

Synthetic Biology Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

<https://marketpublishers.com/r/SC4E2FAE85C0EN.html>

Date: July 2023

Pages: 141

Price: US\$ 2,499.00 (Single User License)

ID: SC4E2FAE85C0EN

Abstracts

Market Overview:

The global synthetic biology market size reached US\$ 13.5 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 38.8 Billion by 2028, exhibiting a growth rate (CAGR) of 18.1% during 2023-2028.

Synthetic biology refers to a field of research involving the construction and designing of new biological entities, such as enzymes, genetic circuits, and cells or redesigning organisms for valuable purposes by engineering them to have unique abilities. It combines the chemical synthesis of deoxyribonucleic acid (DNA) with genomics to enable researchers to manufacture cataloged DNA sequences and assemble them into new genomes. It assists in improving the environment by discovering novel ways to reduce pollution, making industrial processes for chemical synthesis sustainable, and removing the need for damaging farming practices by making better fertilizers.

Synthetic Biology Market Trends:

In recent years, improvements in the speed and cost of DNA synthesis have enabled scientists in designing and synthesizing modified bacterial chromosomes, which can be utilized in the production of advanced biofuels, bio-products, renewable chemicals, and bio-based specialty chemicals. This, in confluence with increasing investments in synthetic biology, represents one of the key factors impelling the growth of the market. Moreover, synthetic biology is employed in the healthcare sector as it can help improve diagnosis and develop better treatment options for numerous diseases, directed only towards the site of disease without causing any adverse effects. Besides this, there is a significant rise in the use of genetically engineered viruses to correct defective genes in

patients with inherited diseases like epidermolysis bullosa or severe combined immune deficiency (SCID). Apart from this, tools for performing synthetic biology are becoming more accessible, and the internet penetration has enabled ideas and information to be freely exchanged, which is facilitating the market growth. Furthermore, significant growth in the healthcare sector and the rising number of synthetic biology research entities worldwide are positively influencing the market.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global synthetic biology market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on product, technology and application.

Breakup by Product:

- Oligonucleotide/Oligo Pools and Synthetic DNA
- Enzymes
- Cloning Technologies Kits
- Xeno-nucleic Acids
- Chassis Organism

Breakup by Technology:

- NGS Technology
- PCR Technology
- Genome Editing Technology
- Bioprocessing Technology
- Others

Breakup by Application:

- Healthcare
 - Clinical
 - Non-Clinical/Research
- Non-Healthcare
 - Biotech Crops
 - Specialty Chemicals
 - Bio-Fuels

Others

Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Agilent Technologies Inc., Amyris Inc., Codexis Inc., Danaher Corporation, Eurofins Scientific, GenScript Biotech Corporation, Illumina Inc., Merck KGaA, New England Biolabs, Synthego Corporation, Thermo Fisher Scientific Inc., Twist Bioscience and Viridos Inc.

Key Questions Answered in This Report:

How has the global synthetic biology market performed so far and how will it perform in the coming years?

What has been the impact of COVID-19 on the global synthetic biology market?

What are the key regional markets?

What is the breakup of the market based on the product?

What is the breakup of the market based on the technology?

What is the breakup of the market based on the application?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global synthetic biology market and who are the key players?

What is the degree of competition in the industry?

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