

Synthetic Biology Market by Tools (Oligonucleotides, Enzymes, Synthetic Cells), Technology (Sequencing, Bioinformatics), Applications (Drug Discovery, Tissue Regeneration, Biofuel, Food, Agriculture, Consumer Care, Environmental) - Global Forecast to 2029

Market Report | 2024-11-11 | 537 pages | MarketsandMarkets

AVAILABLE LICENSES:

- Single User \$4950.00
- Multi User \$6650.00
- Corporate License \$8150.00
- Enterprise Site License \$10000.00

Report description:

The global synthetic biology market is projected to surpass USD 31.52 billion in 2029 from USD 12.33 billion in 2024, with a significant CAGR of 20.6%. The excessive demand for bio-based products is providing momentum to the market growth. Furthermore, rising investment by key market players and increasing funding in R&D & collaborations in the synthetic biology market to meet the needs of both local and international markets is further driving the market growth. The development of CRISPR and other gene-editing technologies opened new avenues for the synthetic biology sector. These advanced technologies enable precise gene modifications, accelerating advancements in therapeutic applications and agriculture fueling the growth of the synthetic biology market.

"The oligonucleotide & synthetic DNA synthetic biology segment accounted for the highest share in 2023."

On the basis of tools, the synthetic biology market is further segmented into xeno nucleic acids, enzymes, chassis organisms, cloning technology kits, oligonucleotides and synthetic DNA, and synthetic cells. The oligonucleotides and synthetic DNA dominated the market and anticipated to grow at a significant CAGR during the forecast period. Rise in the use of oligonucleotides and synthetic DNA in environmental, food, and industrial sectors, expansion of synthetic biology companies in areas such as agriculture, energy, and industrial biotechnology are some of the major factors driving the segmental growth.

"By applications, medical applications segment accounted for the largest share in the synthetic biology market."

The applications segment in the synthetic biology market is segmented into medical applications, industrial applications, food, animal health & agricultural applications and environmental applications. The medical applications segment dominated the market share owing to the increasing prevalence of chronic diseases and genetic disorders which is driving demand for

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

innovative medical solutions. Furthermore, with advancements in gene editing and synthetic microbes, researchers can develop targeted therapies, personalized medicine, and even engineered vaccines.

"North America: the largest share of the synthetic biology market"

By region, the market is segmented into North America, Europe, Asia Pacific, Latin America, Middle East and Africa. North America dominated the synthetic biology market in 2023 and is estimated to continue dominance during the forecast period. Presence of dominant market players in pharmaceutical and biotechnological companies in the region, strong base of synthetic biology manufacturers such as Thermo Fisher Scientific Inc. and Agilent Technologies Inc. are some of the prominent factors accelerating market growth.

In-depth interviews have been conducted with chief executive officers (CEOs), Directors, and other executives from various key organizations operating in the synthetic biology market.

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

-□By Respondent: Supply Side- 70% and Demand Side 30%

-□By Designation: Managers - 45%, CXO & Directors - 30%, and Executives - 25%

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

Merck KGaA (Germany), Thermo Fisher Scientific Inc. (US), Novozymes A/S (Denmark), Agilent Technologies Inc. (US), Eurofins Scientific (Luxembourg), Amyris, Inc. (US), Twist Bioscience (US), Codexis, Inc. (US), Genscript (US), Ginkgo Bioworks (US), Precigen (US), Creative Enzymes (US), Synthego (US), Viridos (US), and Cyrus Biotechnology (US) are some of the major players operating in the synthetic biology market.

Research Coverage:

This research report categorizes the synthetic biology market tools (oligonucleotides & synthetic DNA, enzymes, cloning technology kits, chassis organisms, xeno nucleic acids and synthetic cells), technologies (measurement and modeling, genome engineering, gene synthesis, cloning, site-directed mutagenesis, microfluidics, sequencing, nanotechnology and bioinformatics), and applications (medical applications, industrial applications, food, animal health & agricultural applications and environmental applications) and region (North America, Europe, Asia Pacific, Latin America, Middle East and Africa). The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the synthetic biology market. A detailed analysis of the key industry players has been done to provide insights into their business overview, products, solutions, key strategies, collaborations, partnerships, and agreements. New launches, collaborations and acquisitions, and recent developments associated with the synthetic biology market.

