

## Application example

# Lab-on-chip systems for diagnostics

thinXXS miniaturizes your diagnostic processes (e.g. blood diagnostics).

The intention of product development in the fields of medical diagnostics is to provide simple, economical devices which are customer friendly and easy to handle. Lab-on-chip systems meet the requirements of these applications. Miniaturization is optimal for automated standard processes and affords time and cost efficiency and a high assay throughput. In addition, this allows one to decentralize the analytical and diagnostic processes to point of care.

### Challenge

Lab-on-chip systems combine every processing steps, from sample absorption and separation, mixing with reagents and analysis to waste absorption - on a single, microstructured disposable made of plastics. The purpose of these miniaturized analysis systems is to integrate complex functions in a simple device which is producible in few manufacturing steps.

### Process design (example)



### Solution

thinXXS Microtechnology AG realizes plastic chips in various shapes and dimensions. They may comply with common footprints such as those of 1536 microplates or microscope slides, have credit card dimensions, or have more arbitrary sizes. In any case: large numbers may be fabricated cost-efficiently. The material may be chosen according to your application requirements. Finishing comprises processes such as surface modification, bonding, or integration of electrodes, thinXXS micro pumps, and the like. Other hybrid set-ups, i.e. combinations with glass or silicon, are also possible.

### Prospect

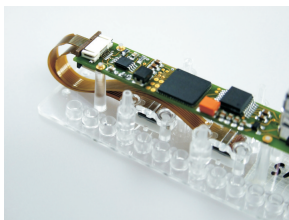
We realize your individual diagnostic processes on small lab-on-chips. From design to production, from quality management to delivery - you will have only one partner: thinXXS Microtechnology AG. Our quality management is certified by DIN EN ISO 9001 and DIN EN ISO 13485.



### Lab-on-chip systems for blood diagnostics:

- sample absorption
- separation
- mixing with reagents
- analysis of the sample
- waste absorption

everything on a microchip!



Microfluidic device developed by thinXXS to integrate flow sensors.

The sensors can be integrated in a standard slide of the thinXXS Construction! Kit.

The chosen solution allows for integration of any sensor - provided that the outer dimensions and the position of the fluidic connection remain the same.