

Particle Size Analysis - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Particle Size Analysis Market size is estimated at USD 435.47 million in 2024, and is expected to reach USD 572.66 million by 2029, growing at a CAGR of 5.63% during the forecast period (2024-2029).

The market is anticipated to experience increasing revenues soon due to its expanding applications in nanotechnology. The extensive impact of nanotechnology in cosmetology applications has led to its widespread integration into the cosmetic industry.

Key Highlights

- Particle size analysis is a technical procedure or a laboratory technique that determines the size range, or mean size, of the particles in a powder or liquid sample. These applications were initially carried out only in R&D facilities. However, with the advent of technology, they are being embedded into real-time production environments for several quality control assessments to minimize damage.
- Particle size analysis plays a key role in manufacturing carbon fiber components. Single-wall carbon nanotubes are often subjected to dynamic light scattering (DLS) technology to assess if the required strength of the material could be drawn from a batch of carbon nanotubes.
- In case of discrepancies, several additives are added to give an aesthetic look and provide the required strength to the carbon fiber product. The immense support from government organizations to strengthen their domestic pharmaceutical markets is expected to boost the demand from this sector. China has plans to establish several data centers exclusively to serve the medical research proposes, facilitating the exchange of precious clinical trial data over the public domain. According to DC Byte, In Q3 2022, Shanghai, China, was the second largest data center market in the Asia-Pacific region, with live power supply capacity of roughly 1,019.94 megawatts, 406.33 megawatts under construction, and 672.75 megawatts in phased IT power.
- However, it is worth noting that the particle size analysis market is affected by certain limitations of the technique. For instance,

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the dynamic imaging analysis technique has a restriction in determining the particle size distribution of particles smaller than one micrometer, which hinders its application in certain clinical areas. Additionally, the high cost of the analyzer and the lack of awareness about the technique are anticipated to impede the growth of the particle analysis market in the predicted timeframe. -The COVID-19 pandemic made a significant impact on the particle size analysis market. It affected the whole world in three important ways: making it hard to make and sell things, causing problems with getting things from one place to another, and making it hard for businesses and money markets to make money.

Particle Size Analysis Market Trends

Pharmaceuticals to be the Largest End User

- Particle size analysis is a fast and cost-effective means to increase the exposure of poorly soluble oral drugs by the increase of surface area and, thereby, improving dissolution rate. It is based on this particle size analysis, researchers decide upon the mode of injection of drugs. Furthermore, particle size is also an important attribute in APIs, solid oral drug products (capsules, tablets - impacting on flow, homogeneity, and processing), and as a vital quality attribute in semi-solids (suspensions) and sterile liquid products (injectables).
- As the production of pharmaceuticals is subject to stringent regulation and requires constant monitoring of the production process. The materials are finely ground, but only particles with a fineness of approximately 10-20 μm can be produced by grinding. The materials are further ground by the addition of liquids. The sample is collected after each step, and the size of the particle is analyzed.
- The market studied in the pharmaceutical sector is further being driven by the rise of new technologies, such as nanotechnology. Further, increased funding, research and development (R&D) investments and grants for research in the field of pharmaceuticals are expected to augment the growth of the particle size analysis market.
- The growing demand for pharmaceutical products also drives the growth of the particle size analysis market. The ever-increasing spending capability of consumers, the development of health infrastructure, and advancement in diagnostic and the easy accessibility of pharmaceutical products are among the critical contributor to this growth. For instance, according to AstraZeneca, a leading pharmaceutical company, global pharmaceutical sales had increased to USD 1,214 billion in 2022, compared to 1,036 billion in 2020. The United States continues to remain among the leading region in terms of the consumption of pharmaceutical products (USD 605 billion in 2022), followed by the Emerging Markets (USD 290 billion), Europe (USD 213 billion), and the Established Rest of the World (USD 106 billion).
- The growth of the pharmaceutical industry in emerging countries also creates a favorable outlook for developing the studied market. For instance, in recent years, India has emerged as the leading provider of generic medicines, occupying about 20% of the global market share. The country is also the world's largest vaccine manufacturer. (Source: Invest India) As particle size analysis is highly crucial in pharmaceutical manufacturing, as off-spec particle sizes can lower yields, impede production, and ultimately reduce profits, the growing pharmaceutical sales are anticipated to continue to impact the growth of the studied market positively.

Asia-Pacific Expected to Register Major Growth

- The Asia-Pacific region is expected to record the highest CAGR during the forecast period. The growth in the region is attributed to the rising interest in nanotechnology, the presence of major nanotechnology market participants in the area, the implementation of reforms and regulations by the government to improve product quality, the top caliber of industry standards, and the gradual transfer of manufacturing and pharmaceutical R&D from developed markets to Asian markets.

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- This region is one of the fastest-growing markets for particle size analysis. The emergence of different new techniques in determining the size of particles and size distribution and growing new industrial applications, especially pharmaceuticals, are expected to boost the market of particle size analyzers in the region.
- As the chemical industry accounts for a significant share of the particle size analysis market, its expansion offers a vast opportunity for the market. The Asia-Pacific region leads to the development of nano-sensor technology. South Korea has the second-highest number of patents in the nanotechnology market in the world., followed by Japan, China, and Taiwan. The increasing number of patents in nanotechnology is estimated to develop the market for nanoparticle tracking analysis in the region.
- Various semiconductor components are manufactured with the help of particle size analyzers. The region offers a tremendous opportunity for growth. With a large base of untapped markets, such as Vietnam, Indonesia, and India, with vast raw material reserves and being a leading market for underground mining operations, the region is emerging as one of the biggest markets for mining activity. Australia is one of the largest markets for mining innovation. The strong demand for the mining sector and continual support from the government for innovation are expected to further develop the market opportunity for particle size analysis.
- The China Food and Drug Administration (CFDA) reforms provide the basis for more positive fundamentals to support the pharmaceutical industry's growth through the encouragement of innovation. In March 2023, the National Reimbursement Drug List (NRDL) released the percentage of products achieving NRDL inclusion within one year of regulatory approval, which increased steadily, from 24% in 2020 to 53% in the 2022 update, owing to the strong momentum of securing NRDL reimbursement for innovative therapies soon after National Medical Products Administration (NMPA) approval.

Particle Size Analysis Industry Overview

The particle size analysis market is moderately fragmented with the presence of major players like Malvern Panalytical Ltd, Horiba Ltd, Agilent Technologies Inc., Microtrac Inc. (Verder Scientific GmbH & Co. KG), and Beckman Coulter Inc. Players in the market are adopting strategies such as partnerships and acquisitions to enhance their product offerings and gain sustainable competitive advantage.

- June 2023 - Malvern Panalytical announced the launch of its NanoSight Pro nanoparticle tracking analysis (NTA) system. NanoSight Pro simplifies the characterization of nanomaterials, allowing every user to produce reproducible, robust, and excellent data in a very short time by using machine learning combined with programmed intelligent features.
- April 2023 - Horiba Advanced Techno, Co., Ltd., a Horiba Group company, announced the acquisition of Tethys Instruments SAS, which designs, manufactures, and sells water quality monitoring equipment for environment and process markets.

Additional Benefits:

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

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