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 synthetic biology 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.

The report provides insights on the following pointers:

-□Analysis of key drivers (diverse applications of synthetic biology, increasing demand for bio-based products, advancements in synthetic biology, rising funding in R&D and collaborations), restraints (production scalability, ethical and regulatory challenges), opportunities (rising opportunities for agricultural synthetic biology, growing use of artificial intelligence and machine learning) and Challenges (Cost constraints) influencing the growth of the market.

-□Product Development/Innovation: Detailed insights on upcoming technologies in synthetic biology manufacturing, research and development activities, and new product launches in the synthetic biology market.

-□Market Development: Comprehensive information about lucrative markets - the report analyses the market across varied regions.

-□Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the synthetic biology market

-□Competitive Assessment: Thermo Fisher Scientific Inc. (US), Merck KGaA (Germany), Novozymes A/S (Denmark), Eurofins

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Scientific (Luxembourg), Agilent Technologies Inc. (US), among others in the market.

Table of Contents:

1	INTRODUCTION	45
1.1	STUDY OBJECTIVES	45
1.2	MARKET DEFINITION	45
1.3	STUDY SCOPE	46
1.3.1	MARKETS COVERED AND REGIONAL SCOPE	46
1.3.2	INCLUSIONS AND EXCLUSIONS	47
1.3.3	YEARS CONSIDERED	47
1.3.4	CURRENCY CONSIDERED	47
1.4	STAKEHOLDERS	48
1.5	SUMMARY OF CHANGES	48
2	RESEARCH METHODOLOGY	49
2.1	RESEARCH DATA	49
2.1.1	SECONDARY DATA	50
2.1.2	PRIMARY DATA	51
2.2	MARKET ESTIMATION METHODOLOGY	52
2.2.1	MARKET SIZE ESTIMATION	52
2.2.2	INSIGHTS FROM PRIMARY EXPERTS	54
2.2.3	TOP-DOWN APPROACH	55
2.3	MARKET GROWTH RATE PROJECTION	56
2.4	DATA TRIANGULATION	58
2.5	RESEARCH ASSUMPTIONS	59
2.6	RESEARCH LIMITATIONS	60
2.7	RISK ANALYSIS	60
3	EXECUTIVE SUMMARY	61
4	PREMIUM INSIGHTS	65
4.1	SYNTHETIC BIOLOGY MARKET OVERVIEW	65
4.2	NORTH AMERICA: SYNTHETIC BIOLOGY MARKET, BY APPLICATION AND COUNTRY (2023)	66
4.3	SYNTHETIC BIOLOGY MARKET SHARE, BY APPLICATION, 2024 VS. 2029	67
4.4	SYNTHETIC BIOLOGY MARKET, BY REGION	67
?		
5	MARKET OVERVIEW	68
5.1	INTRODUCTION	68
5.2	MARKET DYNAMICS	68
5.2.1	DRIVERS	69
5.2.1.1	Diverse applications of synthetic biology	69
5.2.1.2	Surging demand for bio-based products	70
5.2.1.3	Advancements in synthetic biology	70
5.2.1.4	Increasing funding in R&D and collaborations	71
5.2.2	RESTRAINTS	73
5.2.2.1	Production scalability	73
5.2.2.2	Ethical and regulatory challenges	74
5.2.3	OPPORTUNITIES	75
5.2.3.1	Rising opportunities for agricultural synthetic biology	75

