

# Synthetic Biology – A Global Market Overview

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## Abstracts

### DESCRIPTION:

#### Report Synopsis

The major factors propelling growth of Synthetic Biology market include declining prices of DNA sequencing and synthesis, materialization of innovative technologies, increased funding from government and private bodies, growing demand for better-quality drugs and vaccines and advancements in the area of molecular biology, to name a few. However, the factors responsible for hampering growth of Synthetic Biology include expensive research protocols, biological safety, bio security concerns, ethical issues and cuts in reimbursement leading to pricing pressure.

Genome Engineering represents the single largest technology in the global market for Synthetic Biology, demand for which is estimated at US\$2.9 billion (45% share) in 2017 and is projected to reach US\$9.4 billion by 2023. During period 2017-2023, the market for Biological Components and Integrated Systems is slated to record the fastest CAGR of 24.8%.

#### Research Findings & Coverage

Synthetic Biology global market analyzed in this report with respect to synthetic biology prominent technologies, key products and major applications

The report exclusively analyzes each product type, technology and applications of synthetic biology by major geographic region

Synthetic Biology Aids in Creating Therapeutic Bacteria

## Application of Synthetic Biology to Generate Superior Biofactories

### Residual Synthetic Microbes to Formulate Fertilizer

Key business trends focusing on product innovations/developments, M&As, JVs and other recent industry developments

Major companies profiled – 36

The industry guide includes the contact details for 233 companies

## Product Outline

The report analyzes the market for the technologies of Synthetic Biology including:

Genome Engineering

DNA Sequencing

Biological Components and Integrated Systems

Others

The study explores the market for product types of Synthetic Biology comprise the following:

Oligonucleotides

Enzymes

Chassis Organism

Others

Applications of Synthetic Biology studied in the report include the following:

Medical

Industrial

Environmental

Others

### Analysis Period, Units and Growth Rates

The report reviews, analyzes and projects the global Synthetic Biology market for the period 2014-2023 in terms of market value in US\$ and the compound annual growth rates (CAGRs) projected from 2017 through 2023

### Geographic Coverage

North America (The United States, Canada and Mexico)

Europe (The United Kingdom, Germany, France, Italy, Spain and Rest of Europe)

Asia-Pacific (Japan, China, Australia, India and Rest of Asia-Pacific)

Rest of World (Brazil, Israel and Other ROW)

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- Amyris, Inc. (United States)
- ATUM (United States)
- Codexis, Inc. (United States)
- DSM Sinochem Pharmaceuticals (Singapore)
- E. I. du Pont de Nemours and Company (DuPont) (United States)
- Evolva SA (Switzerland)
- GENEWIZ, Inc (United States)
- Genscript Corporation (United States)
- Green Biologics Ltd. (The United Kingdom)
- Integrated DNA Technologies, Inc. (United States)
- Intrexon Corporation (United States)
- LC Sciences LLC (United States)
- Novozymes (Denmark)
- Qteros (United States)
- Renewable Energy Group, Inc. (United States)
- Millipore Sigma (United States)
- Synthetic Biologics, Inc. (United States)
- Synthetic Genomics (United States)
- Thermo Fisher Scientific, Inc. (United States)

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Acquisition of Integrated DNA Technologies by Danaher  
TeselaGen and Arzeda Collaborates to Improve Biodesign Technologies  
Addition of Novel Yeast Strain to Bioenergy Business of Novozymes  
Acquisition of Engineered Bacteriophage Assets from Synthetic Genomics by C3J  
Launch of Pharma Grade Non Animal based Neossance Squalane USP by Aprinova  
Termination of Amyris's Production Center Sale Located at Brazil  
TSRI and Synthorx Collaborates to Design the Foremost Semi Synthesized Organism  
Twist Bioscience Offers 1 billion Base Pairs of Synthetic DNA to Ginkgo  
Nestle Enters in to collaboration Agreement with Codexis to Access Its Technology  
Amyris Signed a Contract with DSM to Develop and Synthesis Human Nutritional Component  
Gevo Partners with Los Alamos to Built Missile Fuel  
National Labs of Department of Energy and Gevo Collaborates to Enhance ETO Catalyst Activity  
Gevo to Distribute Jet Fuel to Virgin Australia  
Release of OPTIMASH® AD-300 BY DuPont Industrial  
GeneWorks' Oligo Generating Business Acquired by Integrated DNA Genomics  
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Synthetic Genomics and ExxonMobil Join forces for Algae Biofuel Exploration  
Joint Venture of Bayer and Ginkgo to Produce Nitrogen Fertilizer Manufacturing Plants  
DSM and Amyris Signed a Second Treaty to Develop and Produce Vitamin A  
Yield10 Bioscience Partners with Canada's National Research Council to Enhance Wheat Crop  
TeselaGen and Dow AgroSciences Join Forces to Widen State-of-Art Biodesign Platform  
Amyris and DSM Entered a Deal to Develop and Synthesize a Food and Nutritional Element  
Bock and DuPont Enters into an Alliance to Distribute Biogas Enzymes  
Extension of Rapidly acting Phytase Product Portfolio of DuPont in Europe  
Johnson Matthey and Intrexon Partners to Produce API of Peptide Origin Through Fermentation  
BioBricks and Twist together Distributes ten thousand genes to SB Society  
Acquisition of Worldwide Sorghum Collection of Nidera Seeds by Chromatin  
Gevo Enters into an Exclusive Alliance with HCS to Distribute Renewable Isooctane  
Launch of DuPont™ Axtra® XBPHY by DuPont to Enhance Lucrative Egg Generation  
Editas and Allergan signed a Contract to design and create CRISPR Genome Editing

