Global Mass Spectrometry - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 125 pages | Mordor Intelligence

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Report description:

The Global Mass Spectrometry Market size is estimated at USD 7.19 billion in 2025, and is expected to reach USD 9.74 billion by 2030, at a CAGR of 6.25% during the forecast period (2025-2030).

The mass spectroscopy devices are mainly used in the research and development activities in different industrial areas such as pharmaceuticals, life sciences, food, and others. As there were lockdown restrictions around the world due to the COVID-19 pandemic, these activities were negatively impacted and thus impacting the mass spectrometry market. The mass spectrometry devices are also being used in the detection and analysis of the COVID-19 samples which may have a positive impact on the market. For instance, In September 2020, in India, researchers at the Institute of Genomics and Integrative Biology (IGIB) and the National Centre for Disease Control (NCDC) were able to detect novel coronavirus (COVID-19) with 95% sensitivity and 100% specificity concerning RT-PCR using a mass spectrometer.

One of the major driving factors for the growth of the mass spectrometry market is the technological advancements in mass spectrometer devices and growing concerns over food safety around the world. The key market players in the studied market are continuously working towards advancing their existing products and launching innovative and advanced mass spectrometer devices. For instance, in May 2020, Thermo Fisher Scientific launched an advanced high-resolution mass spectrometer called Orbitrap Exploris 120 mass spectrometer, which has features like fast scanning modes and rapid polarity switching. Also, the companies engage in activities such as mergers and acquisitions, strategic partnerships, or collaboration to acquire or develop new technologies in the field.

Another major factor that is expected to boost the growth of the studied market is increasing research and development expenditure by both government and private entities. For instance, according to the January 2022 report published by Research

America, the medical and health research and development expenditure reached USD 245.1 billion in 2020, of which USD 161.8 billion was invested by the industry leaders thus, with high investment in medical and health research that also includes drug discovery and development, the demand for mass spectrometers is expected to increase and hence, fueling growth in the studied market. therefore, owing to the above-mentioned factors, the mass spectrometry market is expected to grow over the forecast period. However, the high cost associated with the mass spectrometer devices and the lack of skilled professionals will impede the growth of the mass spectrometry market during the forecast period.

Mass Spectrometry Market Trends

The Triple Quadrupole (Tandem) Segment is Expected to Hold a Significant Market Share

A triple-quadrupole mass spectrometer, also known as QqQ, is a tandem MS method in which the first and third quadrupoles act as mass filters, and the second causes fragmentation of the analyte through interaction with a collision gas-it is a radiofrequency-only quadrupole and can be used in either SIM or scan mode. The triple quadruple (tandem) mass spectrometer is expected to hold a significant market share during the forecast period. There is a higher demand for triple quadrupole mass spectrometers because triple quadrupole mass spectrometer is considered one of the most high-end instruments, and many labs across the world are adopting this instrument.

With the technological advancement in mass spectrometry and other analytics techniques, the key companies in the market are coming up with new product launches which is one of the factors responsible for the growth of the segment. For instance, in June 2022, Agilent Technologies Inc. revealed its Agilent 6475 triple quadrupole LC/MS system along with another instrument at the 70th ASMS Conference on Mass Spectrometry and Allied Topics, and as per the company, the Agilent 6475 triple quadrupole LC/MS system is the next evolution in sensitive, rugged, robust mass spectrometer. The 6475 incorporates intelligent reflex, an automated sample reinjection function that intelligently 'reflexes' to specific analysis conditions providing immediate validation of results, further improving the speed of analysis and reducing operator involvement. Hence, from the abovementioned factors, the Triple Quadrupole mass spectrometer is estimated to witness healthy growth over the forecast period. High investment in the research and development activities by pharmaceutical and biotechnology companies and new technological advancements in mass spectrometer devices will also boost the growth of the studied market during the forecast period.

North America Dominates the Mass Spectrometry Market and is Expected to Follow the Same Trend During the Forecast Period

North America holds a major share in the mass spectrometry market and is expected to show a similar trend over the forecast period mainly due to the increased funding the research and development activities, widespread usage of mass spectrometer instruments in the life sciences, metabolomics, and petroleum sector along with the presence of key market players in the region.

In North America, the United States will hold the largest market share in the mass spectrometry market, owing to high investment in research and development by the government as well as private entities. For instance, as per the American Association for the Advancement of Science, the total estimated research and development budget of the United States government is USD 165,463 million, of which the National Institute of Health's estimated budget is USD 40,663 million. Additionally, as per the Congressional Budget Office's April 2021 report, the pharmaceutical industry spent about USD 83 billion in 2019 on research and development activities, which will also boost the growth of the studied market in the country.

Also, the use of mass spectrometry in clinical laboratories to measure small sample volumes with improved confidence across an expanding range of healthcare applications, from toxicology to personalized medicine along with the study of potential pathogens will complement the growth of the studied market. For instance, as per the research article published in September 2020, titled 'Mass Spectrometry Techniques in Emerging Pathogens Studies: COVID-19 Perspectives', Matrix-assisted laser desorption ionization time-of-flight mass spectrometry (MALDI-TOF/MS) is widely used in clinical diagnostics in the United States and Europe

for bacterial pathogen identification. Thus, owing to the above factors the market is expected to grow in the region during the forecast period.

Mass Spectrometry Industry Overview

The mass spectrometry market is highly competitive. The leading players offer an expansive product portfolio for mass spectrometers and have a broad geographic presence. Companies like Agilent Technologies, Bruker Corporation, Danaher Corporation, Leco Corporation, Perkin Elmer Inc., Shimadzu Corporation, Thermo Fisher Scientific, and Waters Corporation, among others, hold a substantial share in the mass spectrometry market.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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