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

5.2.3.2	Growing integration of artificial intelligence and machine learning	76
5.2.4	CHALLENGES	76
5.2.4.1	Cost constraints	76
5.3	TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS	77
5.4	VALUE CHAIN ANALYSIS	78
5.5	ECOSYSTEM ANALYSIS	80
5.5.1	PRODUCT/SERVICE PROVIDERS	80
5.5.2	END USERS	82
5.5.3	REGULATORY LANDSCAPE	82
5.6	TECHNOLOGY ANALYSIS	83
5.6.1	KEY TECHNOLOGIES	83
5.6.1.1	DNA synthesis and sequencing	83
5.6.1.2	Gene editing tools	84
5.6.1.3	Bioinformatics and computational tools	84
5.6.1.4	Nanotechnology	85
5.6.2	COMPLEMENTARY TECHNOLOGIES	86
5.6.2.1	Cellular and tissue engineering	86
5.6.3	ADJACENT TECHNOLOGIES	87
5.6.3.1	Metabolic engineering	87
5.7	PATENT ANALYSIS	87
5.7.1	METHODOLOGY	87
5.7.2	NUMBER OF PATENTS FILED	87
5.7.3	INNOVATION AND PATENT APPLICATIONS	88
5.8	PRICING ANALYSIS	90
5.8.1	INDICATIVE PRODUCT PRICING ANALYSIS, BY KEY PLAYER	90
5.8.2	INDICATIVE PRODUCT PRICING ANALYSIS, BY REGION	91
5.9	KEY CONFERENCES & EVENTS, 2024-2025	92
?		
5.10	REGULATORY LANDSCAPE	93
5.10.1	REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	94
5.10.2	REGULATORY FRAMEWORK	96
5.11	INVESTMENT & FUNDING SCENARIO	97
5.12	PORTER'S FIVE FORCES ANALYSIS	98
5.12.1	INTENSITY OF COMPETITIVE RIVALRY	99
5.12.2	BARGAINING POWER OF SUPPLIERS	99
5.12.3	BARGAINING POWER OF BUYERS	99
5.12.4	THREAT OF SUBSTITUTES	99
5.12.5	THREAT OF NEW ENTRANTS	99
5.13	KEY STAKEHOLDERS & BUYING CRITERIA	100
5.13.1	KEY BUYING CRITERIA	101
5.14	IMPACT OF AI ON SYNTHETIC BIOLOGY MARKET	102
6	SYNTHETIC BIOLOGY MARKET, BY TOOL	104
6.1	INTRODUCTION	105
6.2	OLIGONUCLEOTIDES & SYNTHETIC DNA	105
6.2.1	SURGING DEMAND FOR SYNTHETIC GENES TO SUPPORT MARKET GROWTH	105
6.3	ENZYMES	109

