Fraunhofer IPT

Fraunhofer Institute for
Production Technology IPT

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Automation in Life Science

Reproducible, **automated**, **cost-effective** and **efficient** production of **cells**, **organoids** and other **biological material**

VISION

MISSION

We realize the upscaling of your biological processes in order to **exploit the full potential** of laboratory automation and to optimize them with **Industry 4.0 technologies**

Valley of tears in the ATMP development process

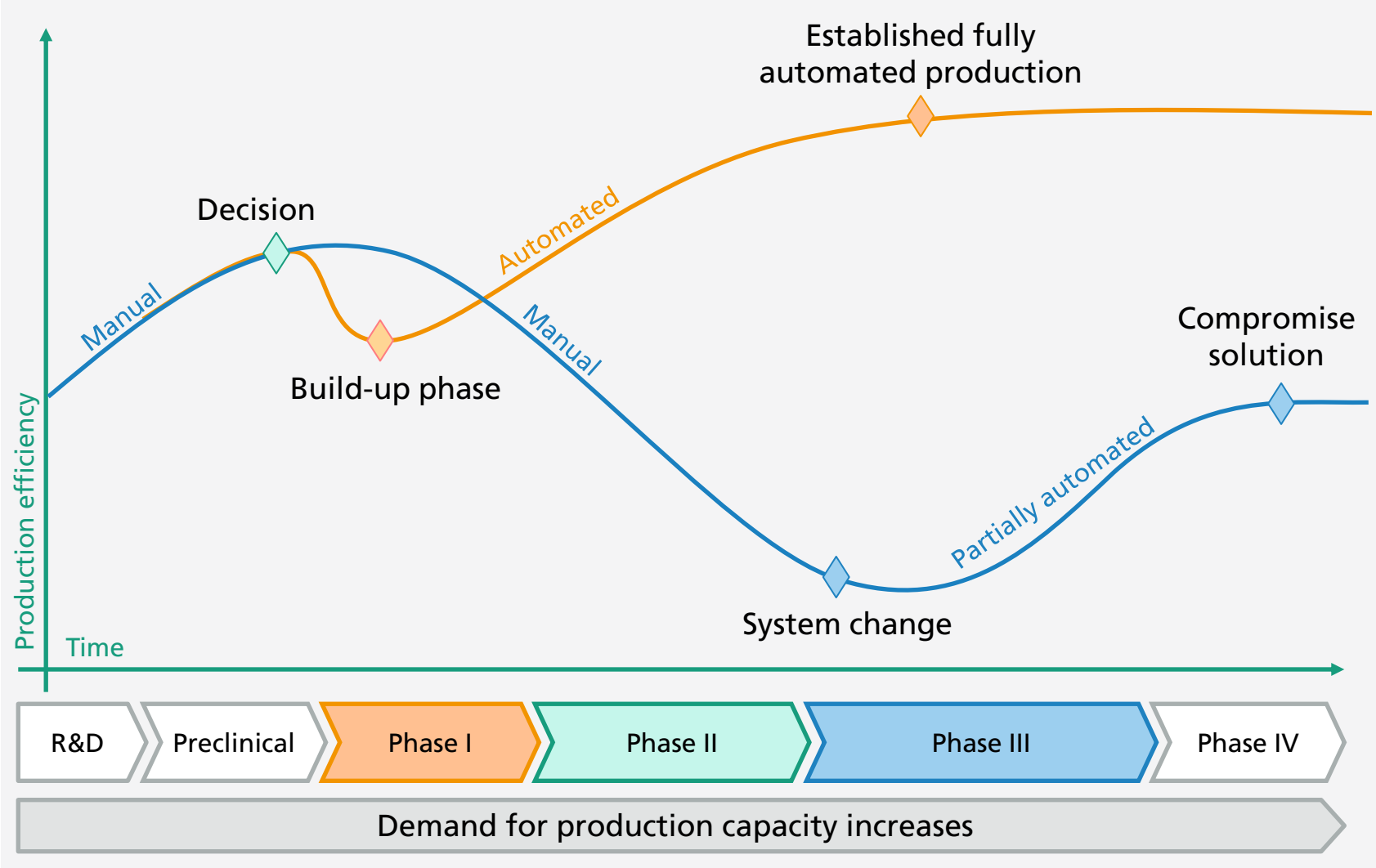
- At the end of the preclinical phase, when clinical trials are to begin, all ATMP manufacturing processes must be established

