



Enabling a Continuous Bioprocess Manufacturing Platform

Challenge

CellRev's game changing technology is founded on the ability to continuously grow, detach, and collect adherent cells (cells which need to be attached to a surface for growth to occur). Enzymatic cell detachment offers a breakthrough in the ability to control and balance the rates of cell growth and detachment, opening the way to a scalable, continuous process for adherent cell expansion. The challenges of *productivity* – (achieving very large cell counts) and *product flexibility* (maximizing compatibility of with clients' pre-existing systems) are, however, inherent to all CellRev's target markets.

Approach

Britest designed a bespoke facilitated study in consultation with senior leaders at CellRev to capture critical process understanding. Over three sessions, with the support of a Britest facilitator, CellRev's study team were able to turn their collective knowledge into a series of working descriptive models, a prioritized scale-up risk assessment, and thirty follow-up actions for further concept development, validation of hypotheses and assumptions, plugging of knowledge gaps, and pursuit of new ideas.

Study output included a Process Definition Diagram annotated for scale-up risks, detailed Transformation Maps and Rich Pictures of the core enzyme cocktail action, critical cell transformations and comparative descriptions of the detachment forces at play in batch and continuous operation.

Benefits

- Consolidation of various aspects of biology and bioprocessing knowledge and creation of a shared foundation within the team
- An important element to shape the focus of CellRev's ongoing R&D programme
- Feed into subsequent inter-company technology transfer with Cellrev's chosen development partner, ultimately leading to the successful launch of a new continuous manufacturing platform.

“ Britest played an important role in improving process understanding for a breakthrough in continuous bioprocess technology. ”

HARSH BHUTA, Senior Product Manager,
CellRev, Newcastle upon Tyne, UK

An [extended version of this case study](#) is available.

Generating value from process understanding

Key Features:

Client - CellRev

Industry - Application Area

Biomanufacturing of cell-based vaccines and advanced therapies - Knowledge Sharing, Technical Facilitation, Whole Process Understanding

Challenge

CellRev wanted to establish a technology platform for continuous adherent cell expansion in upstream biomanufacturing combining productivity and product flexibility.

Solution

A bespoke Britest facilitated study translated critical process understanding into a series of working descriptive models, a prioritized scale-up risk assessment, and thirty follow-up actions for further concept development.

Outcomes

Subsequent inter-company technology transfer with Cellrev's chosen development partner fed into the successful launch of a new continuous manufacturing platform.



The [Livit ACE continuous manufacturing platform](#) combines CellRev's technologies with Getinge's expertise and equipment in a complete bioprocessing solution offering superior productivity, scalability, automation, and stability versus existing technologies.

Contact

+44 (0)161 327 1579

enquiries@britest.co.uk

www.britest.co.uk