



Arizona

The U.S. Bioscience Industry: Fostering Innovation
and Driving America's Economy Forward

Arizona's bioscience industry is growing rapidly and reached more than 36,000 jobs spanning 2,912 business establishments in 2021. Industry employment has grown by nearly 22 percent since 2018—twice the growth rate of the nation—with each of the five major subsectors adding jobs during the period. Arizona's universities conducted \$602 million in R&D activities in bioscience-related fields in 2020, fueled in part by steadily increasing NIH awards to Arizona institutions since 2018. Venture capital investments in Arizona bioscience companies increased significantly in 2021, and during the 2018-21 period totaled \$565 million. Arizona inventors have been awarded 2,283 bioscience-related patents since 2018, among the second quintile of states in patent activity.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

| Metric | Arizona | United States | Quintile |
|--|-----------|---------------|----------|
| Bioscience Industry, 2021 | | | |
| Bioscience Industry Employment | 36,410 | 2,135,704 | III |
| Bioscience Industry Location Quotient | 0.82 | n/a | III |
| Bioscience Industry Establishments | 2,912 | 127,389 | II |
| Academic Bioscience R&D Expenditures, FY 2020 | | | |
| Bioscience R&D (\$ thousands) | \$602,099 | \$51,108,737 | III |
| Bioscience Share of Total R&D | 43% | 63% | V |
| Bioscience R&D Per Capita | \$84 | \$154 | IV |
| NIH Funding, FY 2021 | | | |
| Funding (\$ thousands) | \$293,074 | \$34,751,109 | III |
| Funding Per Capita | \$40 | \$105 | IV |
| Bioscience Venture Capital Investments, 2018-21 (\$ millions) | | | |
| | \$565.15 | \$197,674.54 | III |
| Bioscience-Related Patents, 2018-21 | | | |
| | 2,283 | 153,072 | 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.

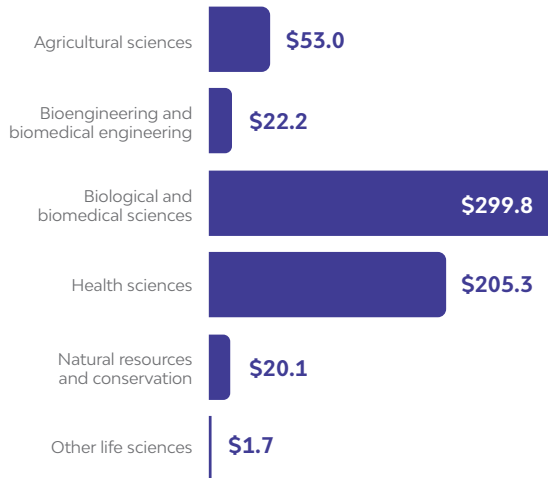
| Industry Subsector | | Arizona | | United States | |
|--|--------------------------|-----------|---------------------|---------------|---------------------|
| | | 2021 | 2018–2021 Change | 2021 | 2018–2021 Change |
| Agricultural Feedstock and Industrial Biosciences | Establishments | 17 | 15.0% | 1,948 | 10.0% |
| | Employment | 678 | 8.3% | 69,573 | 1.9% |
| | <i>Location Quotient</i> | 0.47 | | n/a | |
| | Average Annual Wage | \$58,093 | -4.4% | \$91,989 | 13.1% |
| Bioscience- Related Distribution | Establishments | 1,854 | 28.6% | 62,697 | 14.7% |
| | Employment | 11,933 | 18.4% | 602,589 | 6.6% |
| | <i>Location Quotient</i> | 0.96 | | n/a | |
| | Average Annual Wage | \$132,534 | 16.1% | \$121,606 | 15.0% |
| Medical Devices and Equipment | Establishments | 176 | 44.1% | 10,268 | 17.4% |
| | Employment | 9,472 | 41.6% | 398,847 | 5.5% |
| | <i>Location Quotient</i> | 1.15 | | n/a | |
| | Average Annual Wage | \$94,382 | 26.9% | \$98,481 | 8.7% |
| Pharmaceuticals | Establishments | 102 | 36.3% | 5,973 | 34.7% |
| | Employment | 4,105 | 27.3% | 344,839 | 11.9% |
| | <i>Location Quotient</i> | 0.58 | | n/a | |
| | Average Annual Wage | \$68,367 | 15.5% | \$126,153 | 10.3% |
| Research, Testing, and Medical Laboratories | Establishments | 763 | 39.7% | 46,503 | 34.5% |
| | Employment | 10,223 | 10.2% | 719,856 | 19.3% |
| | <i>Location Quotient</i> | 0.69 | | n/a | |
| | Average Annual Wage | \$81,230 | 12.9% | \$147,396 | 22.0% |
| Total Bioscience Industry | Establishments | 2,912 | 32.4% | 127,389 | 22.3% |
| | Employment | 36,410 | 21.8% | 2,135,704 | 11.0% |
| | <i>Location Quotient</i> | 0.82 | | n/a | |
| | Average Annual Wage | \$99,585 | 17.0% | \$125,750 | 16.4% |
| Total Private Sector | Establishments | 180,944 | 15.4% | 10,665,643 | 9.3% |
| | Employment | 2,551,745 | 4.7% | 123,376,557 | -1.5% |
| | <i>Location Quotient</i> | 1.00 | | n/a | |
| | Average Annual Wage | \$61,693 | 19.8% | \$67,826 | 18.9% |

