



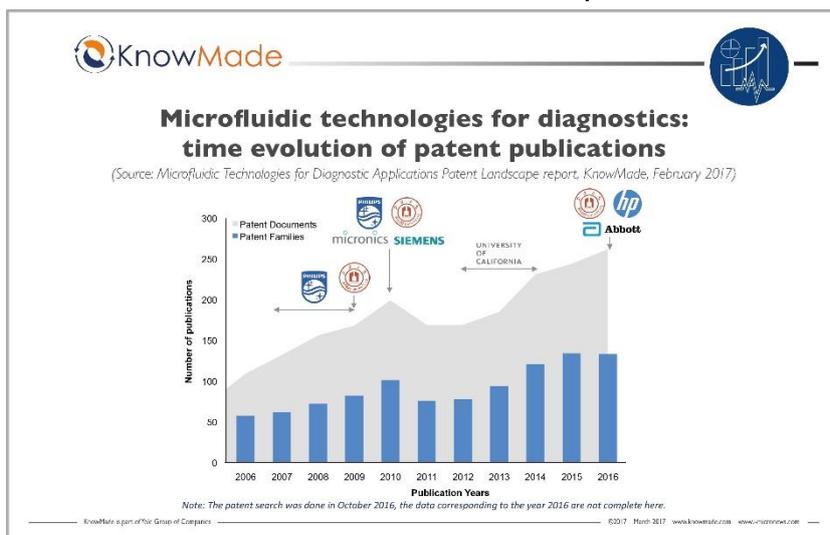
## FOR IMMEDIATE RELEASE:

### Microfluidic patent landscape: technologies have brought numerous advantages in diagnostic applications

Microfluidic Technologies for Diagnostic Applications Patent Landscape report – KnowMade – February 2017

**LYON, France – March 13, 2017:** “New comers and emerging applications for oncology and infectious diseases are driving the growth of microfluidics IP<sup>1</sup>”, announces **Dr Brice Sagot, COO and co-founder of KnowMade**. Indeed microfluidic technologies have brought numerous advantages in diagnostic applications. In its latest patent landscape report titled “[Microfluidic Technologies for Diagnostic Applications](#)”, KnowMade analyses the microfluidic patent landscape for diagnostic applications and lists the numerous benefits including smaller systems, smaller sample volume, near-patient technologies, reduced processing time and cost reduction... KnowMade is part of Yole Group of Companies including [Yole Développement](#), [System Plus Consulting](#), [PISEO](#) and [Blumorpho](#).

According to KnowMade, the scope of diagnostic applications is very broad (cancers, genetic and neurodegenerative disorders, infectious diseases, diabetes and more) and microfluidic technology directly impacts therapeutic approaches by allowing a specific and quick detection and characterization of the disease as well as an easier evolution monitoring. KnowMade’s analysts propose today an overview of this patent landscape with facts, figures, key players and more: who are the new comers? What are the leading applications? What are the keys to success? ...



The patent landscape related to microfluidic technologies claiming diagnostic applications is very open today, providing space for both academic and industrial applicants. It represents more than 1,150 families, including over 4,500 patents, and over 500 patent applicants are involved. Surprisingly, several important market players on the field of microfluidic

<sup>1</sup> IP : Intellectual Property

technologies do not appear among the main patent applicants, and unexpected companies in this field, such as HP, have filed a lot of patents recently.

Microfluidics are cross-disciplinary technologies and a lot of patented systems can be adapted for various applications. Therefore, although some key market companies do not appear among the main patent assignees, they are nevertheless involved in several patent infringement cases.

Yole Développement's analysts have estimated recently that the market for microfluidic chips and microfluidic-based tests for point-of-need testing applications, which is only a part of microfluidic for diagnostic domain, should increase from US\$6 billion in 2015 to US\$ 17.2 billion in 2021<sup>2</sup>. *“Those figures are clearly pointing out the attractiveness of this sector and we can obviously expect an increase of patent litigations cases related to microfluidic technologies”*, explains **Dr Coralie Le Greneur, technology & patent analyst at KnowMade**. And she adds: *“Therefore, it is essential to know key patent applicants in this area and understand their IP strategies.”*

The analysis of the technical issues addressed by patents related to microfluidic technologies for diagnostic applications supports what Yole observed on the market. This indicates that the patented technologies are linked to the market and have a high potential for application.

