

The Global Market for White Biotechnology 2024-2034

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Abstracts

White biotechnology harnesses living cells collected from yeast, molds, microorganisms and plants, and enzymes to produce renewable fuels, chemicals, materials and medicines. It relies on principles of biotechnology, molecular biology and synthetic biology to engineer organisms that efficiently convert raw materials into value-added products, that can be easily degraded, consume less energy and create less waste.

Key tools like metabolic engineering, fermentation, enzymatic biocatalysis, and directed evolution allow the biology of bacteria, yeast and algae to be optimized as microbial cell factories. Their metabolism can be tailored to convert sugars, waste lipids and even CO₂ into target compounds like ethanol, organic acids, biopolymers and more. White biotechnology enables the sustainable production of both high-volume commodities as well as fine chemicals for pharmaceuticals. It allows renewable feedstocks like agricultural wastes and algae to be utilized as inputs. Biomanufacturing processes can achieve high specificity under mild conditions with far less waste than conventional chemistry.

The Global Market for White Biotechnology 2024-2034 provides a comprehensive overview of the global white biotechnology industry across markets including biofuels, bioplastics, chemicals, food, agriculture, pharmaceuticals. Technology Analysis includes production hosts (bacteria, yeast, fungi, marine, enzymes, photosynthetic microorganisms), biomanufacturing processes (batch, continuous), cell factories, synthetic biology, metabolic engineering, feedstocks (C₁, C₂, CO₂, wastes, biomass). Market analysis includes industry trends and drivers, challenges and constraints, SWOT analysis, market map, end-use markets (biofuels, bioplastics, chemicals, food ingredients, agriculture, pharmaceuticals), global revenues 2018-2034 by market and region, company profiles.

Report contents include:

Principles and tools of white biotechnology. Analysis of major host organisms - engineered bacteria, yeast, algae, fungi - used in industrial biotechnology.

Key end product applications and markets. Markets covered include biofuels, renewable chemicals, bioplastics, ingredients, agriculture, cosmetics, textiles, and more. Analysis of market drivers, challenges, regulations, and outlook.

Insights into biomanufacturing processes and scale-up for commercialization. Batch vs continuous processing, bioreactors, downstream separation, and process analytical techniques.

Techno-economic analysis and market outlook.

Latest trends and future opportunities.

Global market revenues to 2034.

235 company profiles spanning feedstock supply, biomanufacturing, and end-product companies. Analysis of how startups, SMEs, and large corporations apply biotech across the value chain. Companies profiled include ?IO, Ardra Bio, Bolt Threads, Cascade Biocatalysts, C16 Biosciences, Circe, Danimer Scientific, Debut Biotechnology, Fermelanta, Future Fields, Gingko Bioworks, Green Bioactives, HydGene Renewables, LanzaTech, Metabolic Explorer, Michroma, Modern Meadow, Newlight Technologies, Novozymes, Onego Bio, Pearl Bio, Pivot Bio, Provectus Algae, Seminal Biosciences, Spiber, Succinity, Terra Bioindustries, Visolis, and Yali Bio.

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