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

6.3.1	WIDE POTENTIAL OF ENZYME ENGINEERING IN OMICS STUDIES TO PROPEL MARKET	109
6.4	CLONING TECHNOLOGY KITS	113
6.4.1	ALTERATION AND OPTIMIZATION OF GENETIC CIRCUIT DESIGNS BY MOLECULAR BIOLOGY TECHNIQUES TO DRIVE MARKET	113
6.5	SYNTHETIC CELLS	116
6.5.1	GROWING POPULARITY OF SYNTHETIC CELLS AS SUBSTITUTES FOR NATURAL CELLS TO BOOST MARKET GROWTH	116
6.6	CHASSIS ORGANISMS	121
6.6.1	INCREASING DEMAND FOR FOSSIL FUELS TO PROPEL MARKET	121
6.7	XENO NUCLEIC ACIDS	124
6.7.1	SPIKE IN DEMAND FOR BREAKTHROUGH MEDICINES TO AID MARKET GROWTH	124
7	SYNTHETIC BIOLOGY MARKET, BY TECHNOLOGY	128
7.1	INTRODUCTION	129
7.2	GENE SYNTHESIS	129
7.2.1	RISING DEMAND FOR SYNTHETIC GENES AND INCREASING COMPETITIVENESS AMONG MARKET PLAYERS TO SPUR MARKET GROWTH	129
7.3	GENOME ENGINEERING	134
7.3.1	SURGING NEED FOR RAPID, CHEAP, AND MULTIPLEX MODIFICATION OF GENOMES TO DRIVE MARKET	134
	?	
7.4	SEQUENCING	138
7.4.1	RISING ADOPTION OF SEQUENCING TECHNOLOGY TO BOOST MARKET GROWTH	138
7.5	BIOINFORMATICS	142
7.5.1	INCREASING ADVANCEMENTS AND RISING USE OF BIOINFORMATICS TO PROPEL MARKET GROWTH	142
7.6	CLONING	145
7.6.1	PRECISE GENETIC REPLICATION TO ACCELERATE RESEARCH AND SCALING APPLICATIONS ACROSS VARIOUS INDUSTRIES	145
7.7	SITE-DIRECTED MUTAGENESIS	149
7.7.1	WIDE APPLICATIONS IN GENETIC ENGINEERING, DNA ASSEMBLY, AND CLONING TECHNOLOGIES TO DRIVE MARKET	149
7.8	MEASUREMENT & MODELING	152
7.8.1	INCREASING DEMAND FOR CELL-FREE SYNTHETIC BIOLOGY TO FOSTER MARKET GROWTH	152
7.9	MICROFLUIDICS	156
7.9.1	RISING FOCUS ON INCREASING SCALABILITY OF SYNTHETIC BIOLOGY TOOLS TO PROPEL MARKET GROWTH	156
7.10	NANOTECHNOLOGY	159
7.10.1	CONVERGENCE BETWEEN SYNTHETIC BIOLOGY AND NANOTECHNOLOGY TO AID MARKET GROWTH	159
8	SYNTHETIC BIOLOGY MARKET, BY APPLICATION	163
8.1	INTRODUCTION	164
8.2	MEDICAL APPLICATIONS	164
8.2.1	PHARMACEUTICALS	168
8.2.1.1	Potential of synthetic biology techniques in development of active pharmaceutical ingredients to drive market	168
8.2.2	DRUG DISCOVERY & THERAPEUTICS	172
8.2.2.1	Cancer detection & diagnostics	176
8.2.2.1.1	Increasing investments in cancer research to support market growth	176
8.2.2.2	Other drug discovery & therapeutic applications	179

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

8.2.3	ARTIFICIAL TISSUE & TISSUE REGENERATION	183
8.2.3.1	Biosynthesis	187
8.2.3.1.1	Expansive design space enabled by synthetic biology to foster market growth	187
8.2.3.2	Stem cell regulation	190
8.2.3.2.1	Stem cell research to accelerate market growth	190
8.2.3.3	Other artificial tissue & tissue regeneration applications	194
8.3	INDUSTRIAL APPLICATIONS	197
8.3.1	BIOFUELS & RENEWABLE ENERGY	202
8.3.1.1	Advantages of using genetically engineered organisms for synthetic production of biofuels to propel market growth	202
8.3.2	INDUSTRIAL ENZYMES	205
8.3.2.1	Textile industry	209
8.3.2.1.1	Surge in demand for increasing reaction rates and reducing costs to foster market growth	209
8.3.2.2	Paper industry	213
8.3.2.2.1	Increasing use of enzymes in pulp and paper industry to favor market growth	213
8.3.2.3	Consumer care industry	216
8.3.2.3.1	Skincare & cosmetics	221
8.3.2.3.1.1	Benefits offered by synthetic biology technologies in manufacturing of skincare and cosmetic products to propel market growth	221
8.3.2.3.2	Other consumer care products	224
8.3.2.4	Other industries	228
8.3.3	BIOMATERIALS & GREEN CHEMICALS	231
8.3.3.1	Production of green chemicals through microbial fermentation to drive market	231
8.4	FOOD, ANIMAL HEALTH, AND AGRICULTURAL APPLICATIONS	234
8.4.1	FLAVORS & FRAGRANCES	239
8.4.1.1	Rising demand for natural, sustainable products to bolster market growth	239
8.4.2	OTHER FOOD, ANIMAL HEALTH, AND AGRICULTURAL APPLICATIONS	242
8.5	ENVIRONMENTAL APPLICATIONS	246
8.5.1	BIOREMEDIATION	250
8.5.1.1	Increasing need for cost-effective, on-site environmental monitoring methods to boost market	250
8.5.2	BIOSENSING	253
8.5.2.1	Growing interest in development of whole-cell biosensors to drive market	253
9	SYNTHETIC BIOLOGY MARKET, BY REGION	257
9.1	INTRODUCTION	258
9.2	NORTH AMERICA	258
9.2.1	NORTH AMERICA: MACROECONOMIC OUTLOOK	266
9.2.2	US	267
9.2.2.1	Rising investment in synthetic biology companies and surging demand for bio-based products to drive market	267
9.2.3	CANADA	273
9.2.3.1	Strong research infrastructure and availability of funding to support market growth	273
9.3	EUROPE	278
9.3.1	EUROPE: MACROECONOMIC OUTLOOK	284
9.3.2	GERMANY	285
9.3.2.1	Government initiatives and increasing funding to propel	

