

Synthetic Biology Market by Tools (Oligonucleotides, Enzymes, Synthetic Cells), Technology (Genome Engineering, Bioinformatics), Applications (Tissue Regeneration, Biofuel, Food, Agriculture, Consumer Care, Environmental)- Global Forecast to 2027

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Abstracts

The global synthetic biology market size is projected to reach USD 35.7 billion by 2027 from USD 11.4 billion in 2022, at a CAGR of 25.6% during the forecast period. Factors such as increasing investment in synthetic biology research, declining cost of DNA sequencing, increasing adoption of synthetic biology across various industries are driving the market growth at faster pace.

“The oligonucleotides and synthetic DNA segment is likely to grow at highest CAGR during the forecast period of 2022-2027.”

On the basis of tools, the synthetic biology market is segmented into oligonucleotides & synthetic DNA, enzymes, cloning technology kits, synthetic cells, chassis organisms, and xeno-nucleic acids. The oligonucleotides and synthetic DNA segment is projected to grow at highest CAGR during the forecast period. The growth is attributed to increased demand for synthetic DNA, synthetic RNA, and synthetic genes across various industries. Furthermore, launch of novel products in the market is further likely to have positive impact on the segmental growth.

“The gene synthesis segment held dominant share in 2021.”

Based on technology, the market is segmented into gene synthesis, genome engineering, sequencing, bioinformatics, cloning, site-directed mutagenesis, measurement and modeling, microfluidics, nanotechnology. The genome engineering

segment is expected to grow at faster pace during the the forecast period due to factors such as the use of these techniques in therapeutics development, advancement in CRISPR technologies is increasing adoption.

“in 2021, medical applications segment held dominant share.”

Based on application, the synthetic biology market is segmented into medical applications, industrial applications, food & agriculture, and environmental applications. The medical applications segment held domiant share in synthetic biology market . Adoption of synthetic biology in research and drug discovery & development is one of the major factor anticipated to project the market growth.

“Asia Pacific region is likely to grow at faster pace.”

The synthetic biology market is divided into North America, Europe, the Asia Pacific, Latin America, and the Middle East & Africa. In 2021, North America accounted for the dominant share in synthetic biology market. The dominance of the region is attributable to various factors such as presence of dominant and key market players in the region coupled augmented use of synthetic biology in various application. Asia Pacific region is likely to grow at faster pace owing to various factors such as rise in demand for synthetic cells across the region, increased research and development funding and emergence of new market players in the synthetic biology market.

The primary interviews conducted for this report can be categorized as follows:

By Respondent: Supply Side- 60%, and Demand Side - 40%

By Designation (Supply Side): Managers - 45%, CXOs & Directors - 25%, Executives- 15%, Other -15.0%

By Region: North America -40%, Europe -25%, Asia-Pacific -20%, Latin America -10%, and Middle East and Africa -5%

Lists of Companies Profiled in the Report:

Thermo Fisher Scientific (US)

Merck KGaA (Germany)

Agilent Technologies (US)

Novozymes (Denmark)

Ginkgo Bioworks (US)

Amyris (US)

Precigen (US)

GenScript Biotech Corporation (China)

Twist Bioscience (US)

Synthetic Genomics (US)

Codexis (US)

Synthego (US)

Creative Enzymes (US)

Eurofins Scientific (Luxembourg)

Cyrus Biotechnology (US)

ATUM (US)

TeselaGen (US)

Arzeda (US)

Integrated DNA Technologies (US)

New England Biolabs (US)

Elevate Bio (US)

ZENFOLD (Iosynth) (India)

Synbio Technologies (US)

Inscripta, Inc. (US)

CRISPR Therapeutics (Switzerland).

Research Coverage:

This report provides a detailed picture of the synthetic biology market. It aims at estimating the size and future growth potential of the market across different segments, such as tool, technology, application, and region. The report also includes an in-depth competitive analysis of the key market players, along with their company profiles, recent developments, and key market strategies.

