

The Nanotechnology and Nanomaterials Global Market Report 2023

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Abstracts

Nanotechnology is no longer a novel, emerging field. Nanotech-based devices & processes and engineered nanomaterials (ENMs) have been incorporated in products across all major markets. Nanomaterials are increasingly becoming part of our daily lives and are already heavily used in products such as sunscreens (titanium dioxide/zinc oxide nanoparticles), sporting goods (carbon nanotubes, graphene etc.), conductive battery additives (carbon nanotubes, graphene etc.), automotive composites (nanotubes, graphene, cellulose nanofibers etc.) and high-definition TVs (quantum dots). Their use is only going to increase due to continued industry demand for nanomaterials for current and next generation batteries, biomedical imaging and flexible electronics.

They are also contributing to sustainability challenges as they offer properties that improve an application's functionality, including corrosion protection, water and moisture protection, friction reduction, antifouling and antibacterial properties, self-cleaning, heat and radiation resistance and thermal management. Nanomaterials sustainable characteristics include:

Greener alternative to solvent-based materials.

Made entirely from non-toxic materials.

Less energy-intensive and contain no volatile organic compounds (VOCs).

Support eco-friendly manufacturing.

Low carbon footprint.

Nanotechnology offers disruptive breakthroughs and innovations that can provide solutions to industrial, environmental and societal challenges in markets including energy, electronics, environmental protection, resource management and healthcare. Nanomaterials can be produced with outstanding magnetic, electrical, optical, mechanical, and catalytic properties that are substantially different from their bulk counterparts. These properties can be tuned as desired via precisely controlling the size, shape, synthesis conditions, and appropriate functionalization. At over 1140 pages, The Global Nanotechnology and Nanomaterials Market Report 2023 is an in-depth analysis of the opportunities afforded by these remarkable materials and technologies.

Report contents include:

In-depth analysis of the global market for nanotechnology and engineered nanomaterials based products.

Nanotechnology's role in sustainability and sustainable development.

Comprehensive listings of applications and products.

Analysis of current market for nanotech/nanomaterials-enabled products and forecasts and market outlook to 2033, by metric tons and revenues.

Global demand for nanomaterials globally (e.g. Carbon nanomaterials, quantum dots, metal and metal oxide nanomaterials and other nanomaterials) in terms of volume (MT).

Demand for nanomaterial-based products in globally by market (e.g. electronics, automotive, batteries, consumer goods, medicine, coatings and other relevant markets) in terms of revenues.

Assessment of competitive landscape, commercial prospects, applications, demand by market and region, stage of commercialization, prices and producer profiles.

TRL assessment for Engineered nanomaterials and end user markets.

Analysis of global trends, including historical data from 2010, and projections to 2033.

Exploration of Engineered nanomaterials and nanotech-enabled products market structures and value chains.

Assessment of end user markets for nanotechnology and Engineered nanomaterials including market drivers and trends, applications, market opportunity, market challenges and application and product developer profiles. Markets covered include adhesives, aerospace and aviation, automotive, Energy conversion, storage and generation technologies, sustainable technologies, biomedicine and healthcare, coatings & paints, composites, conductive inks, construction & buildings, cosmetics & sunscreens, electronics, photonics, filtration and environmental remediation, food and agriculture, fuel cells and hydrogen storage, household care and sanitary, lighting, lubricants, marine, oil, gas and mining, packaging, rubber, security and defence, sensors, photovoltaics, batteries, textiles and apparel, 3D printing, catalysts, and thermoelectrics.

Unique assessment tools for the nanomaterials market, end user applications, economic impact, addressable markets and market challenges to provide the complete picture of where the real commercial opportunities in nanotechnology and nanomaterials are. Nanomaterials covered include metal & metal oxide nanoparticles carbon nanomaterials, nanocellulose, nanoclays, dendrimers, quantum dots, other 2D materials.

Main application and product opportunities in nanotechnology and nanomaterials.

Profiles of over 1,500 nanotechnology and engineered nanomaterials producers and product developers. Companies profiled include Actnano, Arkema, Cabot Corporation, Carbice Corp., Carbon Upcycling Technologies, C2CNT LLC, CHASM, CrayoNano AS, Daicel Corporation, Fukuda, GS Alliance Co. Ltd., GS Bavaria GmbH, Elmarco, Evove, Foshan Nanotech, LG Chemical, Nanoco Group, Nanofiber Quantum Technologies, Nanolayr, Nanosys, Nanotech Energy, Nemo Nanomaterials, Nfinite Nanotechnology, OCSiAl, Paragraf, Pixelligent Technologies, Promethean Particles, Radetec Diagnostics, Smart Nanotubes Technologies, SuperBranche and Zeon Corporation.

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