# NEW YORK



Investment, Innovation and Job Creation in a Growing U.S. Bioscience Industry 2018

New York's large bioscience industry has seen moderate employment growth in recent years, with state firms increasing their employment base by 1.4 percent from 2014 to 2016. In 2016, the industry employed nearly 79,000 in 3,514 business establishments across the state. Job growth was driven by three of the five industry subsectors, with research, testing and medical labs the fastest growing among them. New York is a national leader in the size and breadth of its innovation ecosystem for the biosciences. The state is among the top tier in key measures, all of which have been increasing in recent years, including in academic R&D where its research universities spent nearly $4.1 billion in bioscience-related fields in 2016; in NIH funding awards, which have risen to nearly $2.4 billion in FY 2017; in venture capital investments; and in patent activities.

## Bioscience Performance Metrics

**Summary of State Performance in Selected Bioscience-related Metrics**

| Metric | New York | United States | Quintile |
|---|---|---|---|
| **Bioscience Industry, 2016** | | | |
| Bioscience Industry Employment | 78,872 | 1,743,639 | I |
| Bioscience Industry Location Quotient | 0.71 | n/a | IV |
| Bioscience Industry Establishments | 3,514 | 85,702 | I |
| **Academic Bioscience R&D Expenditures, FY 2016** | | | |
| Bioscience R&D ($ thousands) | $4,057,179 | $41,972,205 | I |
| Bioscience Share of Total R&D | 70% | 62% | II |
| Bioscience R&D Per Capita | $205 | $130 | I |
| **NIH Funding, FY 2017** | | | |
| Funding ($ thousands) | $2,386,045 | $26,150,485 | I |
| Funding Per Capita | $120 | $80 | I |
| **Bioscience Venture Capital Investments, 2014-17 ($ millions)** | $2,157.75 | $66,168.62 | I |
| **Bioscience and Related Patents, 2014-17** | 6,977 | 102,862 | I |

*State ranking figures for bioscience performance metrics are calculated as quintiles, where I = top quintile, III = middle quintile, and V = bottom quintile.*
*For source notes, see end of State Profile.*

# NEW YORK

| Industry Subsector | New York | | United States | |
|---|---|---|---|---|
| | 2016 | 2014–2016 Change | 2016 | 2014–2016 Change |
| **Agricultural Feedstock and Industrial Biosciences** | | | | |
| Establishments | 36 | -5.3% | 1,709 | -3.2% |
| Employment | 778 | -30.4% | 68,027 | -1.2% |
| Location Quotient | 0.18 | | n/a | |
| Direct-Effect Employment Multiplier | 4.16 | | | |
| Total Employment Impact | 3,237 | | | |
| Average Annual Wage | $64,627 | 6.4% | $80,961 | 2.7% |
| **Bioscience-Related Distribution** | | | | |
| Establishments | 1,573 | 0.7% | 39,149 | 3.8% |
| Employment | 19,192 | -0.3% | 469,640 | 3.7% |
| Location Quotient | 0.64 | | n/a | |
| Direct-Effect Employment Multiplier | 2.04 | | | |
| Total Employment Impact | 39,124 | | | |
| Average Annual Wage | $93,901 | 4.4% | $93,677 | 2.7% |
| **Drugs and Pharmaceuticals** | | | | |
| Establishments | 185 | 0.5% | 3,754 | 13.7% |
| Employment | 19,504 | 1.4% | 299,113 | 2.0% |
| Location Quotient | 1.02 | | n/a | |
| Direct-Effect Employment Multiplier | 5.06 | | | |
| Total Employment Impact | 98,722 | | | |
| Average Annual Wage | $80,229 | 9.3% | $113,815 | -3.2% |
| **Medical Devices and Equipment** | | | | |
| Establishments | 363 | 3.7% | 8,083 | 5.9% |
| Employment | 12,661 | 1.4% | 359,293 | 2.9% |
| Location Quotient | 0.55 | | n/a | |
| Direct-Effect Employment Multiplier | 2.46 | | | |
| Total Employment Impact | 31,131 | | | |
| Average Annual Wage | $70,054 | 2.6% | $84,746 | 6.5% |
| **Research, Testing and Medical Laboratories** | | | | |
| Establishments | 1,356 | 10.4% | 33,007 | 13.1% |
| Employment | 26,737 | 4.0% | 547,566 | 8.2% |
| Location Quotient | 0.77 | | n/a | |
| Direct-Effect Employment Multiplier | 2.15 | | | |
| Total Employment Impact | 57,435 | | | |
| Average Annual Wage | $108,652 | -5.2% | $106,942 | 5.5% |
| **Total Bioscience Industry** | | | | |
| Establishments | 3,514 | 4.5% | 85,702 | 7.7% |
| Employment | 78,872 | 1.4% | 1,743,639 | 4.4% |
| Location Quotient | 0.71 | | n/a | |
| Direct-Effect Employment Multiplier | 2.91 | | | |
| Total Employment Impact | 229,649 | | | |
| Average Annual Wage | $91,403 | 1.5% | $98,961 | 3.1% |
| **Total Private Sector** | | | | |
| Establishments | 568,329 | 0.8% | 9,243,034 | 3.4% |
| Employment | 7,713,662 | 3.6% | 120,884,570 | 4.2% |
| Average Annual Wage | $69,303 | 3.0% | $53,354 | 4.3% |

