



## Market Analysis-6th International Conference on Microfluidics

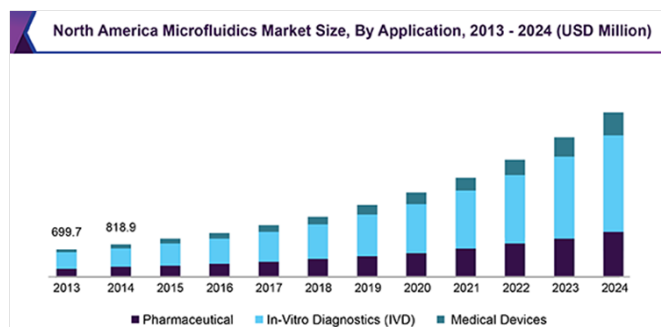
Petr Solich

### Introduction

The report “microfluidics market by Application (Genomics, Proteomics, Capillary Electrophoresis, IVD (POC, Clinical Diagnostics), Drug Delivery, Microreactor, Lab Tests), Component (Chips, Pump, Needle), Material (Polymer, Glass, Silicon) - Global Forecast to 2023”, The microfluidics market is expected to reach USD 27.91 Billion by 2023 from an estimated USD 10.06 Billion in 2018, at a CAGR of 22.6%. The growing use of polymers is expected to lower the price of microfluidic products. In addition to this, growing investments, favourable regulatory policies, and growth in healthcare and biotechnology industries in emerging Asian markets are expected to provide potential growth opportunities for players operating in the microfluidics market.

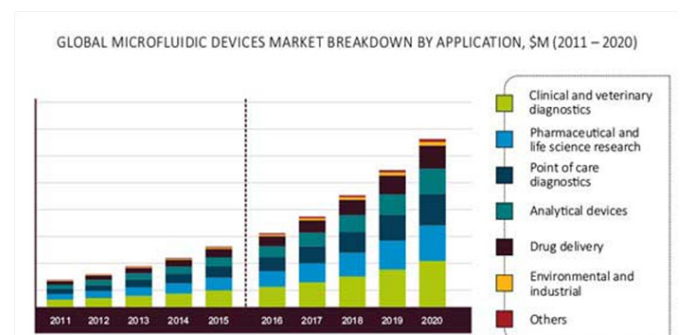
### North America dominated the market in 2018

North America accounted for the largest share of the microfluidics market in 2018, followed by Europe and Asia Pacific. The largest share of the North American region is mainly attributed to the higher incidence rate of chronic diseases, availability of insurance coverage for laboratory testing procedures, enough reimbursements for medical devices, and presence of well-structured distribution channels in the region. In addition, high demand for self-administration and home healthcare devices, and increasing applications of micropumps, inhalers, and transdermal microneedles for chronic conditions such as migraine, diabetes, cancer pain, and asthma have further resulted in the large share of this market.

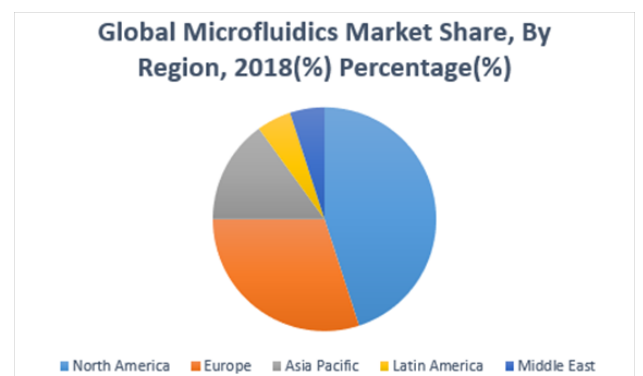


### Microfluidic Devices Market Overview:

The global microfluidic devices market size is predicted to reach \$6.4 billion by 2020, growing at a CAGR of 23% during the forecast period. The market is driven by factors such as, increase in demand for point of care testing products, microfluidic technologies for miniaturization of chip, and rising demand for genomics and proteomics.



### Global Microfluidics Market by Geography



### Microfluidics Market Share Insights

Some key industry contributors are Illumina, Inc., Agilent Technologies, Caliper Life Sciences (acquired by perkinelmer, Inc.), Cepheid, Danaher Corporation, Life Technologies Corporation (acquired by Thermo Fisher Scientific, Inc.), Bio-Rad Laboratories, Inc., Abbott Laboratories, F. Hoffmann-La Roche Ltd, and Fluidigm Corporation.

Companies are introducing new products to strengthen their market position. For instance, In February 2015, Illumina, Inc. Launched neoprep, an automatic DNA and RNA sample preparation

\*Corresponding author: Petr Solich, Charles University, Czech Republic; E-Mail: petr.solich@faf.cuni.cz

Received: July 01, 2019 Accepted: July 10, 2020 Published: July 27, 2020

platform. Through the neoprep microfluidics cartridge, 16 samples are prepared at a time. Innovation and research & development by the market players in the microfluidics segment are expected to propel the market growth in the coming years.

