

Material Informatics Market by Material (Chemicals, Superalloys, Solid-state Electrolytes, Composites), Technique (Statistical Analysis, Genetic Algorithm), Application (Materials Discovery, Product Development) and Region - Global Forecast to 2030

https://marketpublishers.com/r/MDE89FDA4719EN.html

Date: March 2025 Pages: 227 Price: US\$ 4,950.00 (Single User License) ID: MDE89FDA4719EN

Abstracts

The global material informatics market is expected to grow from USD 170.4 million in 2025 to USD 410.4 million in 2030 at a CAGR of 19.2% over the forecast period. Growing need for sustainable materials is strongly contributing to the market growth of materials informatics. As sustainability is gaining importance among industries, producers are using materials informatics to investigate and discover materials with a lower environmental footprint. However insufficient data volume and data quality poses a challenge in material informatics growth.

"Elements segment is expected to witness highest CAGR during the forecasted period in material informatics market."

The elements segment is expected to have the highest CAGR in the material informatics market due to a few critical factors. Growth in the usage of high-tech materials in the aerospace, automobile, energy, and electronics industries is pushing for new metals and alloys that promise better performance, longevity, and sustainability. Superalloys specifically are critical to harsh environments like jet engines and power generation units, requiring an accelerated push in material informatics. Moreover, the increasing use of solid-state electrolytes in future energy storage technologies, such as solid-state batteries for electric vehicles and solar and wind energy, is fueling research and development processes. Machine learning algorithms within material informatics are changing the game in the discovery and optimization of such materials by saving enormous amounts of time needed in design and experimentation.



'Material science segment is likely to witness highest CAGR in material informatics market during forecasted period."

Material science is expected to exhibit the highest CAGR in the materials informatics market due to the increasing demand for accelerated material discovery and innovation. With artificial intelligence and machine learning, researchers can evaluate enormous amounts of data, make predictions about material properties, and tailor formulations to make experimentation and simulation much faster. Investments by the government and private sector in next-generation materials, including high-performance alloys, nanomaterials, and sustainable substitutes, further fuel the use of materials informatics. The development of automated laboratories and high-throughput screening methods has also accelerated dependence on materials informatics to effectively process and interpret experimental data. Intersectoral collaboration between industry and academia is another critical factor, with industries looking for novel materials for niche applications.

"Asia Pacific is expected to hold the second largest market share of the material informatics market during forecasted period".

The region includes economies like China, Japan, South Korea, and India, each of which boasts robust manufacturing and research strengths in materials science, semiconductors, and advanced materials. The governments of all these nations proactively invest in artificial intelligence, machine learning, and big data analytics, without which material informatics cannot exist. Moreover, the concentration of top electronics, automotive, and pharmaceutical industries in the region fuels the need for advanced materials, which requires quicker and more effective material discovery and development. The intense academic and industrial cooperation in the region also speeds up innovations in material informatics.

Breakdown of primaries

The study contains insights from various industry experts, ranging from component suppliers to Tier 1 companies and OEMs. The break-up of the primaries is as follows:

By Company Type - Tier 1 – 40%, Tier 2 – 35%, Tier 3 – 25%

By Designation— C-level Executives - 48%, Directors - 33%, Others - 19%



By Region—North America - 35%, Europe - 18%, Asia Pacific - 40%, RoW - 7%

The material informatics market is dominated by a few globally established players such as players Schr?dinger, Inc. (US), Dassault Syst?mes (France), Exabyte Inc. (US), Citrine Informatics (India), Phaseshift Technologies (Canada), and Al Materia (Canada). The study includes an in-depth competitive analysis of these key players in the pharmaceutical manufacturing equipment market, with their company profiles, recent developments, and key market strategies.

Research Coverage:

The report segments the material informatics market and forecasts its size by material type, end user, and region. The report also discusses the drivers, restraints, opportunities, and challenges pertaining to the market. It gives a detailed view of the market across four main regions—North America, Europe, Asia Pacific, and RoW. Supply chain analysis has been included in the report, along with the key players and their competitive analysis in the material informatics ecosystem.

Key Benefits to Buy the Report:

Analysis of key drivers (Increasing reliance on AI technology to speed up material discovery and deployment, rising government initiatives to provide lowcost clean energy materials, Growing focus on mitigating climate change and environmental pollution). Restraint (Shortage of technical experts, High costs of maintenance and services), Opportunity (Emerging applications of large language models (LLMs) in material development, Ease of building material databases using digital technologies), Challenges (Insufficient data volume and quality).

Product Development/Innovation: Detailed insights on upcoming technologies, research and development activities, and new product launches in the material informatics market.

Market Development: Comprehensive information about lucrative markets – the report analyses the material informatics market across varied regions

Market Diversification: Exhaustive information about new products and services, untapped geographies, recent developments, and investments in the material



informatics market.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players Schr?dinger, Inc. (US), Dassault Syst?mes (France), Exabyte Inc. (US), Citrine Informatics (US), Phaseshift Technologies (Canada), and AI Materia (Canada) among others in the material informatics market.



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