



Indiana is home to a large and highly specialized bioscience industry that is 55 percent more concentrated in the state relative to the national average (location quotient is 1.55). Bioscience firms employed just over 58,000 in 2016 in 1,730 business establishments across the state. Indiana’s industry strengths are diverse, with three of the five major subsectors having strong specializations in their employment concentration, including: drugs and pharmaceuticals; agricultural feedstock and industrial biosciences; and medical device manufacturing. The state’s research universities spent \$621 million in bioscience-related R&D activities in 2016 funded, in part, by recent growth in NIH funding awards which reached nearly \$261 million in FY 2017. Indiana has a large volume of patents, with Hoosier inventors associated with 4,148 awarded from 2014 through 2017 in bioscience-related technology classes.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

| Metric | Indiana | United States | Quintile |
|--|-----------|---------------|----------|
| Bioscience Industry, 2016 | | | |
| Bioscience Industry Employment | 58,018 | 1,743,639 | I |
| Bioscience Industry Location Quotient | 1.55 | n/a | I |
| Bioscience Industry Establishments | 1,730 | 85,702 | II |
| Academic Bioscience R&D Expenditures, FY 2016 | | | |
| Bioscience R&D (\$ thousands) | \$621,386 | \$41,972,205 | III |
| Bioscience Share of Total R&D | 50% | 62% | IV |
| Bioscience R&D Per Capita | \$94 | \$130 | IV |
| NIH Funding, FY 2017 | | | |
| Funding (\$ thousands) | \$260,620 | \$26,150,485 | III |
| Funding Per Capita | \$39 | \$80 | IV |
| Bioscience Venture Capital Investments, 2014-17 (\$ millions) | \$241.22 | \$66,168.62 | III |
| Bioscience and Related Patents, 2014-17 | 4,148 | 102,862 | II |

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.

| Industry Subsector | Indiana | | United States | |
|--|-----------|------------------|---------------|------------------|
| | 2016 | 2014-2016 Change | 2016 | 2014-2016 Change |
| Agricultural Feedstock and Industrial Biosciences | | | | |
| Establishments | 50 | 6.4% | 1,709 | -3.2% |
| Employment | 3,599 | -24.6% | 68,027 | -1.2% |
| Location Quotient | 2.46 | | n/a | |
| Direct-Effect Employment Multiplier | 8.40 | | | |
| Total Employment Impact | 30,237 | | | |
| Average Annual Wage | \$80,505 | -13.0% | \$80,961 | 2.7% |
| Bioscience-Related Distribution | | | | |
| Establishments | 996 | -4.1% | 39,149 | 3.8% |
| Employment | 10,284 | -4.1% | 469,640 | 3.7% |
| Location Quotient | 1.02 | | n/a | |
| Direct-Effect Employment Multiplier | 2.13 | | | |
| Total Employment Impact | 21,865 | | | |
| Average Annual Wage | \$83,258 | 3.0% | \$93,677 | 2.7% |
| Drugs and Pharmaceuticals | | | | |
| Establishments | 47 | 11.9% | 3,754 | 13.7% |
| Employment | 17,862 | 2.6% | 299,113 | 2.0% |
| Location Quotient | 2.78 | | n/a | |
| Direct-Effect Employment Multiplier | 5.05 | | | |
| Total Employment Impact | 90,170 | | | |
| Average Annual Wage | \$139,002 | 3.5% | \$113,815 | -3.2% |
| Medical Devices and Equipment | | | | |
| Establishments | 155 | -0.6% | 8,083 | 5.9% |
| Employment | 17,317 | 3.1% | 359,293 | 2.9% |
| Location Quotient | 2.25 | | n/a | |
| Direct-Effect Employment Multiplier | 2.57 | | | |
| Total Employment Impact | 44,476 | | | |
| Average Annual Wage | \$67,793 | 2.3% | \$84,746 | 6.5% |
| Research, Testing and Medical Laboratories | | | | |
| Establishments | 482 | 10.2% | 33,007 | 13.1% |
| Employment | 8,955 | 6.8% | 547,566 | 8.2% |
| Location Quotient | 0.76 | | n/a | |
| Direct-Effect Employment Multiplier | 2.04 | | | |
| Total Employment Impact | 18,308 | | | |
| Average Annual Wage | \$69,873 | 2.6% | \$106,942 | 5.5% |
| Total Bioscience Industry | | | | |
| Establishments | 1,730 | 0.5% | 85,702 | 7.7% |
| Employment | 58,018 | -0.1% | 1,743,639 | 4.4% |
| Location Quotient | 1.55 | | n/a | |
| Direct-Effect Employment Multiplier | 3.53 | | | |
| Total Employment Impact | 205,056 | | | |
| Average Annual Wage | \$93,567 | 1.9% | \$98,961 | 3.1% |
| Total Private Sector | | | | |
| Establishments | 155,307 | 2.2% | 9,243,034 | 3.4% |
| Employment | 2,595,247 | 3.8% | 120,884,570 | 4.2% |
| Average Annual Wage | \$44,757 | 4.8% | \$53,354 | 4.3% |

