

Biomaterials - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Biomaterials Market size is estimated at USD 202.37 billion in 2025, and is expected to reach USD 384.37 billion by 2030, at a CAGR of 13.69% during the forecast period (2025-2030).

The COVID-19 pandemic had a significant impact on the market. The decline in non-emergency surgical procedures declined the demand for biomaterials during the pandemic. For instance, in April 2022, Nova Scotia's QEII Health Sciences Centre decided to postpone most non-urgent and elective surgeries due to the increasing number of patients with COVID-19 in the hospital.

As a result, the demand for biomaterials declined during the pandemic. However, the development of various biomaterials and biomedical devices is in demand for detecting and treating coronaviruses and is expected to rise over the forecast period.

In wound care, biomaterials are used to develop advanced dressings, scaffolds, and skin substitutes that enhance wound healing and minimize the risk of infections. They provide a conducive environment for tissue regeneration and promote faster healing. According to an article published by the Taylor & Francis Journal¹ in June 2022, various biomaterials, including hydrogels, nanofibrous, composite, foam, spongy, bilayered, and trilayered scaffolds are being developed and fabricated to speed up the healing of chronic wounds. Therefore, the surging adoption of biomaterials for developing various wound healing products will burgeon market growth during the forecast period.

In addition, the rising number of wound injuries coupled with the high prevalence of diabetes is projected to drive market growth during the upcoming period. For instance, as per the data released by the International Diabetes Federation (IDF) in November 2022, approximately 537 million adults worldwide were living with diabetes in 2021. The number is projected to increase to 643 million by 2030 and 783 million by 2045. Therefore, the surging number of diabetic people is leading to growth in the number of

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wound injuries, thereby augmenting the growth of the biomaterials market.

Furthermore, the increasing number of multiple fractures and several injuries will likely drive market growth during the upcoming period. For instance, as per the data published by the CDC in May 2023, around 300,000 older people are hospitalized annually for hip fractures in the United States. According to the same source, approximately 3 million elderly people are treated in emergency departments for fall injuries every year. Therefore, the rising number of injuries is projected to drive the demand for biomaterials to develop medical implants.

The rising number of car accidents is also associated with traumatic fractures. For instance, according to the data published by Destatis in January 2023, it is estimated that over 29,000 people were injured in traffic accidents in Germany in November 2022. It has also been reported that this number increased by just under 2,400, or 9%, compared with the same month a year earlier, November 2021.

Thus, the factors above are expected to boost market growth over the forecast period. However, compatibility issues and stringent guidelines restrain the market's growth.

Biomaterials Market Trends

The Dental Application Segment is believed to Witness the Fastest Growth

Dental biomaterials include metals, polymers, ceramics, and composites. The growing burden of dental diseases such as periodontal disease, tooth decay, oral cancer, halitosis, and dental caries drives the demand for dental implants worldwide, which is expected to fuel growth in the studied market.

According to the March 2022 update of the World Health Organization, caries of permanent teeth affect an estimated 2 billion individuals worldwide, while caries of primary teeth affect 520 million children annually. Also, as per the same source, oral disease prevalence continues to rise in most low- and middle-income nations, mainly due to increased urbanization and changes in living conditions, which are expected to increase the demand for dental implants and biomaterials, and thus, the dental segment is expected to grow over the forecast period of the study.

Dental caries is a progressive infectious disease, and untreated dental caries in the elderly population can significantly impact the quality of life of older people worldwide, which is a leading factor driving the growth in the studied market.

Dental caries is a progressive infectious disease, and untreated dental caries in the elderly population can significantly impact the quality of life of older people worldwide, a leading factor driving the market growth. According to the March 2022 update of the World Health Organization, caries of permanent teeth affect an estimated 2 billion individuals worldwide, while caries of primary teeth affect 520 million children. Also, as per the same source, oral disease prevalence continues to rise in most low- and middle-income nations, mainly to increased urbanization and changes in living conditions, which is expected to increase the demand for biomaterials in dental implants and, thus, the dental segment is expected to grow over the forecast period.

In April 2023, ZimVie Inc. announced the recent launches of 2 additions to its biomaterial portfolio, the RegenerOss CC Allograft Particulate, a natural blend of cortical and cancellous bone particles that can be used to fill bony voids in a variety of dental applications, and the RegenerOss Bone Graft Plug, an easy-to-use grafting solution for filling extraction sockets and periodontal defects. Thus, the increasing prevalence of dental diseases and product launches by the key players may create opportunities for the market, owing to which considerable segment growth is expected over the forecast period.

North America is Expected to Hold a Significant Share in Studied Market and Expected to do the Same in the Forecast Period

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North America is anticipated to account for a sizeable portion of the global biomaterials market due to the expanding target population, high adoption of cutting-edge products, and numerous pharmaceutical companies.

The rising prevalence of arthritis in the country is projected to drive the demand for biomaterials during the forecast period. For instance, according to the study published in the Journal of Scientific Reports in August 2022, osteoarthritis (OA) is a common disease among the elderly, affecting an estimated 27 million adults in the United States each year. Furthermore, the number of sports-related injuries is also high in the country, resulting in foot and ankle injuries, which is expected to drive the demand for biomaterials during the forecast period.

Moreover, the presence of various Ambulatory Surgical Centers (ASCs) nationwide in the United States to perform spinal surgeries is also driving the market growth in the country. For Instance, Becker's Healthcare data updated in February 2023 showed that more than 183 ASCs in the United States perform minimally invasive spine surgery (MISS). ASCs perform a wide range of outpatient surgical procedures, increasing the demand for biomaterials used in these surgeries. With a focus on cost-effectiveness and minimally invasive procedures, ASCs require biomaterials that offer affordable solutions and enable faster recovery.

The growing popularity of ASCs as a convenient alternative to traditional hospital settings creates opportunities for biomaterial manufacturers to cater to their specific needs and contribute to the growth of the biomaterials market.

Technological advancements in biomaterials, like developing bioinert, bioactive, and bioabsorbable materials, are boosting the biomaterials market in the United States. Recently, many companies shifted from natural to synthetic origin biomaterials, like polyvinyl chloride (PVC), polypropylene, polymethyl methacrylate, and polyetheretherketone (PEEK), that are used in implants, disposable medical supplies, and dressings, among others.?

For instance, Simplify Medical (Sunnyvale, Calif) in the United States created a PEEK-based spinal implant, Simplify Disc, for cervical disc replacement. The thinness of the disk on sale illustrates the mechanical power of PEEK and its wear resistance.?

Thus, given the factors above, the studied market is predicted to grow tremendously in North America over the forecast period.

Biomaterials Industry Overview

The biomaterials market is moderately competitive. Some of the companies that are well-known in this market are Zimmer Biomet, Corbion NV, Noble Biomaterials Inc., and Bayer AG. Currently, with the rising focus of all the companies on emerging economies, some of the small and mid-sized companies are also penetrating the market and competing for market share.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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