### Microfluidics Market Forecast (2019-2024):

The North American region holds the largest market share in the market for microfluidics. This is attributed to factors, such as the well-established healthcare system, along with better reimbursement policies, and the higher adoption of novel therapeutics among the general population. Microfluidics is a vastly growing field in the United States, in terms of high budget sanctions for R&D. Molecular diagnostics and point-of-care diagnostics widely use microfluidic technology for various applications, and hence, they occupy a major market share in the United States. Owing to this, the United States has the largest market share of 88% in North America, and is expected to grow at a rate of 18.8% over the forecast period.

In vitro diagnostics application segment is expected to register the highest CAGR during the forecast period.

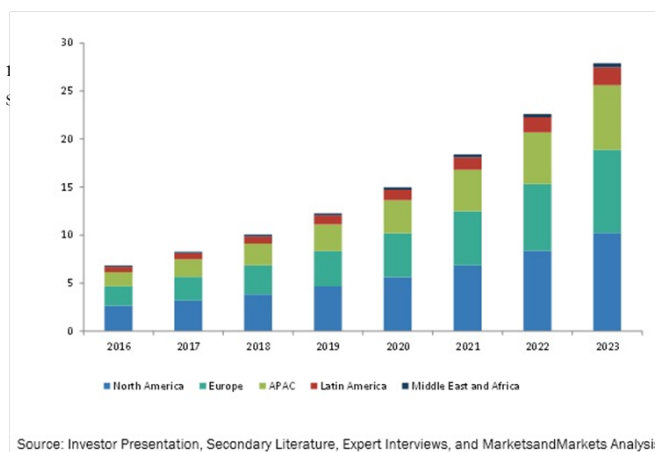
On the basis of application, the Microfluidics market is segmented into in vitro diagnostics (IVD) segment pharmaceutical and life science research, drug delivery, laboratory testing, and high throughput screening. The IVD segment is expected to register the highest CAGR during the forecast period. The growth of this segment is mainly attributed to the rising incidences of target diseases and conditions and demand for POC testing. In addition, the advantages of microfluidic devices over traditional counterparts, such as portability, reduced size of the device, increased frequency of testing, and accurate & quick analysis, have driven their adoption in this application segment.

Microfluidic sensors segment is expected to grow at the highest CAGR during 2018 to 2023.

On the basis of type, the microfluidic components market is segmented into microfluidic chips, microfluidic pumps, microfluidics sensors, microneedles, and other components (microfluidic valves, connectors, tubes, temperature controllers, OEM components, and high-pressure fluid processors, among other components). In 2017, the microfluidic sensors segment is expected to grow at the highest CAGR during the forecast period. The high growth rate of this segment can be attributed to the utilization of microfluidic sensors in several types of diagnostic and research products.

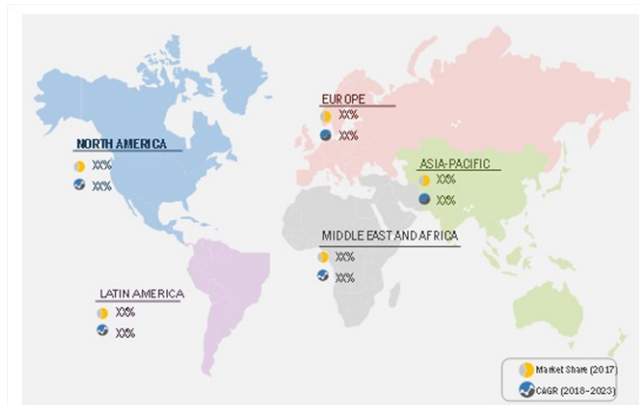
APAC is projected to witness the highest growth during the forecast period.

North America held the largest share of the global Microfluidics market in 2017. On the other hand, the Asia-Pacific region is expected to witness the highest CAGR during the forecast period. This growth can be attributed to the rising geriatric population, growing per capita income, increasing investments in the healthcare industry,



North America to account for the largest market size during the forecast period

North America is the largest market for Microfluidics, followed by Europe, Asia-Pacific, Latin America, and the Middle East & Africa. The overall growth of the microfluidics market in North America is primarily driven by the growing incidence rate of chronic diseases, availability of insurance coverage for laboratory testing procedures, sufficient reimbursements for medical devices, and presence of well-structured distribution channels in the region. In addition, an increase in the demand for self-administration and home healthcare devices, and increasing applications of micropumps, inhalers, and transdermal microneedles for chronic conditions such as migraine, diabetes, cancer pain, and asthma have boosted the growth of this market.



### Market Dynamics

#### Driver: Rising demand for point-of-care testing

The global POC diagnostics market is expected to showcase a lucrative growth potential (~ 10%) in the coming years. This is mainly due to the rising prevalence of lifestyle-related & infectious diseases and increasing preference for home healthcare. In addition, the growing private investments and venture funding for the development of new products, coupled with government support for improving the adoption of POC devices, are supporting the growth of the POC diagnostics market.