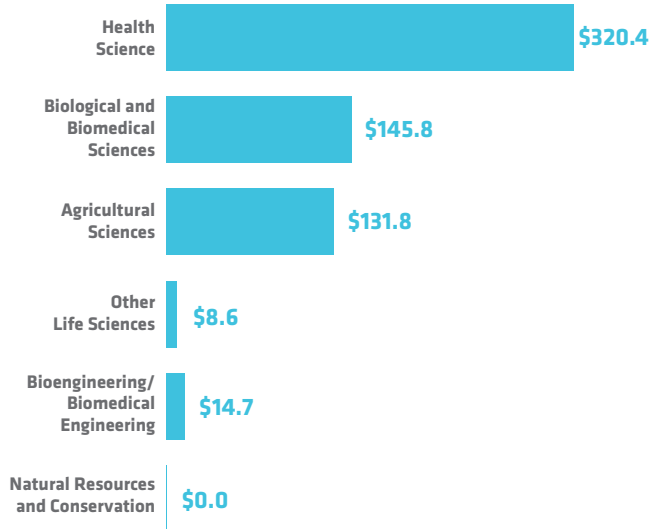
Note: U.S. employment metrics include Puerto Rico.

Bioscience Research in Indiana

Bioscience Academic R&D Expenditures

\$ Millions

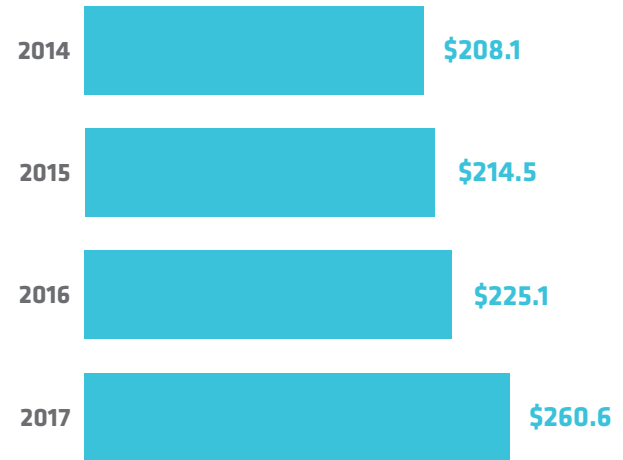
FY 2016



NIH Awards

\$ Millions

FY 2014-2017

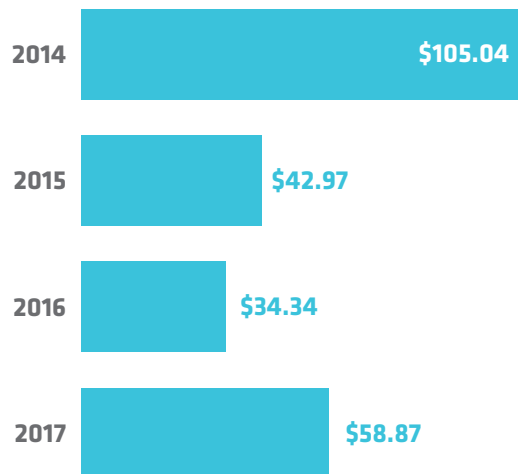


Bioscience Venture Capital in Indiana

Bioscience-Related Venture Capital Investments

