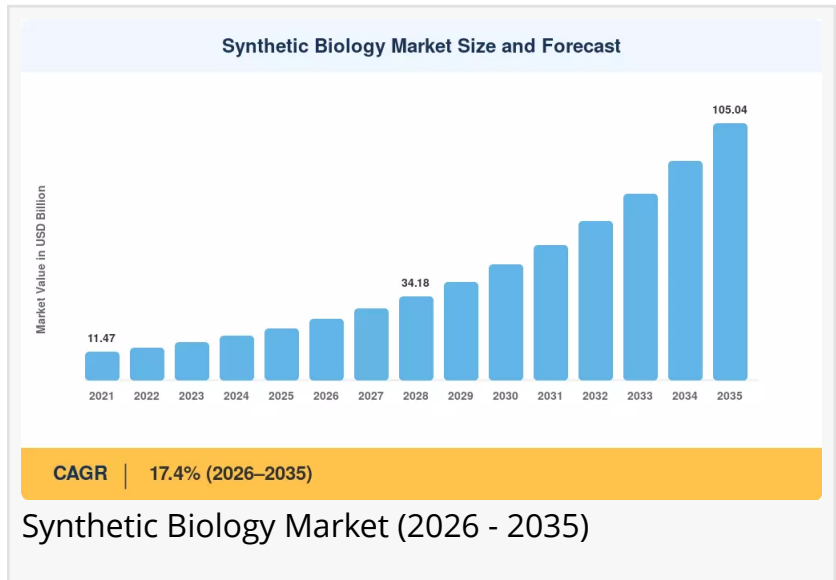


Synthetic Biology Market to reach USD 105.04 Billion by 2035 at 17.4% CAGR

Synthetic Biology Market to Surge from USD 21.12 Billion in 2025 to USD 105.04 Billion by 2035—Powered by Gene Synthesis Cost Declines, AI-Driven Bioengineering

NY, CA, UNITED STATES, August 31, 2026 /EINPresswire.com/ -- As per Market Research Future, the [global Synthetic Biology Market size](#) is projected to reach USD 105.04 Billion by 2035 from USD 21.12 Billion in 2025, at a CAGR of 17.4% during the forecast period 2026–2035.



The 17.4% CAGR is propelled by three converging forces: the dramatic decline in gene synthesis and DNA sequencing costs, which has democratized access to genetic engineering tools and expanded the addressable research base; the integration of AI-powered design platforms and automated biofoundries, accelerating the design-build-test-learn cycle and reducing development timelines; and sovereign-level government investments in biomanufacturing infrastructure, including the U.S. Biotechnology and Biomanufacturing Initiative (over USD 2 billion) and China's 14th Five-Year Plan for the Bio-Economy (CNY 150 billion allocated for synthetic biology).

Global technology leaders and research institutions are amplifying this momentum. Over 4,500 companies globally have committed to Science Based Targets, creating structural demand for bio-based replacements to petrochemical feedstocks. Healthcare dominates application revenue, with cell and gene therapy manufacturing increasingly dependent on synthetic biology tools for vector design, gene construct synthesis, and quality validation. Thermo Fisher Scientific expanded synthetic DNA manufacturing capacity in February 2024 targeting biotechnology customers requiring high-fidelity genetic constructs.

Request A Free Sample:

https://www.marketresearchfuture.com/sample_request/10901

Key Market Trends & Growth Drivers

Declining Gene Synthesis Costs

Per-base-pair synthesis costs have declined dramatically, transforming gene synthesis from a specialised academic service into routine infrastructure supporting research and commercial applications. Each cost reduction expands the addressable market for synthetic DNA procurement, enabling researchers to test more genetic design hypotheses within fixed budget constraints. Gene synthesis adoption is expanding beyond traditional research applications into commercial-scale biomanufacturing where synthetic DNA constructs serve as foundational inputs for engineered production organisms.

AI Integration in Bioengineering

AI is revolutionizing gene editing, protein design, and metabolic engineering. AI-driven tools like AlphaFold enhance protein structure prediction, improving enzyme engineering and drug discovery. AI-powered automation streamlines laboratory processes, reducing R&D costs and accelerating progress in precision medicine and sustainable biomanufacturing. The integration of AI design tools with automation, high-quality biological datasets, and laboratory information systems reduces development timelines and improves reproducibility.

Government Biomanufacturing Investments

The U.S. Biotechnology and Biomanufacturing Initiative provides over USD 2 billion for domestic biomanufacturing capacity expansion and workforce training. China's 14th Five-Year Plan for the Bio-Economy allocates CNY 150 Billion (approx. USD 21 Billion) for synthetic biology infrastructure. These sovereign-sized investments provide multi-year procurement pipelines for DNA synthesis, bioprocess equipment, and analytical software.

