



NGM Open Call Reference Case

POINT-OF-CARE DIAGNOSTIC DEVICE FOR IRON DEFICIENCY AND ANAEMIA EMPLOYING A DISPOSABLE MICROFLUIDIC DEVICE

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OVERVIEW

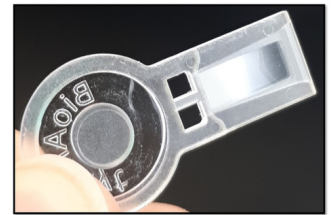
Iron deficiency (ID) and iron deficiency anaemia (IDA) affect a quarter of the global population, with diagnosis hindered by unspecific symptoms, invasive blood tests, and expensive laboratory equipment. Addressing this issue, Bioanalyt is developing their new product, iCheckAnemia, as a point-of-care (POC) device towards label-free detection of relevant biomarkers and diagnosis from a small drop of blood in under a minute, thus empowering physicians to detect these conditions and prescribe appropriate therapies at an early stage. The device uses a micro-cuvette that collects a drop of blood from a finger-prick, coupled with a multi-modal optical benchtop read-out device.

Starting Point Bioanalyt

Bioanalyt has designed and manufactured a micro-cuvette, which has been employed to demonstrate the functionality of iCheck Anemia. However, the device suffers from irreproducible sample measurements as well as challenges in bubble-free blood sample uptake.

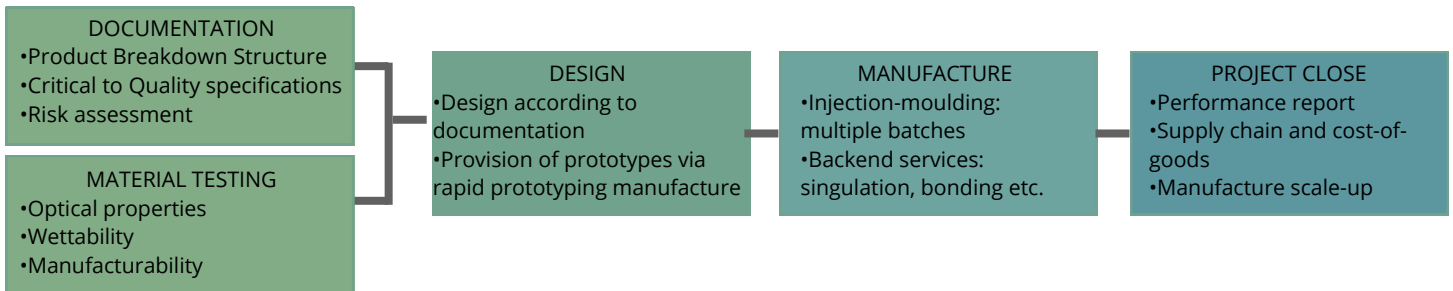
Inquiries to MIH

- Re-design of micro-cuvette towards a mass-manufacturable device that allows for user-friendly capillary filling and reproducible optical measurements.
- Mass-manufacture of micro-cuvette employing high-volume and low-cost manufacture that can be certified under ISO13485 regulations.

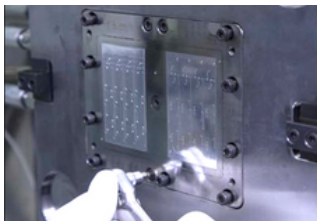


Bioanalyt's micro-cuvette prototype

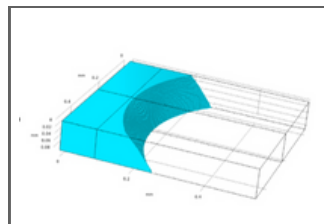
PROCESS



FEATURES



Manufacture using injection moulding ensures high-fidelity and low-tolerance manufacture on low-cost polymers.



Computational Fluid Dynamics (CFD) simulations are employed to support the design process by investigating and ensuring bubble-free capillary filling.



Design and manufacture of the micro-cuvette is performed in a ISO13485 compliant manner including all relevant documentation.

PROJECT SCOPE

- Budget: 119,875 €
- Funding Rate: 83%
- Duration: 12 months
- NGM Partners: Micronit b.v., Temicon GmbH, bionic surface technologies GmbH

Value Chain