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

market growth 285

?

9.3.3 UK 291

9.3.3.1 Increasing R&D expenditure to favor market growth 291

9.3.4 FRANCE 297

9.3.4.1 Investments aimed at increasing research in various biomedical fields to augment market growth 297

9.3.5 SWITZERLAND 302

9.3.5.1 Established biotech ecosystem, strong academic institutions, and favorable government policies to favor market growth 302

9.3.6 DENMARK 307

9.3.6.1 Presence of third-largest commercial drug development pipeline in Europe to favor market growth 307

9.3.7 ITALY 312

9.3.7.1 Increasing life sciences R&D funded by both public and private organizations to foster market 312

9.3.8 SPAIN 317

9.3.8.1 Well-established network of research centers, universities, and hospitals to support market growth 317

9.3.9 REST OF EUROPE 322

9.4 ASIA PACIFIC 328

9.4.1 ASIA PACIFIC: MACROECONOMIC OUTLOOK 335

9.4.2 CHINA 336

9.4.2.1 Rising growth opportunities for pharmaceutical and biopharmaceutical companies to drive market 336

9.4.3 JAPAN 342

9.4.3.1 Growing awareness of synthetic biology's importance and potential applications to accelerate market growth 342

9.4.4 INDIA 347

9.4.4.1 Increasing R&D activities and government funding initiatives to bolster market growth 347

9.4.5 AUSTRALIA 353

9.4.5.1 Increasing funding for synthetic biology research to accelerate market growth 353

9.4.6 SOUTH KOREA 358

9.4.6.1 Increasing focus on developing biotechnology and pharmaceutical sectors to boost market 358

9.4.7 REST OF ASIA PACIFIC 363

9.5 LATIN AMERICA 369

9.5.1 LATIN AMERICA: MACROECONOMIC OUTLOOK 375

9.5.2 BRAZIL 376

9.5.2.1 Growing life sciences and pharmaceutical industry to fuel demand for synthetic biological products 376

9.5.3 MEXICO 381

9.5.3.1 Increasing support for biotechnology infrastructure development to augment market growth 381

9.5.4 REST OF LATIN AMERICA 386

?