Ask for Customization:

https://www.marketresearchfuture.com/ask_for_customize/10901

Market Segment Insights

BY APPLICATION

Healthcare: Commands the dominant revenue position through cell and gene therapy manufacturing and drug development demand. Each new cell or gene therapy approval creates manufacturing scale-up demand for synthetic DNA and supporting tools.

Pharmaceuticals & Diagnostics: Held a significant share in 2025, projected to grow at a strong CAGR through 2035.

Industrial Biotechnology: Includes biomanufacturing of sustainable chemicals, enzymes, and bio-

based materials.

BY PRODUCT TYPE

Enabling Products: Enzymes, cloning technology kits, and supporting research tools represent foundational infrastructure for synthetic biology research.

Enabled Products: Accounted for a substantial share in 2025, expected to grow at a strong CAGR through 2035.

Oligonucleotides: Represent a substantial industry share, fundamental for custom DNA sequence production, PCR, DNA sequencing, and gene editing.

BY END USER

Biotechnology and Pharmaceutical Companies: Command the dominant revenue position, representing the largest commercial customer base for synthetic biology tools and technologies.

Biopharmaceutical Manufacturers: Expected to account for a leading share in 2025, using synthetic biology to manipulate microorganisms for therapeutic protein production.

Read Detailed Insights:

<https://www.marketresearchfuture.com/reports/synthetic-biology-market-10901>

Regional Outlook

North America — Dominant Market

North America commands the dominant revenue position, supported by the world's deepest concentration of synthetic biology platform development and commercial infrastructure. U.S. biotechnology and pharmaceutical companies allocate substantial research and manufacturing investment toward synthetic biology tools supporting cell and gene therapy development. NIH and Department of Energy research funding sustains academic synthetic biology research that feeds commercial translation.

Europe — Strong Growth

Germany's synthetic biology industry is anticipated to demonstrate strong growth through 2035, driven by the biopharmaceutical sector's use of synthetic biology to develop microbes for manufacturing therapeutic proteins. The United Kingdom's synthetic biology industry is expected to grow at a strong pace, supported by leading pharmaceutical enterprises and emphasis on R&D.

Asia-Pacific — Fastest-Growing Region

China's synthetic biology market is poised to rise at a robust CAGR through 2035, driven by substantial investment in R&D and government funding for innovation. India's market is anticipated to show significant growth. Japan is expected to grow at a steady pace.

Competitive Landscape

The Synthetic Biology Market features a dynamic competitive landscape shaped by a blend of established players and innovative startups. Leading companies with significant financial resources and expansive research capabilities dominate by offering diverse product portfolios.

KEY COMPANIES:

Thermo Fisher Scientific Inc.

Merck KGaA

Illumina Inc.

GenScript Biotech Corporation

Twist Bioscience

Codexis Inc.

Danaher Corporation

Eurofins Scientific

Agilent Technologies Inc.

New England Biolabs

Future Outlook: 2026–2035

The Synthetic Biology Market is projected to reach USD 105.04 Billion by 2035, growing at a CAGR of 17.4%, driven by declining gene synthesis costs, AI-powered design platforms, and sovereign biomanufacturing investments.

New opportunities lie in:

Precision Fermentation for Alternative Proteins: The alternative protein industry is predicted to surpass USD 30 billion by 2030, with precision fermentation using engineered yeast or bacteria to create animal-identical proteins.

Biomanufacturing Reshoring: Governments in the U.S., EU, and Japan are investing in domestic biomanufacturing infrastructure, driving multi-year demand for synthetic biology tools.

Emerging-Market Bio-Economy Leapfrogging: Countries such as India, Brazil, and Kenya are bypassing legacy chemical manufacturing by investing directly in bio-based industrial capacity. By 2035, synthetic biology is expected to be a foundational technology for biotechnology-led growth, transforming healthcare, manufacturing, and sustainability.

More Related Research Insights:

<https://www.marketresearchfuture.com/reports/medical-lasers-market-11203>

<https://www.marketresearchfuture.com/reports/herbal-medicine-market-3250>

<https://www.marketresearchfuture.com/reports/tablet-coating-market-24687>

<https://www.marketresearchfuture.com/reports/ventricular-assist-devices-market-9777>

<https://www.marketresearchfuture.com/reports/surgical-sutures-market-11739>

<https://www.marketresearchfuture.com/reports/peptide-therapeutics-market-22758>

<https://www.marketresearchfuture.com/reports/apheresis-market-1508>

<https://www.marketresearchfuture.com/reports/exoskeleton-market-20683>

<https://www.marketresearchfuture.com/reports/anal-cancer-market-1530>

<https://www.marketresearchfuture.com/reports/medical-suction-device-market-546>

Market Research Future

Market Research Future

+1 855-661-4441

[email us here](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/938404667>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2026 Newsmatics Inc. All Right Reserved.