The rising incidence and prevalence of various diseases, coupled with product miniaturization and decentralization of healthcare, are the major factors that are expected to offer significant growth

opportunities to players operating in the POC diagnostics market. Cancer is a major health concern in modern societies and the second-leading cause of death for geriatrics, globally. According to the National Cancer Institute, the cost of cancer treatment in the US was USD 125 billion in 2010 and is expected to reach USD 158 billion by 2020. According to the World Cancer Research Fund International (WCRFI), in 2012, there were an estimated 14.1 million new cancer cases worldwide; this figure increased to 17.5 million in 2015 and is expected to reach 24 million by 2035. The rising incidence of cancer is expected to increase the uptake of cancer-related diagnostic technologies. The increasing incidence of other major chronic and infectious diseases, coupled with advancements in coagulation tests, blood gas electrolytes, hematology, urine chemistry, and cardiac markers, are creating new avenues for the growth of the POC diagnostics market. This, in turn, is expected to support the growth of the microfluidics market as POC testing is the largest segment of the microfluidics market for in vitro diagnostics.

**Restraint:** Complex and time-consuming regulatory approval process

Manufacturers of medical devices are required to comply with stringent regulatory policies to ensure the marketing and sales of their products in global markets. The US is a major manufacturing hub for microfluidic devices as a majority of the leading global players are based in the country. In the US, the FDA has set stringent regulatory standards and guidelines to ensure the safety and efficacy of medical devices. However, over the last few years, the FDA approval process for medical devices has become a lengthy and complex process. This is a major challenge faced by companies while launching new and innovative products in the US. For instance, the average approval time for a 510(K) application increased to 151 days during 2011-15, which was 96 days from 2001-05. This is expected to have a major impact on the drug delivery, pharmaceutical, and IVD industries. Furthermore, during the approval process, it is not certain whether the product will receive approval, or the terms of approval may have a negative impact on the profitability of the product. Any enforcement action by governments also results in negative publicity, which impacts the market adversely.

Several innovative microfluidic devices are currently under development, while a few have already been launched in the market. As microfluidics is a relatively emerging technology and a significant amount of study is yet to be carried out on the technology, its potential effects on human health and safety remain unclear. Owing to this, it is necessary that the safety aspects of microfluidic devices are properly and systematically addressed. In this regard, manufacturers need to analyze their devices for various risks and provide appropriate and latest scientific data of the technology used in the device. In the case of innovative microfluidic devices, sufficient scientific data is still not available. Thus, regulatory authorities in different countries need to formulate a standard framework for the safety assessment of microfluidics products. This would reduce the health and safety risks and improve the acceptance of these products in the market.

### **Opportunity: Asia as a key growth hotspot**

Asia is expected to provide significant growth opportunities for players operating in the microfluidics market. Healthcare organizations in several Asian countries are focusing on curbing the rising prevalence of severe diseases and establishing new healthcare delivery models to serve larger sections of the population. Moreover,

governments in several Asian countries are encouraging private investments in their respective healthcare sectors and are actively involved in developing public-private partnerships to improve access to healthcare services. For instance, in China, the private hospital sector is expected to maintain double-digit growth over the coming years, owing to regulatory changes, increasing market demand, and growing capital investments. In the private hospitals sector, specialty hospitals are leading market growth. According to the National Health and Family Planning Commission (NHFPC), the number of private hospitals in China has increased from 5,400 in 2008 to 10,877 in 2014 and 16,900 in 2017. Public & private equity firms and venture capitalists are increasingly investing in countries such as India, China, and Japan.

The availability of funds for research is also a key contributor towards Asia's growth potential. For instance, the Indian government allocated a budget of about USD 268 million for biotechnology research for FY 2016-17, which is a 12% increase over the previous year. In Japan, the Global Health Innovative Technology Fund (GHIT Fund), which is a public-private partnership, is dedicated towards Japanese R&D focusing on research related to infectious diseases. It offers funds to various partnerships between Japanese and non-Japanese organizations, which include various pharmaceutical companies, academic and research institutions, and product development partnerships (PDPs). These partnerships are involved in conducting R&D, including screening of compound libraries related to various infectious diseases. The cost incurred in these R&D activities is reimbursed by the GHIT Fund. For instance, in October 2016, the GHIT granted USD 11.4 million to six global partnerships for supporting R&D activities on infectious diseases such as tuberculosis, malaria, and dengue.

Growing investments, favorable regulatory policies, and growth in healthcare and biotechnology industries in emerging Asian markets are expected to provide potential growth opportunities for players operating in the microfluidics market.

### **Conclusion:**

Microfluidics 2020 will bring together microfluidics scientists and Nano-system people to showcase the newest developments and discuss future directions in microfluidic technologies and their applications in complex systems, broadly defined. The topics will be wide-ranging, including chemical synthesis, separations, advanced manufacturing approaches, energy and the environment, multiphase and colloidal systems, systems biology, synthetic biology, biophysics, organs-on-a-chip, and precision medicine. Some important microfluidics applications have been plotted so as to give a thought on how this new science can both assist and lift look into in fields like science and prescription. In any case, there is a ton of space for enhancements so as to spread more microfluidics applications past research simply.

Reference:

<https://www.marketsandmarkets.com/Market-Reports/microfluidics-market-1305.html>