



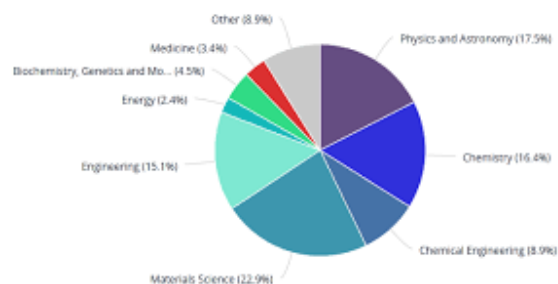
2020 Young Scientist Award of Biopolymers & Bioplastics Conference

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The global [Nanotechnology](#) market was valued at \$1,055.1 million in 2018, and is projected to reach \$2,231.4 million by 2025, growing at a CAGR of 10.5% from 2019 to 2025. Nanomaterials and nanotechnology are the study of nanoparticles and devices, which find their application across all the science fields such as chemical, bio-medical, mechanics, and material science among others. Nanotechnology market encompasses the production and application of physical, chemical, and biological systems and devices at scales ranging from individual atoms or molecules to around 100 nanometers.

[Nanotechnology](#) carries a significant impact, and serves as a revolutionary and beneficial technology across various industrial domains, including communication, medicine, transportation, agriculture, energy, materials & manufacturing, consumer products, and households. Emerging use cases and application is expected to be one of the key factors contributing towards the growth of nanotechnology market size. The U.S. National Nanotechnology Initiative has estimated that around 20,000 researchers are working in the field of nanotechnology. For the UK, the Institute of Occupational Medicine has estimated that approximately 2,000 people are employed in new nanotechnology companies and universities where they may be potentially exposed to [nanoparticles](#) of 20.1%. The market size of amines is estimated to grow from USD 13.35 Billion in 2015 to USD 19.90 Billion by 2020.



Furthermore, various organizations globally are investing in nanotechnology market and its emerging applications. For instance, in 2018, Osaka University-led researchers, in a joint research project with The University of Tokyo, Kyoto University, and Waseda University, constructed integrated gene logic-chips called gene nanochips. Using integrated factors on the nanochips, these self-contained [nanochips](#) can switch genes on and off within a single chip, preventing unintended crosstalk. In addition, Nanoscale sensors and

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the structural integrity and performance of bridges, tunnels, rails, parking structures and pavements over time. Moreover, Nanoscale sensors, communications devices, and other innovations enabled by [nanoelectronics](#) support an enhanced transportation infrastructure that can communicate with vehicle-based systems to help drivers maintain lane position, avoid collisions, adjust travel routes to avoid congestion, and improve drivers' interfaces to onboard electronics. All these factors are expected to be major nanotechnology market trends globally. The 2018 Budget supports nanoscale science, engineering, and technology R&D at 11 agencies. Another 9 agencies have nanotechnology-related mission interests or regulatory responsibilities. Budget provides \$1.5 billion for the nanotechnology, a continued investment in support of the priorities and innovation strategy.

Nanotechnology has been heralded as having the potential to lead to the next industrial revolution. Nanotechnology is one of the top-ranked subjects in the academic and research field. It is an enabling technology which generates new capabilities, products, markets and so on. This conference is focusing on all the major aspects in the fields of Nanotechnology. It would be beneficial for all the students and Researchers who ever willing to enter into corporate worlds targeting to the respective fields.

Factors such as surge in adoption of nanotechnology in medical diagnosis & imaging and technological advancements in nanotech devices drive the growth of the global nanotechnology market. However, issues arising in the deployment of [nanodevices](#) in extreme conditions and high cost of the technology act as the major barriers, thereby hampering the nanotechnology market growth. On the contrary, increase in support and R&D funding from government organizations and emergence of self-powered nanotech devices are anticipated to offer lucrative opportunities for the nanotechnology market forecast.

Scope and Importance

Th U.S forms the largest market for the [Nanomaterials](#) owing to large application use of nanotubes in various industries. Electrical and electronics, pharmaceutical, and chemical products are the major application segments in North America market. Europe also held a significant market share in the nanomaterial's market. Decrease in price of nanomaterial's due to increase in mass production has lead to robust growth of nanomaterial's in these regions. Asia Pacific is expected to witness remarkable growth in the projected period. Increasing government funding and support, rising environmental consciousness, and rising demand for specialty materials is expected to boost the growth of nanomaterials market in the foreseeable period. Nanomaterials are regulated under REACH and CLP regulation in the European market while U.S FDA regulates nanomaterial's for the American market. [Nanoscale](#) materials engineering will have an increasingly important impact on a number of sectors, including biotechnology, electronics, energy, and industrial products Nano-sized ceramic powder market is likely to grow with a healthy growth rate of about 10% per year in the next five years. MWNT filled polymers are successful commercial products in automotive applications. Nano composites have found

niche applications such as automotive (under the hood and exterior) and beverage packaging. More companies will enter the nanomaterial's market. At the same time, there will be increasing number of business relations such as technology licensing and joint marketing to achieve faster commercialization of the new products. The research and development funding for nanotechnology and nanomaterials will continue to increase in this decade. The global market for the nanomaterial's in the year 2006 was around US \$14,000, and the global investments are to be increased 50% more by the ending of 2019.

The report explains that global [nanotechnology](#) market is segmented on the basis of types, application and geography. Based on types, nanotechnology is classified into:

- Nanocomposites
- Nanoparticles
- Nanotubes
- Nanoclays
- Nanofibers
- Nanoceramics
- Nanomagnetism

Nanotechnology finds their applications into a variety of end used industries which include:

- Electronics & Semiconductor
- Pharmaceuticals
- Biotechnology
- Textile
- Military
- Healthcare
- Food
- Automobiles
- Telecom & IT
- Aerospace

Each of these segments is further broken down to give an in-depth analysis of the market. The nanotechnology market report analyses the nanotechnology in various applications and covers the market demand with respect to regions.

Related Associations and Societies:

- American National Standards Institute Nanotechnology Panel
- Instituto Zuliano de Investigaciones Tecnológicas
- American Physical Society
- Canadian NanoBusiness Alliance
- European Society for Precision Engineering and Nanotechnology
- Semiconductor Industry Association
- Collaborative Centre for Applied Nanotechnology
- James Watt Nanofabrication Centre
- Southampton Nanofabrication Centre
- National Nanotechnology Center
- National Nanotechnology Directorate
- National Nanotechnology Initiative
- Iranian Nanotechnology Laboratory Network

Related Companies/Industries:

- MCH Nano solutions
- Micro-Bio-Nano Company
- Aquamarijn micro filtration
- Concern Nanoindustry
- HiQ-Nano
- Nano-Tech
- Nano Surf
- Dow Chemical
- Nano Film

- Warsash scientific
- Applied Graphene materials
- Biolin Scientific
- PLIN Nanotechnology
- Fluigent Smart Microfluidics
- Nano Lane
- HiQ-Nano
- Deerac Fluidics
- Linde
- Silexmicro Systems
- Advanced optical technologies
- Evonik
- NanoDiamond Products
- Organic Spintronics
- Advanced Magnetic Technologies & Consulting Group (AMT&C)
- Concern Nanoindustry