

Growing Impact of Microfluidic Devices: Revolutionizing Diagnostics, Research, and Beyond | CAGR of 22.4% - 2023 to 2031

PORTLAND, OREGON, UNITED STATES, May 31, 2023 /EINPresswire.com/ --According to the report published by Allied Market Research, the <u>global</u> <u>microfluidic devices market</u> generated \$21.7 billion in 2021, and is estimated to reach \$158.1 billion by 2031, witnessing a CAGR of 22.4% from 2022 to 2031. The study analyzes the important strategies, drivers, competition, market dynamics, size, and important investment regions.



Key Takeaways:

Market Growth: The microfluidic devices market has been experiencing significant growth over the years. This growth can be attributed to the increasing demand for point-of-care diagnostics, personalized medicine, and the development of lab-on-a-chip technology.

Application Areas: Microfluidic devices find applications in various sectors, including pharmaceuticals, biotechnology, healthcare, and academic research. These devices are used for tasks such as cell analysis, DNA sequencing, drug discovery, clinical diagnostics, and point-of-care testing.

Miniaturization and Automation: Microfluidic devices enable the miniaturization and automation of laboratory processes. They offer advantages such as reduced sample volumes, faster analysis time, improved accuracy, and cost savings. These factors have contributed to their growing adoption in research and clinical settings.

Lab-on-a-Chip Technology: Lab-on-a-chip technology, which integrates multiple laboratory functions onto a single chip, is a significant driver of the microfluidic devices market. It allows for the parallel processing of multiple samples, efficient use of reagents, and the ability to perform complex assays in a compact and portable format.

Point-of-Care Testing: Microfluidic devices are increasingly used in point-of-care testing, enabling rapid and accurate diagnostic results at the patient's location. These devices are particularly valuable in remote and resource-limited settings, where immediate diagnosis is critical for effective treatment.

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Market Drivers:

Miniaturization and Automation: Microfluidic devices enable the miniaturization and automation of laboratory processes. They offer advantages such as reduced sample volumes, faster analysis time, improved accuracy, and cost savings. The ability to perform multiple tasks on a single chip and integrate various functionalities drives the adoption of microfluidic devices in research, diagnostics, and other applications.

Point-of-Care Testing: There is a growing demand for point-of-care testing, where rapid and accurate diagnostic results are obtained at the patient's location. Microfluidic devices facilitate point-of-care testing by providing portable, user-friendly, and cost-effective solutions. The ability to perform diagnostic assays in a decentralized manner, particularly in remote and resource-limited settings, drives the market growth.

Market Segmentation:

Material:

Glass-based microfluidic devices Polymer-based microfluidic devices Silicon-based microfluidic devices Others (e.g., metals, ceramics)

Application:

Clinical diagnostics Drug discovery and development Point-of-care testing Research (academic and industrial) Environmental monitoring Food and beverage testing Industrial process control Others

Product Type:

Microfluidic chips Micropumps Microneedles Microvalves Droplet generators Lab-on-a-chip systems Others

End User:

Hospitals and diagnostic laboratories Pharmaceutical and biotechnology companies Research institutes and academic institutions Contract research organizations (CROs) Others (food testing labs, environmental agencies, etc.)

Geography:

North America (United States, Canada) Europe (United Kingdom, Germany, France, Spain, Italy, Rest of Europe) Asia Pacific (China, Japan, India, South Korea, Australia, Rest of Asia Pacific) Latin America (Brazil, Mexico, Rest of Latin America) Middle East and Africa (South Africa, Saudi Arabia, UAE, Rest of Middle East and Africa)

Functionality:

Fluid handling Cell separation and manipulation Mixing and dilution Sample preparation and analysis Temperature control Detection and sensing Others

Technology:

Continuous flow microfluidics Digital microfluidics Electrokinetic microfluidics Centrifugal microfluidics Paper-based microfluidics Others

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Regional Growth Dynamics:

Based on region, North America accounted for the highest share in 2021, contributing to more than two-fifths of the global microfluidic devices market, and is likely to dominate the market during the forecasted timeframe. However, Asia-Pacific is projected to portray the fastest CAGR of 24.6% during the forecast period. The research also analyzes the regions including Europe and LAMEA.

Competitive Landscape:

Agilent Technologies, Inc. Danaher Corporation Thermo Fisher Scientific Inc. PerkinElmer, Inc. Fluidigm Corporation Dolomite Microfluidics Bio-Rad Laboratories, Inc. Illumina, Inc. Cepheid (a subsidiary of Danaher Corporation)

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