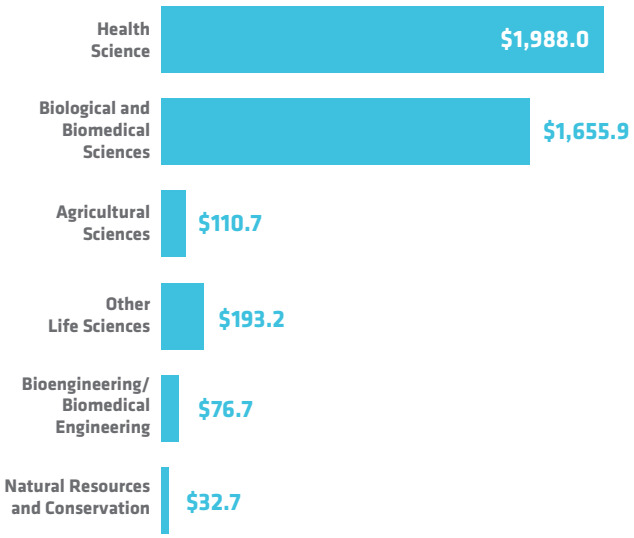
*Note: U.S. employment metrics include Puerto Rico.*

## Bioscience Research in New York

### Bioscience Academic R&D Expenditures

$ Millions

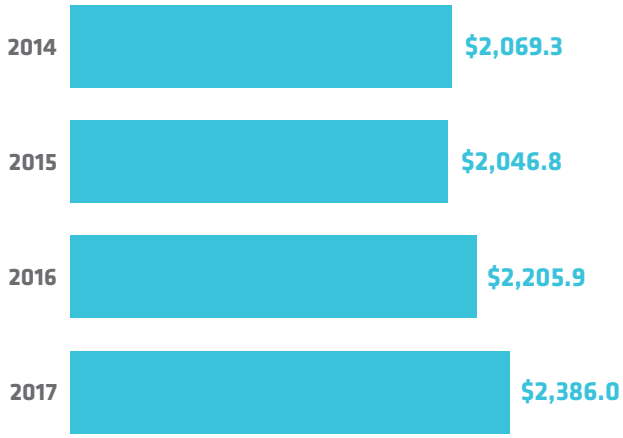
**FY 2016**




### NIH Awards

$ Millions

**FY 2014-2017**

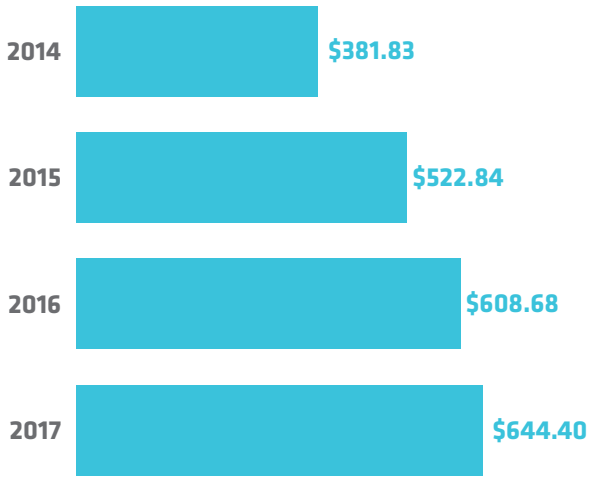



## Bioscience Venture Capital in New York

### Bioscience-Related Venture Capital Investments

$ Millions

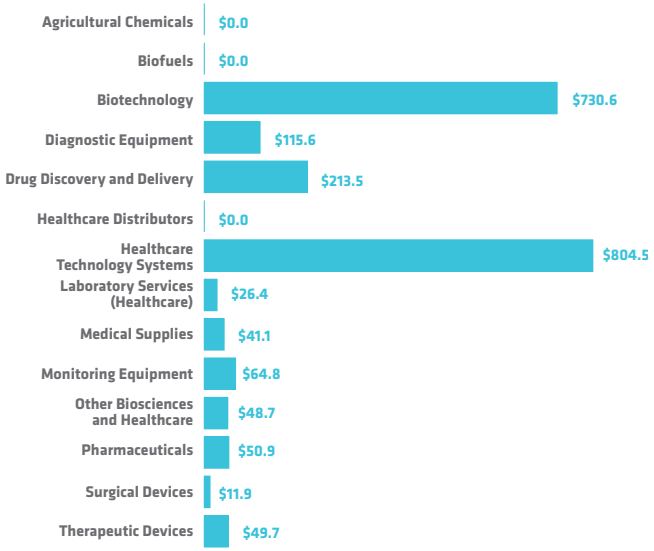
**2014-2017**




### Bioscience-Related Venture Capital Investments by Segment

$ Millions

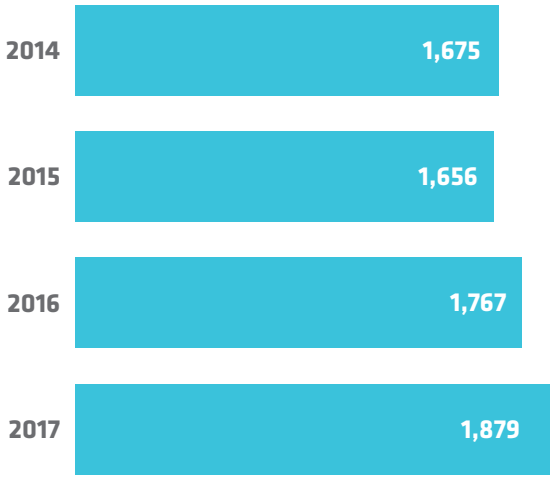
**2014-2017**



## Bioscience Patents in New York

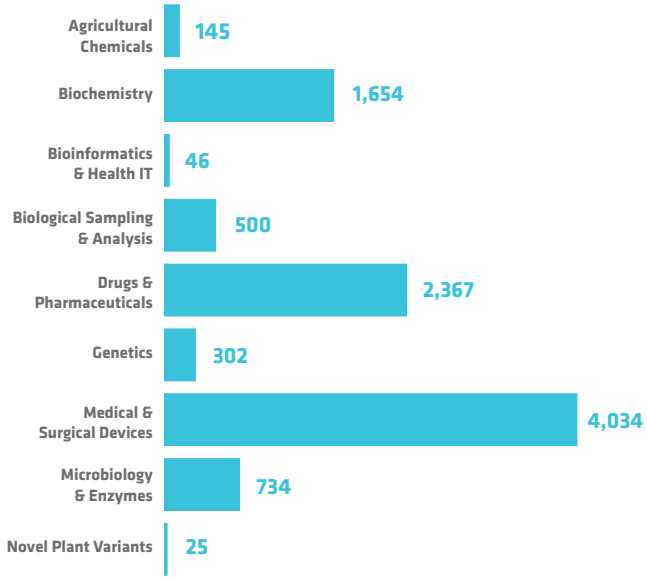
Bioscience-Related U.S. Patents

**2014-2017**




Bioscience-Related U.S. Patents by Segment

**2014-2017**




## Source Notes

**Employment, Establishments and Wages:** U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), enhanced file from IMPLAN.

**Employment Multipliers:** IMPLAN state-level Input/Output models.

**Academic R&D Expenditures:** National Science Foundation (NSF) Higher Education Research and Development (HERD) Survey.

**NIH Funding:** National Institutes of Health, NIH Awards by Location & Organization (summary information within RePORT database).

**Venture Capital:** PitchBook Data, Inc.

**Patents:** U.S. Patent & Trademark Office data from Clarivate Analytics' Derwent Innovation patent analysis database.

For a more detailed discussion of the data and methodology used, please see the Appendix to the full national report.

TECONOMY PARTNERS LLC

Bio Biotechnology Innovation Organization

25 YEARS OF INNOVATION