Key Benefits of Buying the Report:

The report will help market leaders/new entrants by providing them with the closest approximations of the revenue numbers for the overall synthetic biology market and its subsegments. It will also help stakeholders better understand the competitive landscape and gain more insights to better position their business and make suitable go-to-market strategies. This report will enable stakeholders to understand the market's pulse and provide them with information on the key market drivers, restraints, opportunities, and challenges.

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8.2.3 ARTIFICIAL TISSUE AND TISSUE REGENERATION

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8.2.3.1 Biosynthesis

8.2.3.1.1 Largest market due to increasing need to create artificial genomes

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TABLE 147 LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL APPLICATIONS, BY COUNTRY, 2020–2027 (USD MILLION)

8.3.1 BIOFUEL AND RENEWABLE ENERGY

8.3.1.1 Advantages of using genetically engineered organisms for synthetic production of biofuels to support market

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8.3.2.1 Textile industry

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8.3.2.2 Paper industry

8.3.2.2.1 Increasing use of enzymes in pulp and paper industry to favor market growth

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8.3.2.3 Consumer care industry

TABLE 169 SYNTHETIC BIOLOGY MARKET FOR CONSUMER CARE INDUSTRY, BY TYPE, 2020–2027 (USD MILLION)

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8.3.2.3.1 Cosmetics

8.3.2.3.1.1 Increased use of synthetic biology techniques for development of skincare and cosmetics to propel market

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8.3.2.3.2 Other consumer care products

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TABLE 189 LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR OTHER INDUSTRIES, BY COUNTRY, 2020–2027 (USD MILLION)

8.3.3 BIOMATERIALS AND GREEN CHEMICALS

8.3.3.1 Use of synthetic biology for preparing silk-based proteins to support market

TABLE 190 SYNTHETIC BIOLOGY MARKET FOR BIOMATERIALS AND GREEN CHEMICALS, BY REGION, 2020–2027 (USD MILLION)

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8.4 FOOD AND AGRICULTURAL APPLICATIONS

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8.4.1 FLAVORS AND FRAGRANCES

8.4.1.1 Manufactured using engineered microbes

TABLE 201 SYNTHETIC BIOLOGY MARKET FOR FLAVORS AND FRAGRANCES, BY REGION, 2020–2027 (USD MILLION)

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TABLE 216 LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR ENVIRONMENTAL APPLICATIONS, BY COUNTRY, 2020–2027 (USD MILLION)

8.5.1 BIOREMEDIATION

8.5.1.1 Bioremediation helps in cleaning oil spills, preventing chemical pollution, and plugging nuclear leakages

TABLE 217 SYNTHETIC BIOLOGY MARKET FOR BIOREMEDIATION, BY REGION, 2020–2027 (USD MILLION)

TABLE 218 NORTH AMERICA: SYNTHETIC BIOLOGY MARKET FOR BIOREMEDIATION, BY COUNTRY, 2020–2027 (USD MILLION)

TABLE 219 EUROPE: SYNTHETIC BIOLOGY MARKET FOR BIOREMEDIATION, BY COUNTRY, 2020–2027 (USD MILLION)

TABLE 220 ASIA PACIFIC: SYNTHETIC BIOLOGY MARKET FOR BIOREMEDIATION, BY COUNTRY, 2020–2027 (USD MILLION)

TABLE 221 LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR BIOREMEDIATION, BY COUNTRY, 2020–2027 (USD MILLION)

8.5.2 BIOSENSING

8.5.2.1 Biosensors utilize microalgae due to high reproductive rates and ease of culturing

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9 SYNTHETIC BIOLOGY MARKET, BY REGION

9.1 INTRODUCTION

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TABLE 238 NORTH AMERICA: SYNTHETIC BIOLOGY MARKET FOR ENVIRONMENTAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 239 NORTH AMERICA: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.2.1 US

9.2.1.1 US accounts for highest number of studies carried out on synthetic biology globally

TABLE 240 US: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

TABLE 241 US: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

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TABLE 250 US: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.2.2 CANADA

