Demand

A biopharma company wants to have a lab-on-a-chip system developed for a point-of-care application. The basics are already in place at full lab-scale.

Our services:

- Preparation of market studies
- Biotechnological evaluation and technology optimization

Component design

Our researchers design and manufacture a chip to transfer laboratory methods into the lab-on-a-chip system and hand over functional samples to the client for evaluation.

Our services:

- Design and simulation of micro-fluidic systems
- Direct manufacturing of evaluation samples with cutting or additive manufacturing processes
- Fluid mechanical analysis and functional optimization
- Development of surface functionalizations

Production planning

Our team plans a manufacturing process chain according to specific batch size, materials, and precision requirements.

Our services:

- Planning of manufacturing technologies and manufacturing process chain in preparation for market launch
- Determination of direct structuring or replicative manufacturing technologies
- Design, manufacture, and sampling of high-precision injection molds

Production

To manufacture the microfluidic systems, the production technologies researched at Fraunhofer IPK are applied and used for the production of a first pilot series.

Our services:

- Injection molding or direct manufacturing of the microfluidic components
- Cleaning, sealing, and functionalization of the manufactured systems
- Planning and implementation of an application-adapted quality control system
- Short-term adjustments to the system design
- Parallel biotechnological evaluation at Fraunhofer IPK

Technologie-transfer

Manufacturing technologies are transferred to the final manufacturer and serial production can begin.

Our services:

- Transfer of the manufacturing technologies to the environment of a production partner
- Technology optimization in the fields of cutting, electrical discharge machining, and replicative manufacturing technologies
- Design and implementation of quality control methods and procedures

Piktorgramme: Flaticon.com