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Global presence of your research at Carbon Materials 2020 scheduled during March 16 -17, 2020 at Sydney, Australia

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Market Analysis

Summary of Carbon Materials 2020 Conference

Carbon Materials Conference 2020 is the best platform to discuss the basic principles involved in the development of Materials Science and Engineering. As this conference deals with the basics concepts, students, delegates, academicians and business people can attend the conference to root up the knowledge and excel in this field. It encompasses the spectrum of materials types and how to use them in manufacturing. We live in a world that is both dependent upon and limited by materials. The future will bring ever-increasing challenges and opportunities for new materials and better processing. Materials are evolving faster today than at any time in history.

Scope and Importance

Carbon Materials and Advanced Energy Materials is a broad, diverse and multidisciplinary field. It is continuous interaction with basic disciplines and is also contributing to meet all Grand Societal Challenges. This contribution is such that numerous 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 present 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 Carbon Materials Include

Graphene of materials

Fundamentals of Carbon Materials

Polymer Science and Engineering

Amorphous Materials

Materials in Human Experience

Mechanics of Carbon Materials

Magnetic Materials

Molecular Principles of carbon materials

Target Audience

Material Science Scientists

Material Science Professors

Research Scholars and students on carbon materials

Carbon materials Companies

Carbon materials Associations

Advanced Energy Materials and Carbon materials Engineers

Materials Scientists/Research Professors

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Carbon materials Physicists/Chemists

Junior/Senior research fellows of Carbon materials / Material Science / Advanced Energy Materials / Biotechnology

Materials Science Students

Directors of chemical companies

Carbon Materials Engineers

Members of different Materials science associations.

Polymer companies.

Societies Associated with Materials Science and Engineering:-

Society of Carbon Materials

Federation of Carbon 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 Carbon Materials

Metals and Minerals Societies

Market Value on Carbon Materials Research

Carbon materials rise in demand from the end user industries drives the composites market. Improved properties such as high fatigue life, high strength and modulus, reduced weight, acoustic insulation, and corrosion resistance have led to an increase in the demand. Volatility in the Carbon material prices and non-recyclable nature of composites pose a great threat in the growth of the market.

The report segments the composites market on the basis of Carbon type, resin type, manufacturing process, and application. On the basis of Carbon, the market is divided into carbon composites, glass fiber composites, and others. Based on the resin type, the market is classified into thermosetting composites and thermoplastic composites. On the basis of the type of manufacturing process, the market is

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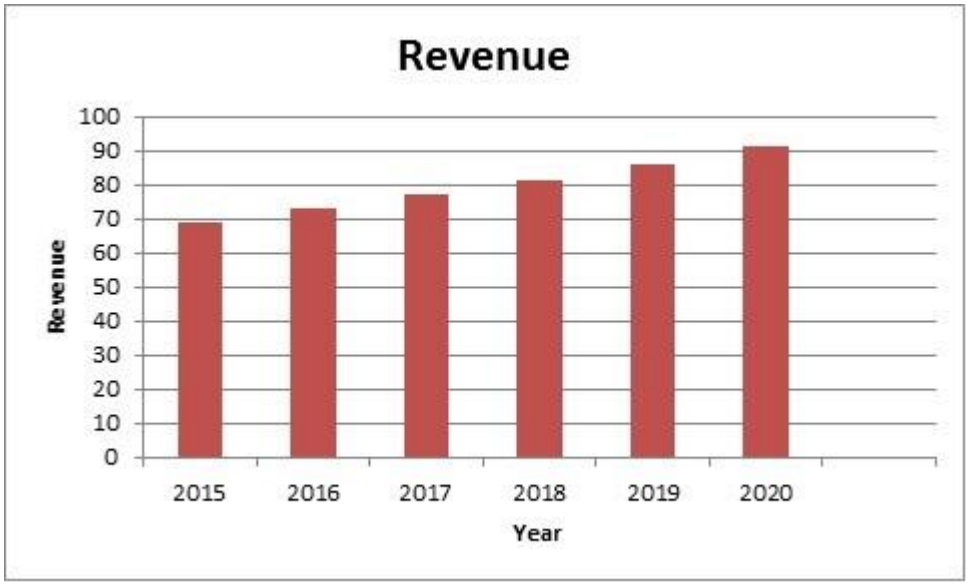
categorized into a layup, filament, injection molding, pultrusion, compression molding, RTM, and others. On the basis of application, the market is divided into transportation, aerospace & defense, electrical & electronics, construction, wind energy, pipes and tanks, marines, and others. Geographic breakdown and deep analysis of each of the aforesaid segments is included for North America, Europe, Asia-Pacific, and LAMEA. The growth of the electrical & electronics, construction & infrastructure, and improved transportation facilities has led Asia-Pacific to be the largest market of composites.

Comprehensive competitive analysis and profiles of major market players such as Hexcel Corporation, Huntsman Corporation, Toray Industries, Teijin Limited, and Owens Corning are also provided in this report. The target end users for these companies can be categorized as automotive, aerospace, construction, and wind energy-related companies such as BMW, Ford, Bell Helicopter, Boeing, Mercedes-Benz, and Vestas.



