+357 96 030922
info@marketpublishers.com

Global Material Informatics Market Size Study, by Technique (Statistical Analysis, Genetic Algorithm, Deep Tensors, Digital Annealers), by Elements (Metals, Alloys), by Chemicals (Dyes, Polymers, Biomolecules), by Application (Chemical, Pharmaceutical), and Regional Forecasts 2022-2032

https://marketpublishers.com/r/G6A1A8347DE2EN.html
Date: February 2025
Pages: 285
Price: US$ 3,218.00 (Single User License)
ID: G6A1A8347DE2EN

Abstracts

The Global Material Informatics Market was valued at approximately USD 129 million in 2023 and is projected to expand at a compound annual growth rate (CAGR) of 16.3% over the forecast period 2024-2032. The rapid advancements in artificial intelligence (AI) and computational modeling have transformed material discovery, fostering the emergence of material informatics as a critical enabler in research and development. Material informatics employs data-driven methodologies to predict material properties, optimize compositions, and accelerate innovation across industries such as chemicals, pharmaceuticals, and manufacturing. By leveraging AI-powered simulations and machine learning algorithms, researchers and enterprises can significantly reduce costs and time associated with traditional trial-and-error material design, making this technology indispensable in modern industrial applications.

Material informatics is gaining traction due to its ability to integrate vast datasets from multiple sources, including experimental results, theoretical calculations, and literature reviews. This integration allows for a more comprehensive understanding of material behaviors, fostering breakthroughs in novel alloys, biocompatible materials, and high-performance polymers. The demand for data-centric material design is being fueled by increased investment in nanotechnology, energy-efficient materials, and eco-friendly alternatives, all of which align with global sustainability initiatives. Moreover, advances in digital annealers and deep tensor networks are revolutionizing complex material

+357 96 030922
info@marketpublishers.com

analysis, enabling the rapid screening of thousands of possible material combinations within seconds.

The widespread adoption of material informatics in pharmaceutical and chemical applications is driving its expansion, with companies utilizing AI-driven models to develop high-performance drug compounds, specialty polymers, and advanced coatings. Additionally, the push toward lightweight, corrosion-resistant, and high-durability materials in automotive and aerospace industries is prompting greater investment in predictive material science. Despite its immense potential, challenges such as high computational costs, the need for extensive high-quality datasets, and resistance to technological transition in legacy industries may hinder adoption. However, as computational power increases and data accessibility improves, these barriers are expected to diminish, paving the way for widespread implementation.

Regionally, North America dominates the material informatics market, propelled by leading AI research institutions, government-backed funding for material science, and strong industry-academia collaborations. The United States and Canada are at the forefront of data-driven material discovery, with key players deploying AI-enhanced simulations for rapid material prototyping. Europe follows closely, with countries such as Germany, the UK, and France driving significant advancements in nanotechnology and smart materials. Meanwhile, the Asia-Pacific region is poised for the fastest growth, primarily due to China, Japan, and India’s increasing investment in AI-based material discovery and growing industrial automation. As global industries embrace AI-driven R&D, material informatics is set to revolutionize material design, making it a cornerstone of future technological advancements.

Major Market Players Included in This Report:

Schr?dinger, Inc.

BASF SE

ExxonMobil Corporation

Materials Design, Inc.

Dassault Syst?mes SE

Citrine Informatics

+357 96 030922
info@marketpublishers.com

Alchemy Cloud, Inc.

AI Materia

The Dow Chemical Company

Hitachi High-Tech Corporation

IBM Corporation

Google LLC

Johnson Matthey Plc

Royal DSM N.V.

Accelrys (BIOVIA)

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

By Technique:

Statistical Analysis

Genetic Algorithm

Deep Tensors

Digital Annealers

By Elements:

Metals

Alloys

+357 96 030922
info@marketpublishers.com

By Chemicals:

- Dyes
- Polymers
- Biomolecules

By Application:

- Chemical
- Pharmaceutical

By Region:

North America

- U.S.
- Canada

Europe

- UK
- Germany
- France
- Spain
- Italy
- Rest of Europe

+357 96 030922
info@marketpublishers.com

Asia Pacific

- China
- India
- Japan
- Australia
- South Korea
- Rest of Asia Pacific

Latin America

- Brazil
- Mexico
- Rest of Latin America

Middle East & Africa

- Saudi Arabia
- South Africa
- Rest of Middle East & Africa

Common Content for Report Description

Years considered for the study are as follows:

+357 96 030922
info@marketpublishers.com

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market estimates and forecasts for 10 years (2022-2032).

Annualized revenue and regional-level analysis for each market segment.

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

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approaches.

Competitive structure analysis of the market.

Demand-side and supply-side analysis of the market.

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

CHAPTER 9. RESEARCH PROCESS

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Global Material Informatics Market Size Study, by Technique (Statistical Analysis, Genetic Algorithm, Deep Tensors, Digital Annealers), by Elements (Metals, Alloys), by Chemicals (Dyes, Polymers, Biomolecules), by Application (Chemical, Pharmaceutical), and Regional Forecasts 2022-2032

Product link: https://marketpublishers.com/r/G6A1A8347DE2EN.html

Price: US$ 3,218.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/G6A1A8347DE2EN.html