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

Bioscience Research in Arizona

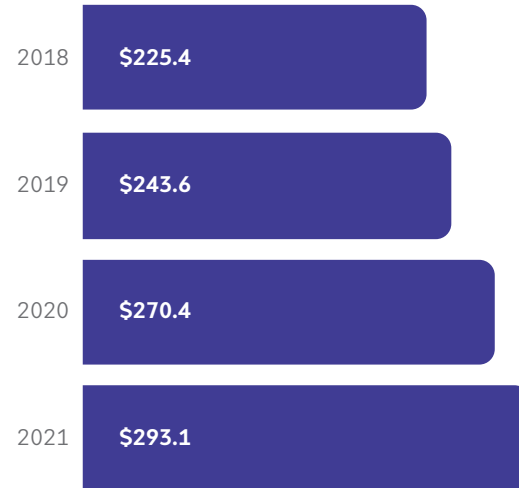
Bioscience Academic R&D Expenditures

\$ Millions, FY 2020



NIH Awards

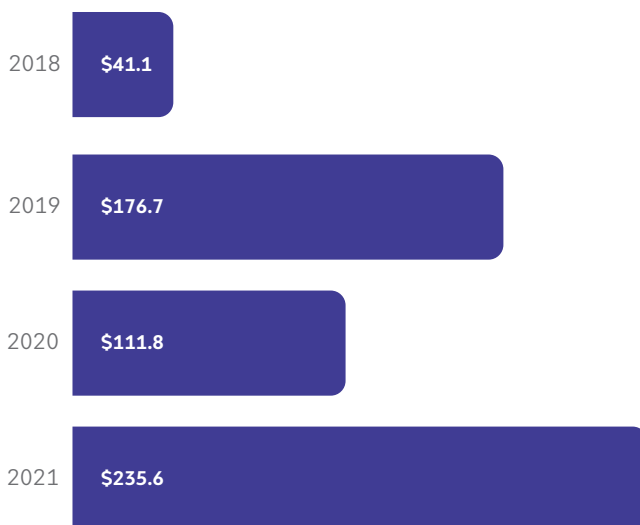
\$ Millions, FY 2018-2021



Bioscience Venture Capital in Arizona

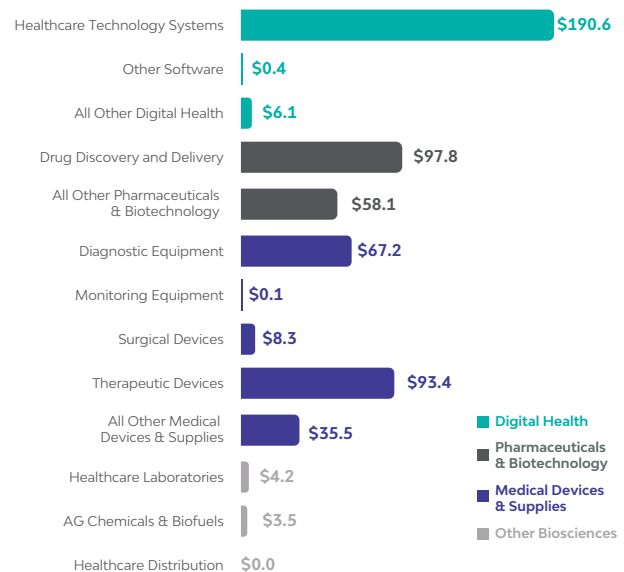
Bioscience-Related Venture Capital Investments

\$ Millions, 2018-2021



Bioscience-Related Venture Capital Investments by Segment

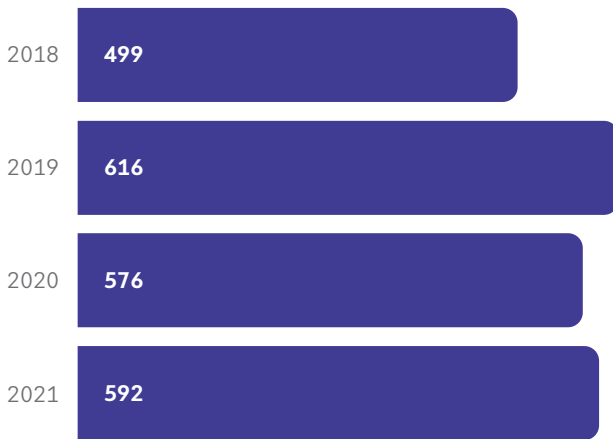
\$ Millions, 2018-2021



Bioscience Patents in Arizona

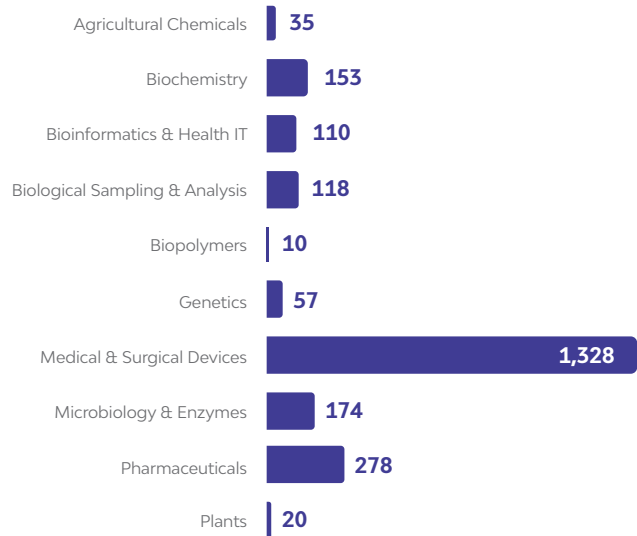
Bioscience-Related U.S. Patents

2018-2021



Bioscience-Related U.S. Patents by Segment

2018-2021



Source Notes

Employment, Establishments and Wages: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), enhanced by Lightcast (Datarun 2022.3).

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.