\$ Millions

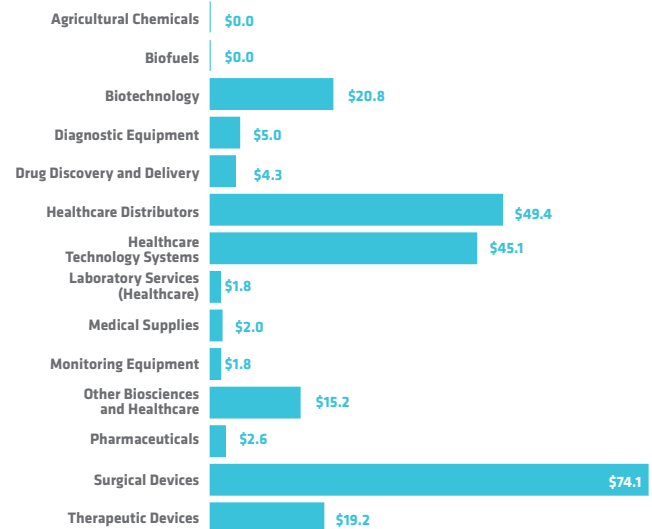
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Bioscience-Related Venture Capital Investments by Segment

\$ Millions

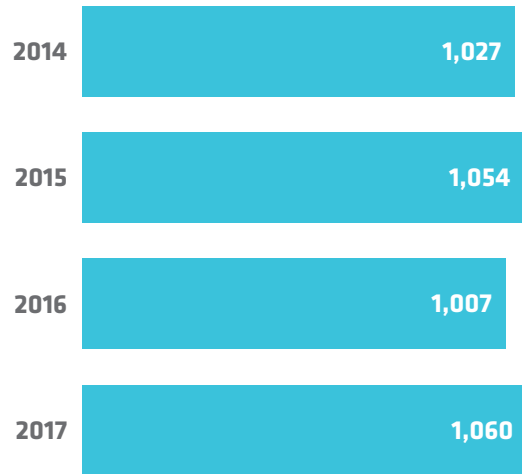
2014-2017



Bioscience Patents in Indiana

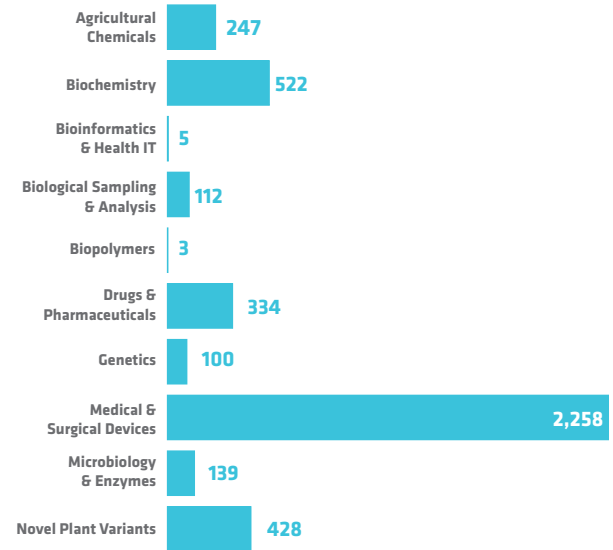
Bioscience-Related U.S. Patents

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.