

Delivering the Next Generation of Cell Therapy Manufacturing

Astellas and Yaskawa Electric *collaborate to develop cell manufacturing platform

*The closing is subject to certain closing conditions, including receipt of required regulatory approvals



astellas

YASKAWA

Before

Challenges in cell manufacturing

Human-dependent and manual work

"Accuracy" depends on the craftsmanship

"Precision and Reproducibility" are essential for stability of manufacturing

Challenges in "Technology transfer" of complex manufacturing process to other sites



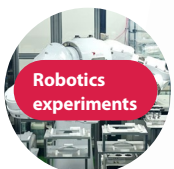
Innovation

After

Platform with maholo at the core

Technology sharing to other sites through digitalization

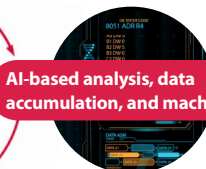
Transmission of digitized work process and cell profiles



Robotics experiments
Cell culture experiments with the same or better skills as an expert

Optimization of cell manufacturing processes

Proposal of optimal protocols



AI-based analysis, data accumulation, and machine learning

AI-analysis of work data via maholo and repeated optimization experiments based on the results



R&D

Manufacturing process validation



Manufacturing process

AI-optimization

One Click Transfer

Data sharing

Common platform from research to manufacturing



GMP manufacturing

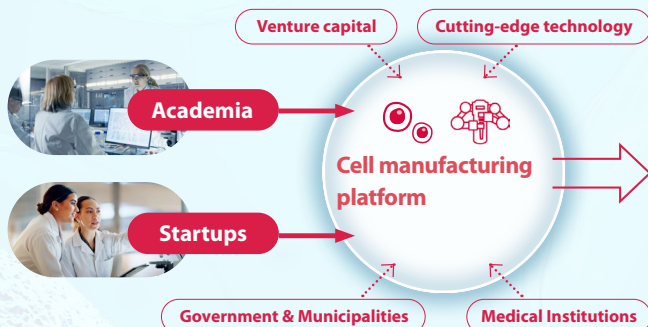


Digitalize manufacturing processes and transfer technology with one-click



Humanoid robot
Maholo

Creating a cell therapy ecosystem



Creation of innovations
Commercialization of cell therapy

Provide cell manufacturing platforms to academia and startups to realize innovations



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<https://www.astellas.com/en/>