Insilico Biotechnology

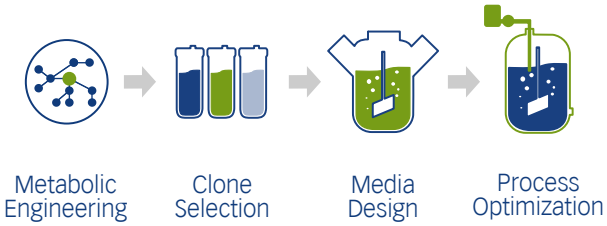
Powering digital transformation of biomanufacturing

Leverage cutting edge simulation technology and get ready for digitalized bioprocessing

- Replace wet lab experiments with simulations
- Automate time-resolved bioprocess analysis
- Manage previously unmanageable tasks
- Maximize metabolic process understanding
- Create value from bioprocess data

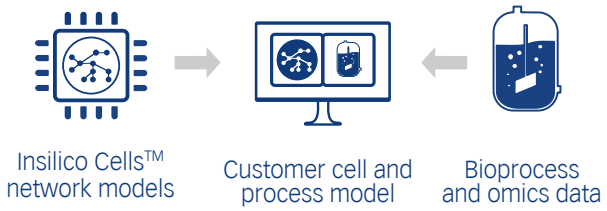
Our Mission

We are the experts for metabolic-model based bioprocess optimization. We provide software and services for the simulation of living cells in upstream bioprocessing to reduce time, costs, and risk in process development and manufacturing.



The Insilico Technology Platform

Insilico's technology is built around genome-based mechanistic network models which are customized by combination of cell line-specific knowledge, bioprocess data, and omics data. Through such real-life data, each Insilico model becomes a unique *in-silico* representation of the customer's specific host cell and bioprocess. Insilico's models and software solutions allow for predictive and dynamic bioprocess simulation and optimization as well as for in-depth metabolic flux analysis.



Services, Software, and Training

Our Insilico services cover the full range of tasks for bioprocess optimization performed by our experts. The Insilico Software Platform provides software modules for various workflows in digital biomanufacturing and is designed to integrate seamlessly with existing on-premises or cloud infrastructure.

We support our customers in exploiting the full potential of the Insilico Software Platform as part of their workflows. Technology transfer is facilitated by bespoke training workshops, expert consulting, and software configuration to meet individual requirements.

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The Insilico Software Platform

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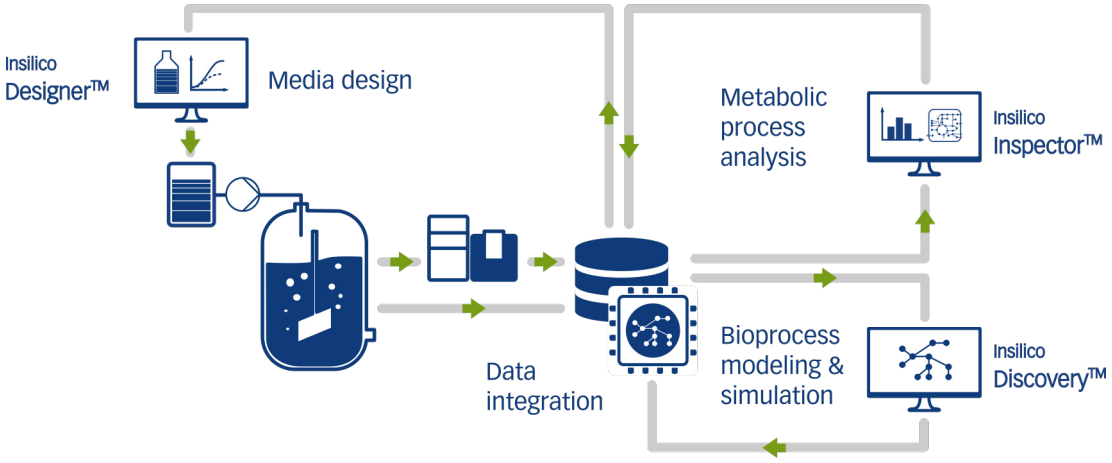

The Insilico Software Platform

The Insilico Software Platform serves as a central interface and connection between Insilico's software modules and databases where process data and analysis results are stored. Insilico Discovery™, Insilico Inspector™, and Insilico Designer™ are three modules already available that can be combined to support different workflows.

Insilico Discovery is a comprehensive modeling tool that is used to reconstruct and simulate metabolic network models of host cells connected to a bioprocess.

Insilico Inspector enables in-depth, time-resolved metabolic process analysis. The module integrates data from bioproduction processes and performs a model-based analysis that not only describes those processes on the basis of in- and output, but allows the metabolism of the host organism to be quantified in detail as basis for unprecedented process understanding and automated process performance rating.

Insilico Designer performs *in-silico* medium optimization. As a result of dynamic bioprocess simulations and optimization towards defined objectives such as maximum product titer, the composition of improved cell culture media is predicted. Application of Insilico Designer significantly reduces the experimental efforts during medium optimization.

About Insilico

Insilico Biotechnology is a market-leading provider of software and services for the simulation of living cells in cell culture bioprocesses. Insilico's interdisciplinary team of experts offers configurable solutions for the efficient manufacturing of biologics and biotechnological products.
Successful in the market since 2001, Insilico has been a sustainable partner for some of the most successful organizations in the biotech and biopharma sectors worldwide, such as BASF, Bayer, Boehringer Ingelheim, Corbion, DSM, and Wacker. Insilico Biotechnology is a privately held company based in Stuttgart, Germany.

Interested in a Case Study?

- 20% more yield by metabolic engineering
- 50% more product titer by media optimization
- 100% more insights by in-depth metabolic process analysis

To learn more in a webinar please contact us at
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or call +49 711 460594 0

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