5TH INTERNATIONAL CONGRESS AND EXPO ON BIOTECHNOLOGY AND BIOENGINEERING

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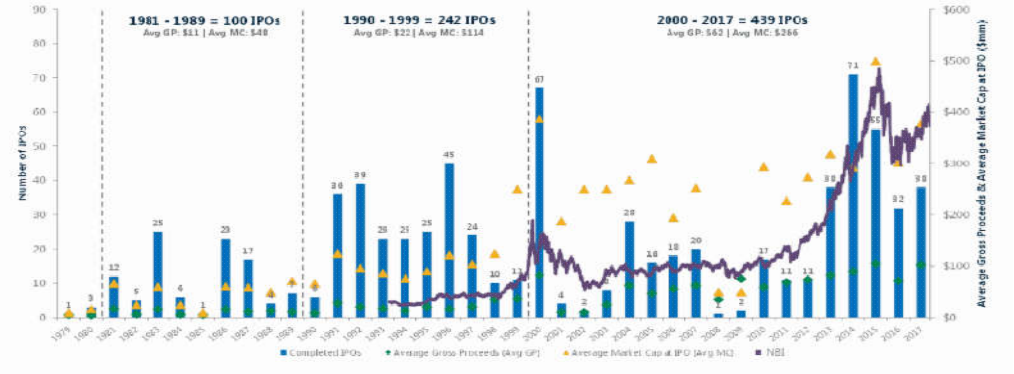
THEME: INTERDISCIPLINARY METHODOLOGIES AND INNOVATIONS OF BIOTECHNOLOGY AND BIOENGINEERING

Global Market Analysis

Biotechnology is a highly interdisciplinary field that combines biological sciences with engineering technologies to manipulate living organisms and biological systems to produce products that advances healthcare, medicine, agriculture, food, pharmaceuticals and environment control.

In recent years, the biotechnology industry has been defined by a number of mergers and acquisitions as well as several companies going public. Biotechnology draws from Bio molecular and cellular processes to formulate products ranging from drugs to industrial enzymes. The global biotechnology industry currently features over 250 products for healthcare alone. Likewise, biotechnology also increasingly finds uses in the agriculture sector to protect crops against pests and insects. The use of biotechnology in formulating new grades of bio-based fuels is currently an area witnessing considerable attention. The global biotechnology market is expected to reach USD 727.1 billion by 2025. The emergence of certain key themes in the biotechnology market is expected to drive growth in this industry to a lucrative extent.

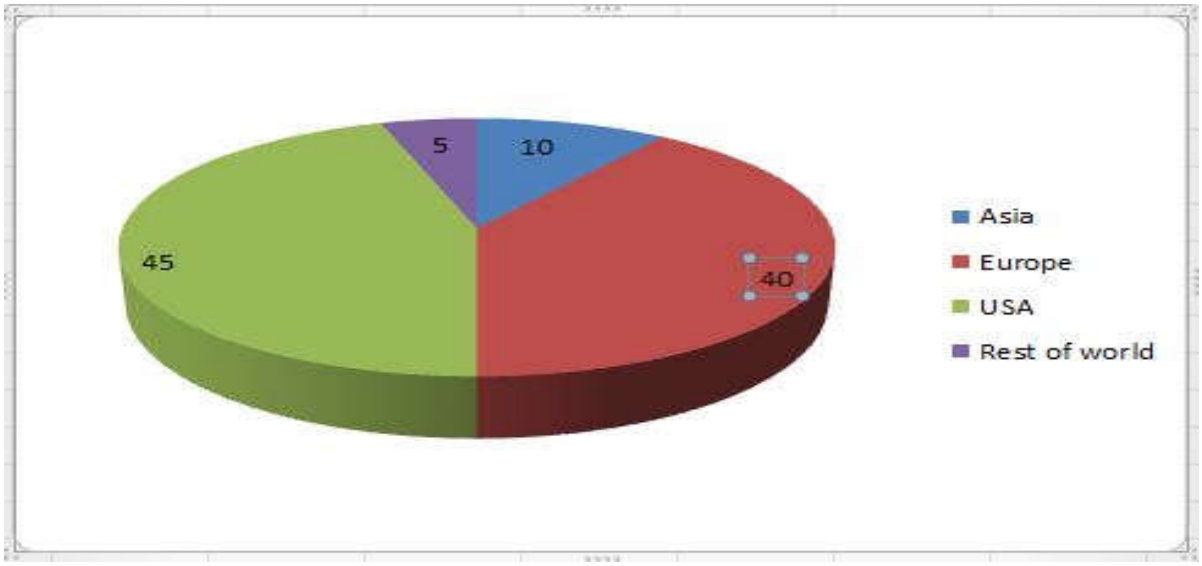
These key themes include regenerative medicine and genetics in diagnostics. Presence of a plethora of companies focusing on the development of regenerative therapies is anticipated to drive sector growth by 2025. Technological advancements pertaining to the penetration of artificial intelligence in this industry is expected to fuel progress with potential avenues. The companies are engaged in unleashing machine learning in order to understand individual cancer cases, while recommending clinical trials.



Industry in the European:

The biotech industry in Europe spends nearly $7.32 billion in R&D and $23.2 billion in revenue. Around 20% of the total marketed medicines, and as much as 50% of all drugs that are in the pipeline, are all healthcare biotech products. The European biotech industry provides employment to approximately 95,000 people.

European nations with maximum number of biotech firms include France, Denmark, Sweden, Germany, the Netherlands and the UK. The amount of biotech firms almost doubled in the mid-90s. As per an EC report, past few years have been characterized by consolidation instead of growth and that during the period from 2001-2003, employment rate dropped by as much as 4%.



The Technology of Biotech

Since the first DNA cloning experiments over 40 years ago, genetic engineering techniques have developed to create engineered biological molecules, genetically designed microorganisms and cells, ways to find new genes and figure out how they work, and even transgenic animals and plants. In the midst of this bioengineering revolution, commercial applications exploded, and an industry developed around techniques like gene clonging, directed mutagenesis, DNA Sequencing, RNA interference, bimolecular labeling and detection, and nucleic acid amplification.

The Two Main Biotech Markets: Medical and Agricultural

The biotech industry broadly segments into the medical and agricultural markets. Although enterprising biotechnology is also being applied to other exciting areas like the industrial production of chemicals and bioremediation, the use in these areas is still specialized and limited. On the other hand, the medical and agricultural industries have each undergone a biotech revolution with new—and often controversial— research efforts, development programs, and business strategies to discover, alter, or produce novel bimolecular and organisms using bioengineering.

The Biotech Start-Up Revolution

Biotechnology introduced a whole new approach to drug development that did not easily integrate into the chemically-focused approach most of the established pharmaceutical companies were using. This shift precipitated a rash of start-up companies starting with the founding of Cetus (now part of Novartis Diagnostics) and Genentech in the mid-1970s.