

# MARKET REPORT



Synthetic Biology Market by Tool (Oligonucleotides, Chassis Organisms, Enzymes), Technology (Genome Engineering, NGS, Cloning and Sequencing), Application (Medical (Pharmaceutical, Drug Discovery), Industrial (Renewable Energy)) - Global Forecast to 2022

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# Synthetic Biology Market by Tool (Oligonucleotides, Chassis Organisms, Enzymes), Technology (Genome Engineering, NGS, Cloning and Sequencing), Application (Medical (Pharmaceutical, Drug Discovery), Industrial (Renewable Energy)) - Global Forecast to 2022

“The global synthetic biology market is projected to grow at a CAGR of 19.9% in the next five years”

The synthetic biology market is expected to reach USD 8.84 billion by 2022 from an estimated USD 3.57 billion in 2017, at a CAGR of 19.9%. The key factors driving the growth of this market include the wide range of applications of synthetic biology, rising R&D funding and initiatives, increasing demand for synthetic genes and synthetic cells, and increasing investments in synthetic biology companies. On the other hand, possible environmental and security issues related to synthetic biology are likely to restrain the growth of this market to a certain extent.

“The chassis organisms segment is expected to grow at the highest rate during the forecast period (2017-2022).”

On the basis of tools, the synthetic biology market is segmented into oligonucleotides, enzymes, cloning technology kits, chassis organisms, and xeno-nucleic acids. The chassis organisms segment is expected to witness the highest growth during the forecast period due to the increasing research on chassis organisms and the rising global demand for alternatives to fossil fuel.

“The gene synthesis technology is expected to hold the largest share of the market in 2017

Based on technology, the synthetic biology market is segmented into gene synthesis, genome engineering, cloning and sequencing, next-generation sequencing, site-directed mutagenesis, measurement and modeling, microfluidics, and nanotechnology. The gene synthesis segment is expected to account for the largest share of the synthetic biology market. This is attributed to the factors such as growth in the energy and agriculture industry; applications in environmental testing; and research in DNA-based vaccines and bioengineered antibodies.

“Pharmaceutical applications are expected to hold the largest share of the synthetic biology market in 2017.”

Based on application, the synthetic biology market is segmented into medical (pharmaceutical, drug discovery & therapeutics, and artificial tissue and tissue regeneration), industrial (biofuel & renewable energy, industrial enzymes, and biomaterials & green chemicals), environmental (bioremediation and biosensing), and food & agriculture applications. The pharmaceuticals subsegment is expected to account for the largest share in the market in 2017. This is attributed to the potential of synthetic biology techniques in the development and manufacturing of APIs and small molecules on a large scale.

“China to witness the highest growth during the forecast period”

While the US is expected to hold the largest share of the global synthetic biology market in 2017, China is expected to witness the highest growth during 2017 to 2022. Rising R&D funding and awareness programs regarding synthetic biology are contributing to the growth of synthetic biology market in China.

Break of primary participants was as mentioned below:

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- By Company Type – Tier 1–28%, Tier 2–33% and Tier 3–39%
- By Designation – C-level–42%, Director Level–33%, Others–25%
- By Region – North America–41%, Europe–35%, Asia Pacific–14%, RoW–10%

The major players in the global synthetic biology market are Thermo Fisher (US), Novozymes (Denmark), Merck KGaA (Germany), Intrexon (US), and Agilent Technologies (US). Some other players in this market include Intrexon Corporation (US), Agilent Technologies (US), Amyris (US), Genescript Biotech Corporation (US), Ginkgo Bioworks (US), Integrated DNA Technologies (US), New England Biolabs (US), Synthetic Genomics (US), and Twist Bioscience (US).

#### Research Coverage:

The report analyzes the synthetic biology market and aims at estimating the market size and growth potential of this market based on various aspects such as tools, technologies, applications, and regions. The report also includes a competitive analysis of the key players in this market along with their company profiles, product offerings, recent developments, and key market strategies.

#### Reasons to Buy the Report

The report will help established firms as well as new entrants/smaller firms to gauge the pulse of the market, which in-turn would help them, garner a greater market share. Firms purchasing the report could use one or any combination of the below-mentioned strategies to strengthen their position in the market.

This report provides insights into the following pointers:

- **Market Penetration:** Comprehensive information on product portfolios offered by key players in the global synthetic biology market. The report analyzes the global synthetic biology market by tool, technology, application, and region.
- **Product and Service Innovation:** Detailed insights on upcoming trends and new product and service launches in the global synthetic biology market
- **Market Development:** Comprehensive information about the lucrative emerging markets by tool, technology, application, and region.
- **Market Diversification:** Exhaustive information about new products, growing geographies, recent developments, and investments in the global synthetic biology market
- **Competitive Assessment:** In-depth assessment of market shares, growth strategies, products in pipeline of leading players in the global market

## Additional Details

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