The IP landscape for microfluidic technologies for diagnostic applications is shared between industrial and academic players. Among the main applicants, a lot of American companies appear. The IP activity of American applicants involved in microfluidic technologies for diagnostic applications can explain the predominance of US patent filings observed. However, all non-American main applicants also choose US<sup>3</sup> as main priority country. China and Europe represent a particular interest for further patent extensions. Current main IP applicants include players with a steady IP activity who are extending their portfolio to different countries as well as new players with an intense IP activity in 2016.

In its patent landscape report, KnowMade's team highlights for example the patent positioning of the University of California. Indeed the university shows a very strong leadership and a worldwide IP strategy in the domain of microfluidic technologies for diagnostic applications. Other companies such as MGH<sup>4</sup>, BD<sup>5</sup>, Micronics and Roche have a significant leadership and also appear as important IP players. *“Considering their current patenting activity in the domain of*

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<sup>2</sup> Source : [Point-of-Need Testing: Application of Microfluidic Technologies 2016 report](#), Yole Développement, 2016

<sup>3</sup> US : United-States

<sup>4</sup> MGH : Massachusetts General Hospital

<sup>5</sup> BD : Becton, Dickinson and Company

*microfluidic technologies for diagnostic applications, Philips, HP and MIT represent significant IP challengers”, asserts Coralie Le Greneur.*

The strength index of a patent portfolio is linked to the number of forward citations received. In KnowMade’s report, Caltech is ranked first with a medium sized patent portfolio. Caltech owns two key patent families claiming microfluidic nucleic acid analysis and its patent portfolio is cited a lot by Fluidigm. Other, such as Ningbo University, hold large portfolio, but show a very low strength index. Its patented technologies are rather young and have currently a very low impact in the domain of microfluidics for diagnostic applications.

[Microfluidic Technologies for Diagnostic Applications patent landscape report](#) from KnowMade provides a ranking and analysis of the relative strength of the top patent holders derived from their portfolio size, patent citation networks, countries of patent filings, and current legal status of patents. It also includes an Excel database containing all of the analyzed patents. A detailed description of this report is available on [i-micronews.com, MedTech reports section](#).



### About [Microfluidic Technologies for Diagnostic Applications Patent Landscape](#) report:

#### Authors:

**Dr. Coralie LeGreneur** works for KnowMade in the field of Biotechnology and Life Sciences. She holds a PhD in Molecular Biology from the University of Nice Sophia-Antipolis (France). She also holds the International Industrial Studies Diploma in Patents from the CEIPI, Strasbourg (France).

**Dr. Brice Sagot** is COO and co-founder of KnowMade. He is leading the Biotechnology and Life Sciences department. He holds a PhD in molecular biology from the University of Nice Sophia-Antipolis (France).

#### Companies cited in the report:

Abbot, Agilent, Alere, BD,Bio-Techne, Caliper, Caltech, Cellectricon, Fluidigm, Fluxion Biosciences, GPB Scientific, Gyros, HandyLab, HP, IDEX, Illumina, MGH, Micronics, MIT, Ningbo University, Perkin Elmer, Philips, Protein Simple, Roche Diagnostics, Samsung Electronics, Siemens, University of California and many more...

#### About KnowMade – [www.knowmade.com](http://www.knowmade.com)

#### Yole Développement – [www.yole.fr](http://www.yole.fr)

Founded in 1998, Yole Développement has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole Développement group has expanded to include more than 50 collaborators worldwide covering MEMS, Compound Semiconductors, LED, Displays, Image Sensors, Optoelectronics, Microfluidics & Medical, Advanced Packaging, Manufacturing, Nanomaterials, Power Electronics and Batteries & Energy Management.

The “More than Moore” company Yole, along with its partners System Plus Consulting, Blumorpho and KnowMade, support industrial companies, investors and R&D organizations worldwide to help them understand markets and follow technology trends to grow their business.

- Consulting & Financial Services: Jean-Christophe Eloy ([eloy@yole.fr](mailto:eloy@yole.fr))
- Reports: David Jourdan ([jourdan@yole.fr](mailto:jourdan@yole.fr))
- Press Relations & Corporate Communication: Sandrine Leroy ([leroy@yole.fr](mailto:leroy@yole.fr))

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