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PUMP IT NANOTECH

BOOSTING MICROFLUIDICS PERFORMANCE TO A NEW LEVEL



Website

Founded in 2016 by

- **Andreu Enfedaque-Pedrós**
- **Carlos Rubio Lorente**

Incubation period

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space solutions

About PUMP IT NANOTECH

The Pump it Nanotech S.L is a Start Up born from the Pump it project. This project was a response to the challenge presented by SENER, regarding the troublesome behaviour of bubbles in microfluidic devices in microgravity.

For this project, our team has designed a breakthrough technology capable to get rid of the bubbles in microfluidic devices at any given gravity conditions and also to work as an efficient fluids mixer.

Contact info

- ◦ Esteve Terradas, 1 - Edificio RDIT ESA BIC
- 08860
- Barcelona
- Spain
- info@pumpitnanotech.com
- +34 698235692

The challenge

Nowadays, several different 1st generation microfluidic products are sold by our target customers such as Point-of-Care (device to do health diagnostics at home), Lab-on-a-

Chip (device to do pharmacological analysis) and so on. These Microfluidic and BioMEMs companies are currently trying to develop their products to reach the 2nd and 3rd generation and this means improving the technologies they currently use. The current devices in the market are dealing with the bubbles and the mixture of fluids using different routes independently. By substituting the actual bubble and mixing solutions with our BKFM1, critical aspects such as device size, sensibility, time of analysis and others will improve significantly.

We aim to introduce our new technology for the first time directly into the Pharmacological and Clinical diagnosis microfluidic Market segments, representing more than the 60% of the total Market.

The solution

Our product BKFM1 is a microelectromechanicalsystem (MEMs) specifically designed for microfluidic devices. It allows eliminating bubbles and mixing fluids easily by using piezoelectric actuation. Therefore our product improves the microfluidic device's performance by decreasing the time of analysis, improving the signal quality and diminishing the device size.

The strong point of our device is that its performance does not depend on the goal of the device, being implementable in Point-of-Care, Lab-on-a-Chip and ?TAS devices.

Although its application in any kind of analysis segments (waters, food, etc), the greatest impact of microfluidics regards to health and diagnosis, which has the potential to substitute the actual procedures, reducing drastically the resources needed in these processes.

