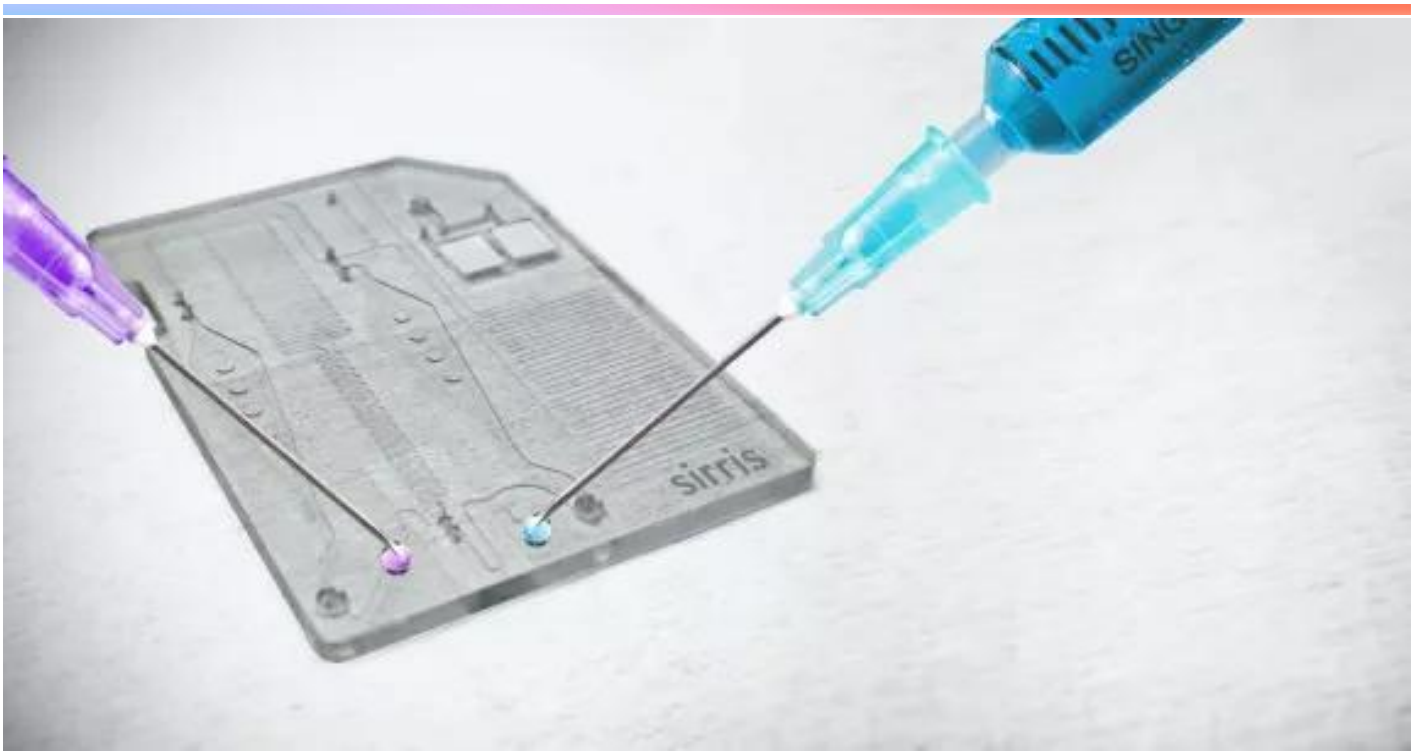


Closing event of project 'Medical Diagnostics Goes Micro and Smart' | Part 5

28 May 2024, 14:37

Tania Drissen
Denis Vandormael

Grab your chance to access the complete Belgian microfluidic value chain

Earlier in this ongoing series of articles on microfluidics in industry, we discussed various development steps for a lab-on-a-chip system. In the project 'Medical Diagnostics Goes Micro and Smart' we show how this development process works in practice by means of a demonstrator. On June 24, 2024, we will present the results of the project to the Belgian industry and welcome all stakeholders from the microfluidics value chain in Belgium for an extensive presentation with a demo, a tour and presentations.

