

New instrument means no more waiting for blood test results

June 20 2016



Credit: Eurostars

At the least, the SPINIT instrument can make your average trip to the doctor more convenient. But at the most, it could help prevent serious illness. Developed by Biosurfit (Portugal) with assistance from Axxicon (Netherlands), this instrument allows doctors to run quick blood tests on patients which until now, could only be done in hospital.

Anyone who has ever had a blood test knows that the process takes time. You go to the doctor, they take a [blood sample](#) which they send to the hospital where it is analysed for infection. The problem is that this all takes time. A patient could be waiting days, or even weeks, before the results return. For someone in urgent need of a diagnosis, such delays can be quite serious.

But with the potential for more advanced Point of Care Testing (POCT)

came an opportunity to develop an alternative to this time consuming approach.

POCT is the principle of using new technologies to test patients at their first point of care (usually a doctor), rather than depending on hospitals to do the work. But insufficient technology meant that until now, [doctors](#) and patients have remained dependent on hospitals to analyse blood samples. And because this analysis requires equipment which is complicated, expensive and bulky, only traditional hospitals could use and afford it.

Time for a new approach

But in January 2012, Axxicon and Biosurfit came together under the BLISK project looking to change all of this. In a collaboration supported by EUREKA, it resulted in the development of the SPINIT instrument (with disposable microfluidic cartridges); a device which is neither complicated, expensive nor bulky and which can detect blood sample infections in minutes.

Finally, doctors can now do in one consultation, what could take a hospital days.

Dirk Verhoeven is Technical Director of Dutch engineering company Axxicon, who specialise in the production of optical media injection moulding moulds. "It was 2008 when we first noticed worrying trends in the sale of traditional optical media like CDs and DVDs and it became apparent that we were going to have to adapt in order to survive," he says.

"We're really proud of what we've achieved so far. Whenever you take risks, there is always going to be some doubt about whether or not the product will be successful. So to finally see it being used by doctors to

help patients get much quicker diagnoses is really satisfying."

Meanwhile, Biosurfit, a Portuguese R&D company specialising in medical diagnostics technology, were trying to develop an instrument that could be used by doctors to provide instant blood test results.

Looking in from the outside, you would be forgiven for wondering what a company specialising in optical media could possibly have to do with developing a medical device like this.

"We used our expertise in injection moulding moulds for optical products with micro structures to produce disposable cartridges especially designed to carry a small blood sample into the instrument", Dirk explains. "SPINIT uses laser beam technology to read the blood on the disk and scan it for specific infections. The results then appear on screen on the instrument itself."

This works in much the same way as a DVD would with a DVD player. The DVD carries the audiovisual material into the player, which reproduces the material on screen.

Since the project ended in December 2013, demand for SPINIT has been increasing and is now being used by many doctors in the Netherlands and throughout Eindhoven especially. Axxicon and Biosurfit continue to work together and are planning to expand SPINIT's capabilities to be able to detect an even wider range of diseases including diabetes.

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Citation: New instrument means no more waiting for blood test results (2016, June 20) retrieved 25 April 2024 from <https://phys.org/news/2016-06-instrument-blood-results.html>

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