9.2.2.1 Strong research infrastructure and availability of funding to support market

TABLE 251 CANADA: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

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TABLE 255 CANADA: SYNTHETIC BIOLOGY MARKET FOR DRUG DISCOVERY AND THERAPEUTICS, BY TYPE, 2020–2027 (USD MILLION)

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TABLE 259 CANADA: SYNTHETIC BIOLOGY MARKET FOR CONSUMER CARE INDUSTRY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 260 CANADA: SYNTHETIC BIOLOGY MARKET FOR ENVIRONMENTAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 261 CANADA: SYNTHETIC BIOLOGY MARKET FOR FOOD AND

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9.2.3 RECESSION IMPACT

9.3 EUROPE

TABLE 262 EUROPE: SYNTHETIC BIOLOGY MARKET, BY COUNTRY, 2020–2027 (USD MILLION)

TABLE 263 EUROPE: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

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TABLE 265 EUROPE: SYNTHETIC BIOLOGY MARKET, BY APPLICATION, 2020–2027 (USD MILLION)

TABLE 266 EUROPE: SYNTHETIC BIOLOGY MARKET FOR MEDICAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 267 EUROPE: SYNTHETIC BIOLOGY MARKET FOR DRUG DISCOVERY AND THERAPEUTICS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 268 EUROPE: SYNTHETIC BIOLOGY MARKET FOR ARTIFICIAL TISSUE AND TISSUE REGENERATION, BY TYPE, 2020–2027 (USD MILLION)

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TABLE 270 EUROPE: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL ENZYMES, BY INDUSTRY, 2020–2027 (USD MILLION)

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TABLE 272 EUROPE: SYNTHETIC BIOLOGY MARKET FOR ENVIRONMENTAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 273 EUROPE: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.3.1 GERMANY

9.3.1.1 Rapidly growing pharmaceutical market to drive market

TABLE 274 GERMANY: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

TABLE 275 GERMANY: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

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TABLE 284 GERMANY: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.3.2 UK

9.3.2.1 Increasing R&D expenditure to favor market

TABLE 285 UK: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

TABLE 286 UK: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

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TABLE 289 UK: SYNTHETIC BIOLOGY MARKET FOR DRUG DISCOVERY AND THERAPEUTICS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 290 UK: SYNTHETIC BIOLOGY MARKET FOR ARTIFICIAL TISSUE AND TISSUE REGENERATION, BY TYPE, 2020–2027 (USD MILLION)

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TABLE 295 UK: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.3.3 FRANCE

9.3.3.1 Availability of funds from government and private organizations for domestic drug development to support market

TABLE 296 FRANCE: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

TABLE 297 FRANCE: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

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TABLE 328 DENMARK: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.3.6 ITALY

9.3.6.1 Increasing life science R&D, funded by both public and private organizations, to drive market

TABLE 329 ITALY: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

TABLE 330 ITALY: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

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9.4.1 CHINA

9.4.1.1 Growing R&D to enhance technological capabilities to favor market

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TABLE 375 CHINA: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

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TABLE 384 CHINA: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.4.2 JAPAN

9.4.2.1 Large number of research initiatives for development of precision medicine to support market

TABLE 385 JAPAN: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

TABLE 386 JAPAN: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

TABLE 387 JAPAN: SYNTHETIC BIOLOGY MARKET, BY APPLICATION, 2020–2027 (USD MILLION)

TABLE 388 JAPAN: SYNTHETIC BIOLOGY MARKET FOR MEDICAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 389 JAPAN: SYNTHETIC BIOLOGY MARKET FOR DRUG DISCOVERY AND THERAPEUTICS, BY TYPE, 2020–2027 (USD MILLION)

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TABLE 395 JAPAN: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.4.3 AUSTRALIA

9.4.3.1 Increasing focus of healthcare system on precision medicine to offer significant growth opportunities

TABLE 396 AUSTRALIA: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

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TABLE 398 AUSTRALIA: SYNTHETIC BIOLOGY MARKET, BY APPLICATION, 2020–2027 (USD MILLION)

TABLE 399 AUSTRALIA: SYNTHETIC BIOLOGY MARKET FOR MEDICAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

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TABLE 401 AUSTRALIA: SYNTHETIC BIOLOGY MARKET FOR ARTIFICIAL TISSUE AND TISSUE REGENERATION, BY TYPE, 2020–2027 (USD MILLION)

