

Global Automated Microbiology Market Size Study, By Product (Instruments, Reagents & Kits, Software), By Automation Type (Fully Automated, Semi-Automated), By Application (Clinical Diagnostics, Biopharmaceutical Production, Environmental & Water Testing, Food & Beverage Testing), By End-use (Hospitals & Diagnostic Laboratories, Pharmaceutical & Biotechnology Companies, Academic & Research Institutes, Others) and Regional Forecasts 2022-2032

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Abstracts

The Global Automated Microbiology Market is valued at approximately USD 6.88 billion in 2023 and is projected to grow at a CAGR of 10.69% over the forecast period from 2024 to 2032. The growing burden of infectious diseases, increasing hospital-acquired infections (HAIs), and the rapid emergence of antimicrobial resistance (AMR) are necessitating fast and highly accurate microbial detection technologies. Automated microbiology systems are transforming the diagnostics landscape with their ability to improve laboratory efficiency, enhance diagnostic precision, and reduce human errors. By incorporating AI-driven identification, PCR-based detection, and mass spectrometry technologies, automated microbiology systems enable faster turnaround times for pathogen detection and antimicrobial susceptibility testing. Additionally, the COVID-19 pandemic accelerated the adoption of automated microbiology solutions in clinical laboratories, further fueling market expansion.

The market is witnessing substantial demand due to the increasing adoption of fully automated systems in hospitals, pharmaceutical manufacturing, and research settings. Artificial intelligence (AI), robotics, and cloud-based laboratory automation are driving

efficiency in sample processing, data analysis, and diagnostic accuracy. Moreover, the advent of MALDI-TOF mass spectrometry, molecular diagnostic assays, and next-generation sequencing (NGS) has improved the ability to identify microbial species with high accuracy, boosting market penetration. The stringent regulatory landscape, including FDA, CE Mark, and IVDR guidelines, is pushing laboratories to invest in standardized and compliant automated microbiology solutions to meet evolving quality control standards.

The biopharmaceutical and pharmaceutical industries are also emerging as key adopters of automated microbiology systems, as these technologies are increasingly being used for drug manufacturing, microbial contamination testing, and quality control. Government initiatives and private sector investments in microbiological research—particularly in Asia-Pacific, Latin America, and the Middle East—are creating lucrative opportunities for market players. The expansion of point-of-care (POC) testing solutions, along with portable and cost-effective microbiology systems, is enabling advanced diagnostics in resource-limited settings, driving adoption worldwide.

Regional Analysis- The market is segmented across North America, Europe, Asia-Pacific, Latin America, and the Middle East & Africa. North America dominated the industry in 2023, accounting for the largest revenue share due to its strong healthcare infrastructure, advanced research facilities, and presence of key industry players such as BD, Thermo Fisher Scientific, and bioMérieux. The region's stringent regulatory frameworks (FDA, CDC guidelines) are fostering the adoption of advanced microbiology automation solutions. Europe follows closely, with Germany, the UK, and France at the forefront due to high investments in clinical diagnostics and pharmaceutical R&D.

The Asia-Pacific region is expected to witness the fastest CAGR over the forecast period. The growing incidence of infectious diseases, increasing healthcare expenditures, and rising adoption of AI-powered automation in microbiology laboratories are fueling growth in China, India, Japan, and South Korea. Additionally, government initiatives to improve microbial testing infrastructure in pharmaceutical manufacturing and food safety industries are boosting demand for automated microbiology solutions.

Major Market Players Included in This Report:

BD (Becton, Dickinson and Company)

Thermo Fisher Scientific Inc.

bioMérieux

Danaher Corporation

QIAGEN

Merck KGaA

Abbott Laboratories

Agilent Technologies, Inc.

DiaSorin S.p.A.

Bio-Rad Laboratories, Inc.

Beckman Coulter (A Danaher Company)

Bruker Corporation

Rapid Micro Biosystems, Inc.

Copan Diagnostics

Luminex Corporation

The Detailed Segments and Sub-segments of the Market Are Explained Below:

By Product:

Instruments

Automated Microbial Identification Systems

Automated Blood Culture Systems

Automated Colony Counters

Automated Sample Preparation Systems

Automated Antibiotic Susceptibility Testing (AST) Systems

Other Instruments

Reagents & Kits

Culture Media

Stains & Dyes

Assay Kits & Panels

Others

Software

By Automation Type:

Fully Automated

Semi-Automated

By Application:

Clinical Diagnostics

Biopharmaceutical Production

Environmental & Water Testing

Food & Beverage Testing

Other Applications

By End-use:

Pharmaceutical & Biotechnology Companies

Hospitals & Diagnostic Laboratories

Academic & Research Institutes

Other End Users

By Region:

North America

U.S.

Canada

Mexico

Europe

UK

Germany

France

Italy

Spain

Denmark

Sweden

Norway

Rest of Europe

Asia-Pacific

China

Japan

India

Australia

Thailand

South Korea

Rest of Asia Pacific

Latin America

Brazil

Argentina

Rest of Latin America

Middle East & Africa

Saudi Arabia

UAE

South Africa

Kuwait

Rest of MEA

Years considered for the study:

Historical Year: 2022

Base Year: 2023

Forecast Period: 2024-2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional level analysis for each market segment.

Detailed geographical landscape with country-level analysis of major regions.

Competitive landscape analysis, including key players' strategies and SWOT analysis.

Evaluation of technological advancements and innovations shaping the market.

Analysis of market challenges, drivers, and opportunities influencing industry growth.

Strategic recommendations for key industry stakeholders.

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