

# The Global Market for Synthetic Biology 2024-2035

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## Abstracts

Synthetic biology, also known as engineering biology, focuses on designing and applying biological processes to underpin new products and manufacturing approaches across a range of industries, from novel medicines and therapeutics to the sustainable production of food, energy, medicines, chemicals, and materials.

### Comprehensive Analysis of the Synthetic Biology Industry

This in-depth report provides a comprehensive analysis of the rapidly evolving synthetic biology market and its transformative impact across major industries. Synthetic biology is an interdisciplinary field that combines science and engineering, applying the principles and tools of engineering to biology. It enables the design and construction of new biological systems, devices, and pathways for valuable applications.

The report begins with an overview of synthetic biology, comparing it to conventional processes and genetic engineering approaches. It examines the core principles, advantages of the technology such as sustainability, and potential to enable a circular bioeconomy. Key synthetic biology tools and techniques are analyzed in detail, including metabolic engineering, genome engineering (CRISPR/Cas9, TALENs, ZFNs), gene synthesis, protein engineering, synthetic genomics, cell-free systems, and more.

### Critical Insights into Technology, Applications & Markets

A thorough technology analysis covers the diverse biomanufacturing processes employed like fermentation, batch/continuous processes, cell culture systems, bioprinting, and smart bioprocessing integrated with AI/automation. Feedstocks utilized range from C1/C2 compounds, lignocellulosic biomass, food wastes, plastics, and gases like methane and CO<sub>2</sub>. Emerging areas like xenobiology, biosensors, marine biotechnology and bioelectronics are explored.

The report provides vital data on established and emerging synthetic biology markets including biofuels (bioethanol, biodiesel, biogas, algal biofuels, biohydrogen, biobutanol, etc.), bio-based chemicals (acids, alcohols, polymers), bioplastics (PLA, PHAs, biopolymers), bioremediation, biocatalysis, food ingredients, sustainable agriculture, textiles, consumer products, packaging, construction materials, and healthcare/pharmaceuticals.

### Comprehensive Coverage of Industry Landscape

A detailed market analysis covers the key industry trends and drivers such as sustainability, the transition to a circular bioeconomy, and technology advancements enabling new products and processes. Challenges like regulatory hurdles, public acceptance, and technical constraints are evaluated. The report examines synthetic biology's role across the bioeconomy value chain. The SWOT analysis outlines the strengths, weaknesses, opportunities, and threats for synthetic biology. Forecasts are provided for the overall synthetic biology market revenues from 2018 to 2035, segmented by region and individual market verticals like biofuels, biochemicals, bioplastics, etc.

### Company Profiles and Industry Intelligence

With over 295 company profiles, the report offers unmatched industry intelligence covering key stakeholders. Companies profiled include Aanika Biosciences, Amyris, Apeel, Agrivida, Bolt Threads, Erebagen, Eligo Bioscience, Geltor, Ginkgo Bioworks, Impossible Foods, Industrial Microbes, Kiverdi, LanzaTech, Lygos, Mammoth Biosciences, Mango Materials, Perfect Day, Pivot Bio, Synthego, Twist Bioscience, Uluu, Van Heron Labs, and Viridos. The report also covers investment in companies from 2021-2024.

This report is an essential resource for organizations and stakeholders seeking to understand the vast potential of synthetic biology and develop strategies to effectively navigate this rapidly evolving landscape. It offers comprehensive technology insights, quantitative market data, trend analysis and unmatched company profiles - empowering informed business decisions and staying ahead of the innovation curve.

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