  ⇨ **Design Freeze**

- From Phase II onwards, manual production is no longer cost-efficient due to the increased throughput and is later no longer feasible. The process must be changed at great regulatory expense

  ⇨ **Valley of Tears**

- In the long term, even a subsequently partially automated process does not achieve the productivity of a production plant that has been fully automated from the start



Fraunhofer

IPT Lab Automation Consulting

5 building blocks for successful laboratory automation

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Five building blocks for successful laboratory automation

Experience day (onsite at IPT)

- Introduction to the automation solutions for stem cell production developed at the Fraunhofer IPT

Optional

Quick Scan & Partner's Vision

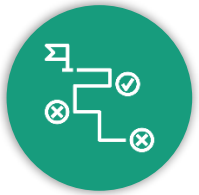
- SOP analysis and automation feasibility assessment

Current State Analysis

- Economic and technological analysis of the current manufacturing process

Potential & Gap Analysis

- Derivation of the potential regarding the automation of the considered process



Roadmapping & Implementation Strategy

- Concrete implementation strategies for an automated production process

Strike price for consulting project: 85 000 €

Results
Provided with the IPT Lab Automation Consulting

Engineering

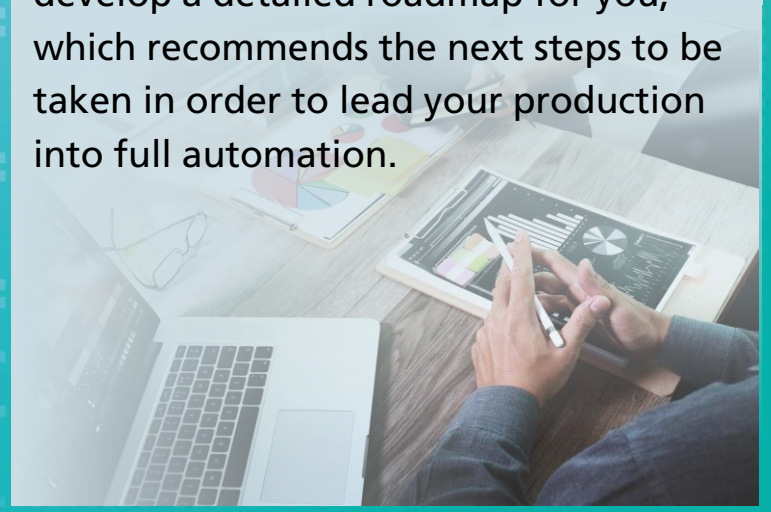
You are provided with a scaled 2D layout of the designed production plant including a parts list of all components. This forms the technical basis for commissioning the construction of a fully automated plant.

Economics

Our profitability analysis comparing manual and automated production processes provides you with well-founded data proving the lucrativeness of an automation investment.

Strategy

At the end of our consulting, we develop a detailed roadmap for you, which recommends the next steps to be taken in order to lead your production into full automation.



Automated production of ATMPs in numbers
at the Fraunhofer IPT

50
Employees*

>10
Years of experience

>25
Publications

>5
Industry projects

>10
Million Euros research budget

* in 2023

Example: AUTOSTEM

- Funding: EU project (2016 – 2018)
- Overall budget (5,99 Mio €)
- IPT budget (1,2 Mio €)

Objectives
- Closed, automated, GMP-ready pipeline
- Manufacture of clinical-grade MSC for cell therapy
- Bioreactor-based production in multiliter-scale

Results
- Closed robot-assisted platform
- No direct interaction between operator and product

http://www.autostem2020.eu/

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Contact

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