

Market analysis - 3rd Global Conference on Smart Materials and Nanotechnology

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Scope and Importance:-

Materials Science is a diverse and multidisciplinary field. It is unbroken interactively with basic disciplines and is also contributing to meet all Grand Societal Challenges. This donation is such that many reports have been produced in recent years in Europe and world - wide, with the aim of drawing a comprehensive picture and proposing coordinated actions towards the establishment of coherent strategies in the field. The attending report subscribes to this perspective, with a particular goal which is to contribute to the establishment of a comprehensive view of the role in efficient development of key enabling technologies.

Branches of Materials Science Include:

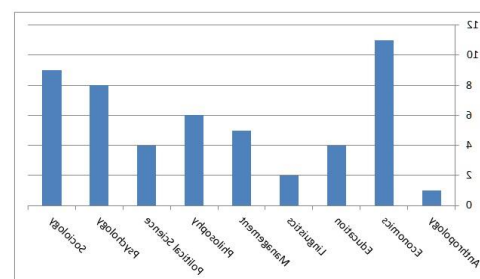
- Thermodynamics of materials
- Fundamentals of Materials Science
- Ceramic engineering
- Amorphous Materials
- Materials in Human Experience
- Mechanics of Materials
- Magnetic Materials
- Polymer science and polymer engineering

Societies Associated with Materials Science and Engineering:-

- Society of Materials Science
- Federation of Materials Societies
- International union of Crystallography
- International Organisation of Materials
- Metals and Minerals Societies
- Japan Society for Composite Materials
- Materials Research Society
- Society for Biomaterials
- Society for Advancement of Material and process Engineering
- Society for materials Science
- American Ceramic Society
- American Composites Manufacturers Association

- Australasian Ceramic Society
- Australasian Society for Biomaterials and Tissue Engineering
- Brazilian Composites Materials Association
- Canadian Biomaterials Society
- Federation of European Materials Societies
- International Organization of Materials
- International Union of Crystallography
- International Organization of Materials
- Metals and Minerals Societies

Figure 1: Books by discipline among the top-20 most cited books in the social sciences



Market Value on Materials Science Research:-

Move up on demands from the end user industries drives the amalgamation market. Increase the properties such as high exhaustion life, high strength and modulus, reduced weight, acoustic insulation and corrosion resistance have led to an increase in the demand. The report section is the composites market on the basis of fibre type, resin type, manufacturing process, and application. On the basis of fibre, the market is divided into carbon fibre composites, glass fibre composites, and others. Established on the leave type market is classified into thermosetting composites and thermoplastic composites. The fundamental type of manufacturing process, the market is categorized into layup, filament, injection moulding, pultrusion, compression moulding, RTM, and others. On the natural application of the market is divided into aerospace & defence, transportation, electrical & electronics, construction, wind energy,

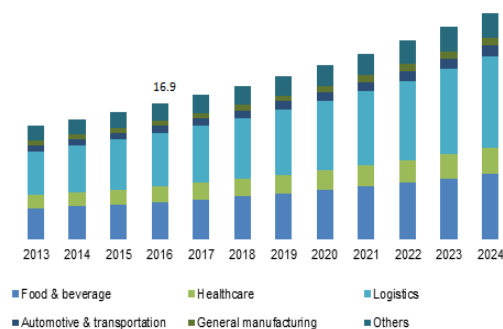
pipes and tanks, marines, and others. Graphical presentation falls down and deep analysis of each of the aforesaid segments is included for Europe, North America, Asia-Pacific, and LAMEA. Increasing of the electrical & electronics, construction & infrastructure, and make better transportation facilities has led Asia-Pacific to be the largest market of composites.

Complete competitive analysis profiles of major market players such as Hexcel Corporation and Huntsman Corporation, Teijin Limited, Owens and Toray Industries Corning are also provided in this report. The end of users for these companies can be recognised as aerospace, construction, automotive and wind energy related companies such as Boeing, Mercedes-Benz, BMW, Ford, Bell Helicopter, and Vistas. The large industry of materials industry and construction materials and market includes building used worldwide for the fabrication of structures, earth supports, embankments, and completion of excavations. Large industry materials for building and construction are diverse and range from readily-available non-supply chain materials such as brush and mud to commodity supply materials procured for projects like construction aggregates (particulates - sand, gravel, crushed stone, slag, waste mining materials, synthetics) composite wood products, plastics (PVC), resins, synthetic textiles and fibres (fiberglass), composite cements, other plastics and polymer composites, concrete, and various metals. Heavy industry materials include iron, specialty alloys, various grades of steel titanium, copper, and even gold, silver, chrome and platinum. Ceramic materials, Glass and foam are also subsets of heavy industrial materials required for construction. Over heavy industry materials for construction projects can include architectural glass, coated glass and other finished specialty glass projects

Market Growth of Materials Science in the last and upcoming ten years

The global material market was valued at \$149 million in 2015, and is expected to reach \$1,387 million by 2022, growing at a CAGR of 39.7% during the forecast period. Material means of communication are defined as three-dimensional, macroscopic composites possessing a man-made periodic cellular architecture designed to produce an optimized combination, not available in nature, of two or more responses to a specific excitation. They show exceptional physical properties such as negative permeability and permittivity. The significance of materials is that they

allow engineers to manipulate wave propagation by arranging the unit cells in different ways. The copper is a good conductor and appears bronze in colour, a materials designed out of copper can be engineered to be an insulator and reflect yellow. High factors drives the market growth are capital investment from public and private sources and highly skilled researchers for product commercialization. In addition, the unique engineered properties of material mediums are not found in nature, making them inherently valuable. However, inefficient research despite huge investment is expected to restrain the market growth.



Members Associated with Materials Science:-

Research Positions:-

- Research Associate
- Research Scientist
- Bitumen Research Associate

Business Operations Jobs:-

- Product Manager
- Strategy Director
- Business Development Manager
- Business Operation Analyst

Apart from the industrial personnel where most of the research work is done, other research communities include:-

- Academicians include Student community.
- Researchers include Post docs, Research Associates.
- Scientists include Professors, Associate professors, and Assistant professor.
- Industries include Presidents, CEO's, and R&D Managers.

Major Advanced Material's science Associations around the Globe

- American Chemical Society (ACS)
- American Physical Society (APS)
- The Materials Information Society (ASM International)
- Microscopy Society of America (MSA)
- The Minerals, Metals & Materials Society (TMS)
- Sigma Xi: The Scientific Research Society

- International Society for Optical Engineering (SPIE)
- The American Ceramic Society (Acers)
- International Association of Advanced Materials(IAAM)

Journals:

- Journal of Nanomaterials & Molecular Nanotechnology
- Journal of Material Sciences