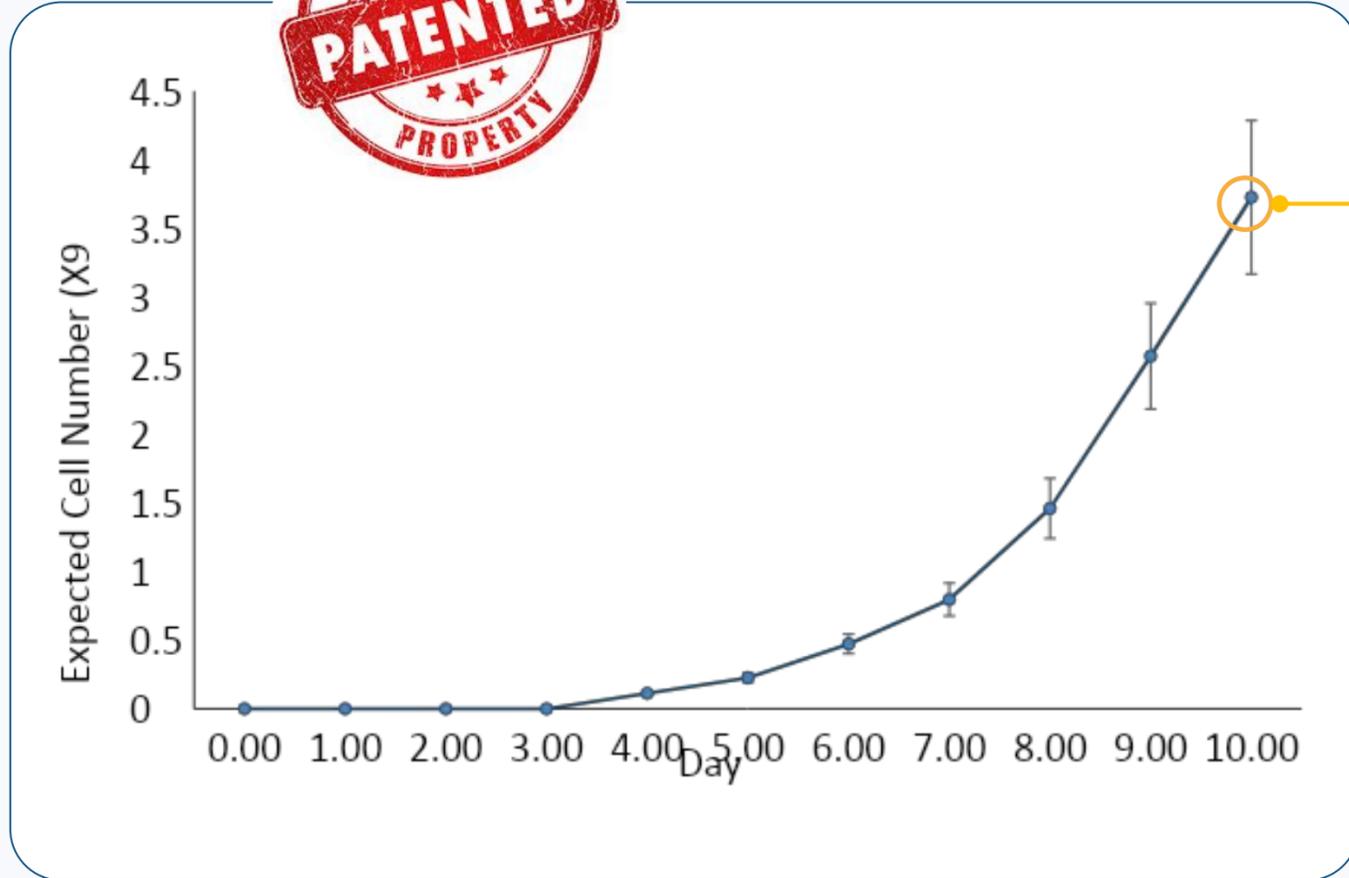
Integrated Metabolic Activity (IMA) Curve



MDF-based Cell-yield transformation



METABOLIC BASED PREDICTION



Real Cell Yield
3.6E9 Cells

Predicted Cell Yield
3.7E9 Cells

PREDICTED CELL NUMBER
3.7E9

Cell prediction during expansion will be integrated using our algorithm and displayed online in real time.



OUR SOLUTION

***NOT LIKE ANY* OTHER AUTOMATION PLATFORM**



Smart

- **14 Controlled** Parameters
- Online Monitoring and Feedback
- AI and Machine Learning-Based Prediction and Optimization Tools
- Electronic Batch Records and Reports
- CFR 21 Part 11 Compliance



Flexible

- **Programmable** by user
- Compatible with most types of reagents and materials
- Modular unit operations in one device
- **CAR T, TCR, TIL, NK, Exosomes, Virus...other**



Simple

- **Technician level operator**
- Aseptic connectors, no need for welding
- Simple and intuitive operation
- Easy installation, plug and play
- Automated integrity testing
- Alarms and notifications
- Easy tech transfer



Cost Efficient

- **Cutting the cost of goods by over 80%**
- Minimal handling – fully automated
- Closed single-use system – low-grade cleanroom (C/D)
- Optimizable (higher yields, efficient material use)
- 20 million cells to 20 Billion in one chamber

PROS OF EARLY AUTOMATION

Pros of Early Automation

Reduces operator-to-operator **variability**, improves batch-to-batch reproducibility

Digital batch records and **CPP data** that strengthen IND/IMPD submissions

De-risks later scale-up, site transfer, and CDMO tech transfer

Lowers long-term COGs. lower labor, deviations, and lower-grade cleanrooms

Avoids re-engineering, comparability, and revalidation – **lower development costs**

Enables early identification of **CPPs, CQAs**, and design space through richer datasets

Signals **manufacturing maturity** and lower execution risk to investors and partners

Risk-based development encourages early **GMP, QA, and digital infrastructure**

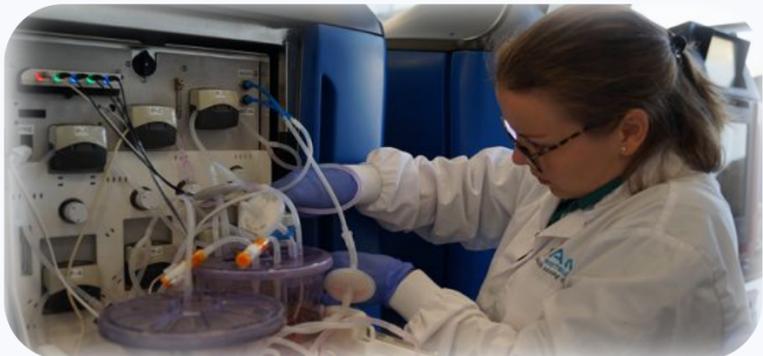


Strong ROI as the program advances quickly toward late-stage development

ADVA X3 – INDUSTRIAL



READY TO SCALE



SMART TOOLS, ENABLING BETTER CELLS TO MORE PATIENTS



VALUING LIFE, GRANTING ADVANCED THERAPIES TO PATIENTS