Cellcraft

PATENT-PENDING TECHNOLOGY

Cellcraft IQ®

The world's first **plug-and-play AI operating system** for bioreactor automation and optimisation. Turn any bioreactor into an intelligent, self-optimising system.

Replace static, manual setpoints with real-time, AI-driven control.

Cellcraft IQ is built on a patented **Ensemble AI architecture** that combines machine learning, physics-constrained modelling, and adaptive control. It responds to what your cells actually need at every stage of a run, with **zero hardware modifications required.**

- ✓ **OEM-agnostic integration**
  Works with any PLC and SCADA via API.
- ✓ **Predictive control**
  Model Predictive Control prevents failures before they happen.
- ✓ **Fast deployment**
  Live in under 12 weeks, with minimal disruption.
- ✓ **Continuous optimisation**
  The cloud platform learns across every installation and improves over time.

PROVEN PERFORMANCE

99%	45%	98%	90%	22%
less control error	faster settling	precision improvement	less overshoot	less batch variability

Versus conventional bioreactor control software, in internal testing.

15 to 40% estimated cost reductions, with minimal AI training.

INSIDE THE PLATFORM

MONITOR

Live Bioreactor Foundry

Real-time view of every reactor: temperature, pH, DO, alarms, ISA-88 control mode, and PAT analytics in one pane.

MLOPS

AI Models Registry

Full lifecycle for every model: champions, challengers, drift, plus RMSE, R^2 and MAE. Aligned to ICH Q8 PAT and GAMP 5.

CONNECT

Hardware-Agnostic Integration

OPC UA, MQTT, REST, LIMS and MES. ISA-95 and IEC 62541 adapters that connect to your existing stack.

TRUST

Compliance and Audit Trail

21 CFR Part 11, EU Annex 11 and ALCOA+. Immutable, SHA-256 hashed records with a full GAMP 5 validation lifecycle.

Two ways to run it

- **Advisory Mode**
  AI suggests actions, your operators approve.
- **Automation Mode**
  AI executes control decisions directly and closes the loop.

21 CFR Part 11 | EU Annex 11 | ALCOA+ | GAMP 5 | OPC UA | ISA-95

What it unlocks for your business

- → **Premium positioning.** Achieve 10 to 30% higher ASP with intelligent performance.
- → **Clear differentiation.** Stand apart with cutting-edge, AI-driven systems.
- → **New markets unlocked.** Reach high-growth sectors such as cultivated meat.
- → **Fast time to market.** Accelerate your development roadmap.

WHAT PARTNERS ARE SAYING

> "The integration of AI and biosensor technology represents a transformative advancement of bioreactors, delivering optimised performance with greater efficiency.

Dr. Rachel Hewitt Asst. Research Professor, University of Cambridge

> "We are proud to be selected as a technology partner by Cellcraft IQ for next generation AI bioreactor, enabling a data-driven approach to greater process consistency and faster time to market.

Jason Ng Director & Manufacturing VP, Cell AgriTech

BACKED BY

NVIDIA Inception | Innovate UK / UKRI | University of Cambridge | Royal Academy of Engineering | Big Idea Ventures | HM Government | TechCrunch

Schedule your free pilot integration.

Meet us at BioInnovations, or scan the code to get started. We assess your stack and map a deployment in under 12 weeks.

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