9.6 MIDDLE EAST 391

9.6.1 MIDDLE EAST: MACROECONOMIC OUTLOOK 397

9.6.2 GCC COUNTRIES 398

9.6.2.1 KSA 403

9.6.2.2 UAE 409

9.6.2.3 Rest of GCC countries 414

9.6.3 REST OF MIDDLE EAST 419

9.7 AFRICA 424

9.7.1 AFRICA: MACROECONOMIC OUTLOOK 429

10 COMPETITIVE LANDSCAPE 431

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

10.1	OVERVIEW	431
10.2	KEY PLAYER STRATEGY/RIGHT TO WIN	431
10.2.1	OVERVIEW OF STRATEGIES ADOPTED BY PLAYERS IN SYNTHETIC BIOLOGY MARKET	432
10.3	REVENUE ANALYSIS	433
10.4	MARKET SHARE ANALYSIS	434
10.5	COMPANY EVALUATION MATRIX: KEY PLAYERS, 2023	436
10.5.1	STARS	436
10.5.2	EMERGING LEADERS	436
10.5.3	PERVASIVE PLAYERS	436
10.5.4	PARTICIPANTS	437
10.5.5	COMPANY FOOTPRINT: KEY PLAYERS, 2023	438
10.5.5.1	Company footprint	438
10.5.5.2	Region footprint	439
10.5.5.3	Tool footprint	439
10.5.5.4	Technology footprint	440
10.5.5.5	Application footprint	441
10.6	COMPANY EVALUATION MATRIX: STARTUPS/SMES, 2023	442
10.6.1	PROGRESSIVE COMPANIES	442
10.6.2	RESPONSIVE COMPANIES	442
10.6.3	DYNAMIC COMPANIES	442
10.6.4	STARTING BLOCKS	442
10.6.5	COMPETITIVE BENCHMARKING: STARTUPS/SMES, 2023	444
10.7	COMPANY VALUATION & FINANCIAL METRICS, 2023	446
10.7.1	FINANCIAL METRICS	446
10.7.2	COMPANY VALUATION	446
10.8	BRAND/PRODUCT COMPARISON	447
10.9	COMPETITIVE SCENARIO	448
10.9.1	PRODUCT LAUNCHES	448
10.9.2	DEALS	449
10.9.3	EXPANSIONS	450
11	COMPANY PROFILES	452
11.1	KEY PLAYERS	452
11.1.1	THERMO FISHER SCIENTIFIC INC.	452
11.1.1.1	Business overview	452
11.1.1.2	Products/Services offered	453
11.1.1.3	Recent developments	455
11.1.1.3.1	Product launches	455
11.1.1.3.2	Deals	455
11.1.1.3.3	Expansions	456
11.1.1.4	MnM view	456
11.1.1.4.1	Key strengths	456
11.1.1.4.2	Strategic choices	456
11.1.1.4.3	Weaknesses & competitive threats	457
11.1.2	MERCK KGAA	458
11.1.2.1	Business overview	458
11.1.2.2	Products/Services offered	459

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 11.1.2.3 Recent developments 461
- 11.1.2.3.1 Deals 461
- 11.1.2.4 MnM view 461
- 11.1.2.4.1 Key strengths 461
- 11.1.2.4.2 Strategic choices 462
- 11.1.2.4.3 Weaknesses & competitive threats 462
- 11.1.3 NOVOZYMES A/S 463
- 11.1.3.1 Business overview 463
- 11.1.3.2 Products/Services offered 464
- 11.1.3.3 Recent developments 465
- 11.1.3.3.1 Product launches 465
- 11.1.3.3.2 Deals 466
- 11.1.3.4 MnM view 467
- 11.1.3.4.1 Key strengths 467
- 11.1.3.4.2 Strategic choices 467
- 11.1.3.4.3 Weaknesses & competitive threats 467
- 11.1.4 EUROFINS SCIENTIFIC 468
- 11.1.4.1 Business overview 468
- 11.1.4.2 Products/Services offered 469
- 11.1.5 AGILENT TECHNOLOGIES INC. 471
- 11.1.5.1 Business overview 471
- 11.1.5.2 Products/Services offered 472
- 11.1.5.3 Recent developments 474
- 11.1.5.3.1 Products launches 474
- 11.1.5.3.2 Deals 474
- 11.1.5.3.3 Expansions 475
- 11.1.6 AMYRIS, INC. 476
- 11.1.6.1 Business overview 476
- 11.1.6.2 Products/Services offered 476
- 11.1.6.3 Recent developments 477
- 11.1.6.3.1 Deals 477
- 11.1.7 CODEXIS, INC. 478
- 11.1.7.1 Business overview 478
- 11.1.7.2 Products/Services offered 479
- 11.1.7.3 Recent developments 481
- 11.1.7.3.1 Product launches 481
- 11.1.7.3.2 Deals 481
- 11.1.7.3.3 Expansions 482
- 11.1.8 TWIST BIOSCIENCE 483
- 11.1.8.1 Business overview 483
- 11.1.8.2 Products/Services offered 484
- 11.1.8.3 Recent developments 485
- 11.1.8.3.1 Product launches 485
- 11.1.8.3.2 Deals 487
- 11.1.8.3.3 Expansions 488
- 11.1.9 GENSCRIPT 489
- 11.1.9.1 Business overview 489