Demonstrator

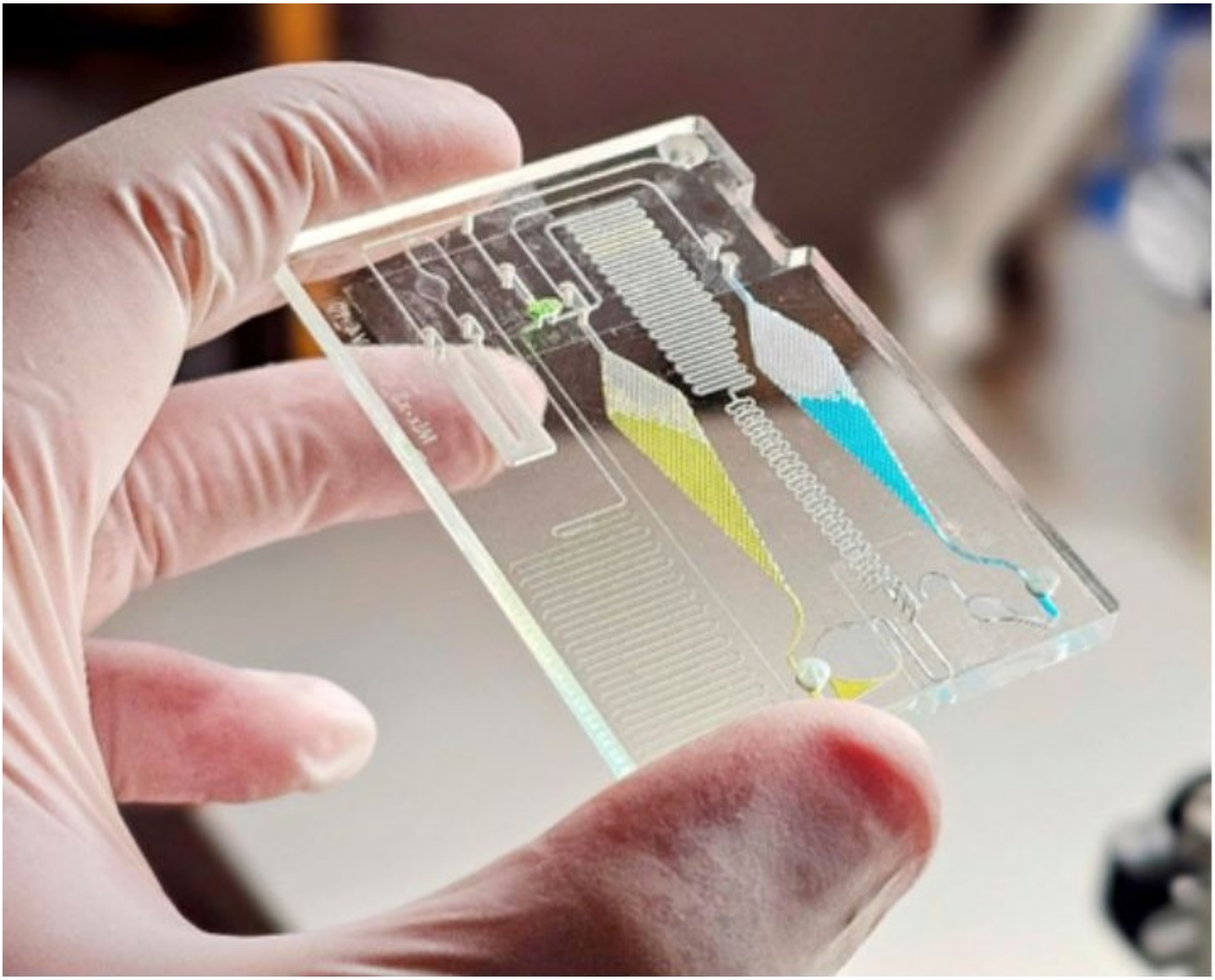
The diagnostic process to be miniaturised for the demonstrator was determined at the start of the project by the members of the user group. Generic steps, such as accurate measuring of reagents, mixing, incubation, PCR and optical detection of target molecules, were included in the demo process.

A **chip** was then designed in combination with a **conditioning device** that can carry out these various process steps.

The chip was manufactured using some of the **prototype techniques** presented so that the functioning of the design could be **tested** early in the design phase, but always taking into account the final production technique, which is injection moulding in polymer.

Proof-of-concepts of the associated smart conditioning device were also used to demonstrate various features, such as fast and accurate thermal control in specific parts of the channels, smart flow control at every point in the chip and detection of the target molecule.

We are currently entering the final phase of the project, where **pre-series** of the injection-moulded chips are being made and the various control systems are integrated into a finished demo instrument (see figure below).



©Sirris

Project closing event

On June 24, 2024, we will conclude the VLAIO/COOCK project Medical Diagnostics Goes Micro and Smart with a presentation of our demonstrator and the project results. There will also be a unique opportunity to visit our micromanufacturing facility in Liège.

We would like to welcome anyone who wants to discover microfluidics in general or lab-on-a-chip technology in particular, or who already has ideas for using it in a new application. Belgian providers, whether commercial or academic, who contribute to the design or realisation of lab-on-a-chip systems, are also invited to present their services. In addition, companies that are already marketing microfluidic applications are invited to present their products.

Would you like to attend? Then register today!

Do you want to give a pitch or reserve an exhibition table? Don't hesitate to contact us!

Project funding



More information about the project

Medical diagnostics goes micro and smart

Would you like to know more?

Remember, knowledge and production facilities are available in Belgium to develop and produce lab-on-a-chip systems locally, both the microfluidic chip and the conditioning and read-out device.

We can help you get started with your idea!

Contact us for more information

Authors



Tania Drissen



Denis Vandormael