TABLE 402 AUSTRALIA: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

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TABLE 406 AUSTRALIA: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.4.4 INDIA

9.4.4.1 Increasing pharma R&D activities and government funding for biotechnology industry to support market

TABLE 407 INDIA: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

TABLE 408 INDIA: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

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TABLE 410 INDIA: SYNTHETIC BIOLOGY MARKET FOR MEDICAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

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TABLE 412 INDIA: SYNTHETIC BIOLOGY MARKET FOR ARTIFICIAL TISSUE AND TISSUE REGENERATION, BY TYPE, 2020–2027 (USD MILLION)

TABLE 413 INDIA: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 414 INDIA: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL ENZYMES, BY INDUSTRY, 2020–2027 (USD MILLION)

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TABLE 419 REST OF ASIA PACIFIC: SYNTHETIC BIOLOGY MARKET, BY

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TABLE 422 REST OF ASIA PACIFIC: SYNTHETIC BIOLOGY MARKET FOR DRUG DISCOVERY AND THERAPEUTICS, BY TYPE, 2020–2027 (USD MILLION)

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TABLE 425 REST OF ASIA PACIFIC: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL ENZYMES, BY INDUSTRY, 2020–2027 (USD MILLION)

TABLE 426 REST OF ASIA PACIFIC: SYNTHETIC BIOLOGY MARKET FOR CONSUMER CARE INDUSTRY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 427 REST OF ASIA PACIFIC: SYNTHETIC BIOLOGY MARKET FOR ENVIRONMENTAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 428 REST OF ASIA PACIFIC: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

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9.5 LATIN AMERICA

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TABLE 431 LATIN AMERICA: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

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TABLE 440 LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.5.1 BRAZIL

9.5.1.1 Growing pharmaceutical industry to drive market

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TABLE 444 BRAZIL: SYNTHETIC BIOLOGY MARKET FOR MEDICAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 445 BRAZIL: SYNTHETIC BIOLOGY MARKET FOR DRUG DISCOVERY AND THERAPEUTICS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 446 BRAZIL: SYNTHETIC BIOLOGY MARKET FOR ARTIFICIAL TISSUE AND TISSUE REGENERATION, BY TYPE, 2020–2027 (USD MILLION)

TABLE 447 BRAZIL: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 448 BRAZIL: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL ENZYMES, BY INDUSTRY, 2020–2027 (USD MILLION)

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TABLE 451 BRAZIL: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.5.2 MEXICO

9.5.2.1 Increasing support for biotechnology infrastructure development to drive market

TABLE 452 MEXICO: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

TABLE 453 MEXICO: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

TABLE 454 MEXICO: SYNTHETIC BIOLOGY MARKET, BY APPLICATION,

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TABLE 455 MEXICO: SYNTHETIC BIOLOGY MARKET FOR MEDICAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 456 MEXICO: SYNTHETIC BIOLOGY MARKET FOR DRUG DISCOVERY AND THERAPEUTICS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 457 MEXICO: SYNTHETIC BIOLOGY MARKET FOR ARTIFICIAL TISSUE AND TISSUE REGENERATION, BY TYPE, 2020–2027 (USD MILLION)

TABLE 458 MEXICO: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 459 MEXICO: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL ENZYMES, BY INDUSTRY, 2020–2027 (USD MILLION)

TABLE 460 MEXICO: SYNTHETIC BIOLOGY MARKET FOR CONSUMER CARE INDUSTRY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 461 MEXICO: SYNTHETIC BIOLOGY MARKET FOR ENVIRONMENTAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

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TABLE 465 REST OF LATIN AMERICA: SYNTHETIC BIOLOGY MARKET, BY APPLICATION, 2020–2027 (USD MILLION)

TABLE 466 REST OF LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR MEDICAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 467 REST OF LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR DRUG DISCOVERY AND THERAPEUTICS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 468 REST OF LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR ARTIFICIAL TISSUE AND TISSUE REGENERATION, BY TYPE, 2020–2027 (USD MILLION)

