

Revolutionising Industries

The Power and Potential of Biomanufacturing

Deo Prakash Chaturvedi



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INDIA'S bioeconomy is rapidly expanding and is projected to achieve a \$150 billion valuation by 2025, up from its \$80 billion value in 2021-22. The Indian government is actively fostering the growth of the bioeconomy and has made part of its National Biotechnology Development Strategy 2021-25. This thriving bioeconomy encompasses diverse fields such as agriculture, pharmaceuticals, food and beverages, chemicals, and energy. India's strengths in these sectors, along with its abundant skilled scientists and engineers and conducive innovation environment, provide a solid foundation for the bioeconomy's development. The COVID-19 pandemic has accelerated this growth by propelling India to the forefront of vaccine and biopharmaceutical production.

At the heart of propelling the bioeconomy forward lies the pivotal concept of biomanufacturing — harnessing the power of biological systems to craft products for the market. Biomanufacturing in India will not only slash the dependence on imported bio-based commodities, but it is also expected to act as a dynamic engine for job creation, economic revitalisation, environmental preservation, and innovation to address pressing global challenges like climate change and food security. A recent noteworthy development in this arena is the resounding emphasis placed by the Department of

Biotechnology (DBT), Government of India, on elevating the nation to a prominent hub of biomanufacturing excellence.



Image source: PIB

Dr Jitendra Singh inaugurated a discussion meeting to foster the Biomanufacturing Initiative of the Department of Biotechnology (DBT) in New Delhi in July 2023

Historical Development and Milestones

Biomanufacturing has ancient roots, dating back thousands of years when humans began to use fermentation processes to produce food and beverages. The earliest forms of