## Medicine

A Subsequent Multiple Year Contract Signed between Codexis and Tate & Lyle  
Metabolix is now Yield10 BioScience

Release of Vmax<sup>TM</sup> Express by Synthetic Genomics to Aid Biotech Industry

Johnson & Johnson and Synthetic Genomics Associates to Create New Therapeutics

Acquisition of Gen9 by a Boston Based Conglomerate

Establishment of a Joint Venture by Amyris and NIKKOL GROUP

DNA2.0, Inc Changes the Name to ATUM

MIAVIT and DuPont Enters into an Collaboration to Distribute Biogas Enzymes

Amyris Accomplishes a Vital Breakthrough in Drug Discovery Partnership

Chromatin and Dow Signs an Absolute Monetary License Contract for an Exceptional  
Sorghum Trait

Introduction of Earliest Cellulosic Renewable Jet Fuel by Gevo for Commercial Airline  
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License Contract signed between ERS and Evolva

Absolute Transfer of CodeEvolver<sup>®</sup> Technology from Codexis to Merck

Amyris Partners with one of the Leading Pharmaceutical Entity to Discover a  
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Release of Novel CRISPR Synthetic RNA Service by GenScript

Acquisition of Organobalance by Novozymes to Reinforce its Presence in Microbial  
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Amyris Gains a 3-year, Multiple Million \$ Agreement from United States Department of  
Energy

DuPont Industrial releases novel Enzyme Product Essential for Biogas Industry

Dong and Novozymes Join Forces to Convert Domestic Waste into Green Energy

Acquisition of Kirkland Seed by Chromatin

Gevo Enters into a Contract with Musket to distribute Isobutanol for Mix Up

Licensing of CodeEvolver<sup>®</sup> Technology to GSK from Codexis

Chromatin and Zaad Partners to Manufacture and Supply Sorghum Seeds in Africa

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Establishment of a New European Office at Basel by DNA2.0

Expansion of SureVector Cloning System by Agilent in Association with Eurofins

Genscript Introduces Foremost Marketable CRISPR based Yeast Genome Editing  
Solutions

Release of Saphera by Novozymes

Take Over of Majestic Semillas by Chromatin

Versalis and Genomatica Join Forces to Generate Bio Rubber from Carbohydrates

A multiple-Year Expansion Agreement signed between Codexis and Merck to Distribute  
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ValvTect and Gevo Join Forces to Supply Marinas with Renewable Isobutanol Fuel Mix Up

Acquisition of Biotechnology Possessions from Dyadic by DuPont Industrial

DSM Personal Introduces a Novel Peptide Complex SYN®-EYE

Amyris at its Brazil Plant is Successful in Synthesizing Third Exclusive Fermentation Product

Introduction of Novel Enzymes for Ethanol

Launch of Extenda by Novozyme

Introduction of Gibson Assembly® site Directed Mutagenesis Kit by Synthetic Genomics

Major Biopharma Firm Join Forces with Codexis to for Drug Development

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Algenol Biotech (United States)

Amyris, Inc. (United States)

ATUM (United States)

Blue Heron Biotech, LLC. (United States)

Chromatin, Inc. (United States)

Codexis, Inc. (United States)

E. I. du Pont de Nemours and Company (DuPont) (United States)

GENEWIZ, Inc (United States)

Genomatica, Inc. (United States)

Genscript Corporation (United States)

Gevo, Inc. (United States)

Integrated DNA Technologies, Inc. (United States)

Intrexon Corporation (United States)  
LC Sciences LLC (United States)  
Mascoma Corporation (United States)  
New England Biolabs (United States)  
Qteros (United States)  
Renewable Energy Group, Inc. (United States)  
Millipore Sigma (United States)  
Synthetic Biologics, Inc. (United States)  
Synthetic Genomics (United States)  
Synthorx, Inc. (United States)  
TeselaGen Biotechnology (United States)  
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