

**Process Analytical Technology Market, by Technology (Spectroscopy, Chromatography), Measurement (On-line, In-line, At-line), Product & Service (Analyzers, Probes, Sensors), End User (Pharmaceutical Manufacturers, CROs, CDMO)-Global Forecast to 2027**

Market Report | 2022-10-21 | 204 pages | MarketsandMarkets

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**Report description:**

The global process analytical technology market is projected to reach USD 6.1 billion by 2027 from USD 3.2 billion in 2022, at a CAGR of 13.8% during the forecast period of 2022 to 2027. Growing number of pharmaceutical & biopharmaceutical R&D activities and technological advancements resulting in process optimization are the key factors driving the growth of the market. However, shortage of skilled professionals and high cost for PAT deployment are hindering the market growth.

"The spectroscopy segment to hold the largest share of the market in 2022"

Based on the type of technology, the global PAT market has been classified into five major segments-spectroscopy, chromatography, particle size analysis, capillary electrophoresis, and other technologies. By technology, spectroscopy to hold major market share in 2022. The higher adoption of molecular spectroscopy technologies such as Near Infrared (NIR) spectroscopy, Fourier Transform Infrared (FTIR) spectroscopy, Raman spectroscopy, and Nuclear Magnetic Resonance (NMR) spectroscopy in the quality assessment of pharmaceutical drugs is a major factor contributing to the growth of this segment.

"The services segment is projected to register the highest CAGR during the forecast period"

Process analytical technology services are offered to end users for better implementation of the Quality by Design (QbD) framework. These services include consulting on PAT adoption and software services, regulatory framework, and process management. The services segment is expected to grow with the fastest growth rate, owing to the increasing demand for consulting and software services required for developing PAT models and implementing PAT strategies in the pharmaceutical

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manufacturing process.

"In terms of application, small-molecule segment held the largest share of the market in 2021"

Based on application, the process analytical technology market is broadly segmented into small molecules, large molecules, manufacturing applications, and other applications. The small-molecule segment commanded the largest share of the market in 2021. Stringent drug development and safety guidelines to improve the efficiency and effectiveness of the pharmaceutical manufacturing process, growing pharmaceutical research activities, and growth in pharmaceutical production to meet the rising demand for medicines are the major factors driving the growth of the segment.

"The market in the APAC region is expected to witness the highest growth during the forecast period."

China, India, and Japan are the key markets in the Asia Pacific. Strategic expansions by key market players in emerging Asian countries; the growing Contract Research and Manufacturing Services (CRAMs) industry in India, Korea, Singapore, and China; the large biopharmaceutical industry in Singapore; and conferences, exhibitions, and meetings on analytical instruments are some key factors fueling the growth of the Asia Pacific market.

A breakdown of the primary participants referred to for this report is provided below:

-□By Company Type: Tier 1-30%, Tier 2-42%, and Tier 3- 28%

-□By Designation: C-level-10%, Managers-76%, and Others-14%

-□By Region: North America-40%, Europe-30%, Asia Pacific-22%, Latin America-6%, and the Middle East & Africa-2%

The prominent players in the process analytical technology market are Thermo Fisher Scientific, Inc. (US), Danaher Corporation (US), Agilent Technologies, Inc. (US), Shimadzu Corporation (Japan), Waters Corporation (US), Bruker Corporation (US), Emerson Electric Co. (US), ABB Ltd. (Switzerland), PerkinElmer, Inc. (US), Mettler-Toledo International Inc. (US), and Carl Zeiss AG (Germany), among others.

#### Research Coverage

This report studies the process analytical technology market based on technology, measurement, product & service, application, and region. It also covers the factors affecting market growth, analyzes the various opportunities and challenges in the market, and provides details of the competitive landscape for market leaders. Furthermore, the report analyzes micromarkets with respect to their individual growth trends and forecasts the revenue of the market segments with respect to five main regions (and the respective countries in these regions).

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#### Reasons to Buy the Report

The report will enable established firms as well as entrants/smaller firms to gauge the pulse of the market, which, in turn, would help them to garner a larger market share. Firms purchasing the report could use one or a combination of the below-mentioned strategies for strengthening their market presence.

This report provides insights on the following pointers:

-□Market Penetration: Comprehensive information on the product portfolios offered by the top players in the process analytical technology market

-□Product Development/Innovation: Detailed insights on the upcoming trends, R&D activities, and product launches in the process analytical technology market

-□Market Development: Comprehensive information on lucrative emerging regions

-□Market Diversification: Exhaustive information about new products, growing geographies, and recent developments in the process analytical technology market

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- Competitive Assessment: In-depth assessment of market segments, growth strategies, revenue analysis, and products of the leading market players.

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