Benefits for stakeholders on Carbon Materials

This report entails the detailed quantitative analysis of the current market and estimations through 2014-2022, which assists to identify the prevailing opportunities.

An exhaustive analysis of the global composites market by type helps to understand the types of composites that are currently being used along with the variants that would gain prominence in the future.

An in-depth analysis of the current research and clinical developments within the composites market is provided with key dynamic factors that predict the behavior of the Carbon market.

Extensive analysis is conducted by following key product positioning and monitoring the top competitors within the market framework.

Key market players within the composites market are profiled in this report and their strategies are analysed thoroughly, which interprets the competitive outlook of the global Carbon market. This report provides an extensive analysis of the current and emerging trends and dynamics in the global composites market. In-depth analysis has been done in this report by constructing market estimations for the key market segments between 2014 and 2022.

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

The global material market was valued at $149 million in 2015 and is expected to reach $1,397 million by 2022, growing at a CAGR of 39.7% during the forecast period. Carbon Material mediums are defined as macroscopic composites possessing a man-made, three-dimensional, periodic cellular architecture designed to produce an optimized combination, not available in nature, of two or more responses to 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. For example, though copper is a good conductor and appears bronze in color, carbon materials designed out of copper can be engineered to be an insulator and reflect

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yellow. Major factors that drive 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 market growth.

Funds allotted to Carbon Materials

MSE faculties are leading numerous research projects, which are supported by an average of $4-5 million annually.

A significant portion of this funding comes from federal grants: U.S. Department of Defence and all branches of the military, U.S. Department of Energy, National Science Foundation, and Center for Disease Control & Prevention. Another part comes from State or private foundations.

Finally, industry (from small start-up companies to large international corporations) provides much of the remaining funding, which provides both for graduate research assistantships and support for undergraduates conducting research on a project.

Members Associated with Carbon Materials

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 Postdocs, Research Associates.

Scientists include Professors, Associate professors, and Assistant professor.

Industries include Presidents, CEO's, and R&D Managers.

Major Advanced Energy Material's 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)

Major Material's science Associations in Japan

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National Institute for Materials Science

Journal of the Society of Materials Science, Japan - J-Stage

Japan Society for Composite Materials

The Society of Materials Science, Japan

Top Universities in Sydney, Australia

The University of Sydney

UNSW Sydney

The Chinese University of Hong Kong

The Hong Kong University of Science and Technology

The Education University of Hong Kong

Lingnan University

A glance at Market of Carbon Materials

The global market is projected to reach $6,000 million by 2020 and register a CAGR of 10.5% between 2015 and 2020 in terms of value. The growth in the market is estimated to be driven by the increasing demand for carbon materials and construction applications. The North American region remains the largest market, followed by Asia-Pacific. The Europe market is estimated to be growing at a steady rate due to economic recovery in the region along with the increasing concern for the building insulation and energy savings. The structural core Carbon material market in the interior is estimated to grow from USD 142.2 Million in 2016 to USD 220.2 Million by 2021, at a compound annual growth rate (CAGR) of 9.13% between 2016 and 2021. The base year considered for the study is 2015 and the market size is projected between 2016 and 2021. Increase in the demand for Boeing 787 and Airbus 350 is expected to significantly drive the structural carbon material market in aerospace interiors. The market size of high-temperature composite Carbon materials is projected to reach USD 5.01 Billion by 2021, at a CAGR of 8.41% during the forecast period. The introduction of safety norms in public transport, as well as increasing demand for lightweight and high-performance composite materials in the aerospace & defense, transportation, and energy & power applications, are key factors responsible for the growth of the high-temperature composite materials market. Global Metallurgy market will develop at a modest 5.4% CAGR from 2014 to 2020. This will result in an increase in the market's valuation from US$6 billion in 2013 to US$8.7 billion by 2020. The global market for powder metallurgy parts and powder shipments was 4.3 billion pounds (valued at $20.7 billion) in 2011 and grew to nearly 4.5 billion pounds ($20.5 billion) in 2012. This market has grown approximately 5.4 billion pounds (a value of nearly $26.5 billion) in 2018. This market is expected to reach 6.0 billion pounds (a value of nearly $30.0 billion) in 2019.

Carbon Materials Industry

The global market for carbon fiber reached $1.8 billion in 2014, and further, the market is expected to grow at a five-year CAGR (2015 to 2020) of 11.4%, to reach $3.5 billion in 2020. Carbon fiber reinforced plastic market reached $17.3 billion in 2014, and further, the market is expected to grow at a five-year CAGR (2015 to 2020) of 12.3%, to reach $34.2 billion in 2020. The competition in the global carbon fiber and carbon fiber reinforced plastic market is intense within a few large players, such as Toray Toho, Mitsubishi, Hexcel, Formosa, SGL carbon, Cytec, Aksa, Hyosung, Sabic, etc.

Carbon Materials Chemistry

Today, many materials chemists are synthesizing functional device materials, and the discipline is often seen as directed towards producing materials with function—electrical, optical, or magnetic. Material chemistry is involved in the designing and processing of materials. The global market for catalysts is expected to reach $28.5 billion by 2020, growing at a CAGR (2015 to 2020) of over 3%. Asia-Pacific is having the largest market for catalysts accounting for more than 35% share.