TABLE 469 REST OF LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 470 REST OF LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL ENZYMES, BY INDUSTRY, 2020–2027 (USD MILLION)

TABLE 471 REST OF LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR CONSUMER CARE INDUSTRY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 472 REST OF LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR ENVIRONMENTAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 473 REST OF LATIN AMERICA: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.5.4 RECESSION IMPACT

9.6 MIDDLE EAST AND AFRICA

TABLE 474 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET, BY TOOL, 2020–2027 (USD MILLION)

TABLE 475 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

TABLE 476 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET, BY APPLICATION, 2020–2027 (USD MILLION)

TABLE 477 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET FOR MEDICAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 478 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET FOR DRUG DISCOVERY AND THERAPEUTICS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 479 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET FOR ARTIFICIAL TISSUE AND TISSUE REGENERATION, BY TYPE, 2020–2027 (USD MILLION)

TABLE 480 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 481 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET FOR INDUSTRIAL ENZYMES, BY INDUSTRY, 2020–2027 (USD MILLION)

TABLE 482 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET FOR CONSUMER CARE INDUSTRY, BY TYPE, 2020–2027 (USD MILLION)

TABLE 483 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET FOR ENVIRONMENTAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

TABLE 484 MIDDLE EAST & AFRICA: SYNTHETIC BIOLOGY MARKET FOR FOOD AND AGRICULTURAL APPLICATIONS, BY TYPE, 2020–2027 (USD MILLION)

9.6.1 RECESSION IMPACT

10 COMPETITIVE LANDSCAPE

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*Details on Business Overview, Products Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies.

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About

Synthetic biology is defined as an emerging area of research that can broadly be described as the design and construction of novel artificial biological pathways, organisms or devices, or the redesign of existing natural biological systems. Tools and technologies that are used in synthetic biology are used to arrive at the global synthetic biology market.

Synthetic biology is an emerging area of research and is broadly described as the design and construction of novel organisms or devices, artificial biological pathways, and also the redesign of existing natural biological systems.

The synthetic biology market is rapidly evolving that has resulted in a paradigm shift within the market, resulting in various technological advancements such as production of synthetic genes and chassis organisms, to more recent efforts to develop synthetic organisms from scratch. Synthetic biology has a wide range of applications in both the academic and life sciences industries, including biofuels, biochemicals, pharmaceuticals, drug discovery and therapeutics, and bioremediation, among others.

The global synthetic biology market is expected to reach \$XX billion by 2018 from \$XX billion in 2013, growing at a CAGR of XX% from 2013 to 2018. The key factors propelling the growth of this market are rising R&D expenditure of pharmaceutical and biotechnology companies worldwide, increasing demand for synthetic genes, rise in production of genetically modified crops, and increasing funding for synthetic biology research. On the other hand, ethical and societal issues, such as biosafety and biosecurity, may hamper market growth.

In 2013, the technologies market accounted for the largest share of the global synthetic biology market, by segment. This market is likely to grow at the highest CAGR of XX% from 2013 to 2018, owing to the wide application of these technologies in the production of tools and synthetic biology products. The enabling technologies segment accounted for the largest share of the global synthetic biology technologies market in 2013, owing to high usage of gene synthesis and bioinformatics solutions in synthetic biology.

The gene synthesis technology accounted for the largest share of ~XX% of the enabling technologies market in 2013, owing to high demand for synthetic genes, DNA-based vaccines, and bioengineered antibodies. However, bioinformatics is likely to grow at the highest CAGR of XX% from 2013 to 2018 due to its critical role in designing and

constructing new biological parts, devices and systems, and redesigning of existing systems.

In the tools segment, oligonucleotides accounted for the largest share of XX% of the synthetic biology tools market in 2013. However, the cloning technology kits segment is likely to witness the highest CAGR of XX% from 2013 to 2018, owing to the growing demand for these kits in various synthetic biology processes such as biofuel production, biochemical generation, and gene synthesis, among others.

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