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 11.1.9.2□Products/Services offered□490
- 11.1.9.3□Recent developments□492
 - 11.1.9.3.1□Product launches□492
 - 11.1.9.3.2□Deals□493
 - 11.1.9.3.3□Other developments□493
- 11.1.10□PRECIGEN□494
 - 11.1.10.1□Business overview□494
 - 11.1.10.2□Products/Services offered□495
- 11.1.11□GINKGO BIOWORKS□497
 - 11.1.11.1□Business overview□497
 - 11.1.11.2□Products/Services offered□498
 - 11.1.11.3□Recent developments□499
 - 11.1.11.3.1□Product launches□499
 - 11.1.11.3.2□Deals□499
- 11.1.12□VIRIDOS□503
 - 11.1.12.1□Business overview□503
 - 11.1.12.2□Products/Services offered□504
 - 11.1.12.3□Recent developments□505
 - 11.1.12.3.1□Product launches□505
 - 11.1.12.3.2□Deals□507
 - 11.1.12.3.3□Other developments□508
- 11.1.13□SYNTHEGO□509
 - 11.1.13.1□Business overview□509
 - 11.1.13.2□Products/Services offered□509
 - 11.1.13.3□Recent developments□511
 - 11.1.13.3.1□Product launches□511
 - 11.1.13.3.2□Deals□512
 - 11.1.13.3.3□Expansions□512
- 11.1.14□CREATIVE ENZYMES□513
 - 11.1.14.1□Business overview□513
 - 11.1.14.2□Products/Services offered□513
- 11.1.15□CYRUS BIOTECHNOLOGY□515
 - 11.1.15.1□Business overview□515
 - 11.1.15.2□Products/Services offered□515
 - 11.1.15.3□Recent developments□516
 - 11.1.15.3.1□Deals□516
- 11.2□OTHER PLAYERS□517
 - 11.2.1□ATUM□517
 - 11.2.2□TESELAGEN□518
 - 11.2.3□ARZEDA□519
 - 11.2.4□INTEGRATED DNA TECHNOLOGIES, INC.□520
 - 11.2.5□NEW ENGLAND BIOLABS□522
 - 11.2.6□ELEVATEBIO□523
 - 11.2.7□ZENFOLD (IOSYNTH)□524
 - 11.2.8□SYNBIO TECHNOLOGIES□525
 - 11.2.9□INSCRIPTA, INC.□526
 - 11.2.10□CRISPR THERAPEUTICS□526

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

12 APPENDIX 527

12.1 DISCUSSION GUIDE 527

12.2 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL 533

12.3 CUSTOMIZATION OPTIONS 535

12.4 RELATED REPORTS 535

12.5 AUTHOR DETAILS 536

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

**Synthetic Biology Market by Tools (Oligonucleotides, Enzymes, Synthetic Cells),
Technology (Sequencing, Bioinformatics), Applications (Drug Discovery, Tissue
Regeneration, Biofuel, Food, Agriculture, Consumer Care, Environmental) - Global
Forecast to 2029**

Market Report | 2024-11-11 | 537 pages | MarketsandMarkets

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User	\$4950.00
	Multi User	\$6650.00
	Corporate License	\$8150.00
	Enterprise Site License	\$10000.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Zip Code*

Country*

Date

2026-03-04

Signature

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com