



Maryland

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

Maryland's bioscience industry is large, highly specialized in its concentration, and has been growing at a rapid pace. Since 2018, the state's bioscience companies have increased their employment by 14 percent, outpacing national job growth and reaching nearly 50,000 jobs that span 3,104 business establishments. The industry in Maryland is 38 percent more concentrated compared with the national average (location quotient is 1.38). Among the major industry subsectors, the state has specialized employment concentrations in two—research, testing and medical labs and pharmaceuticals. Four of the five major industry subsectors contributed to the overall job gains since 2018. Maryland is among the top tier of states in all elements of the bioscience innovation ecosystem measured in the report—university R&D expenditures, NIH funding, venture capital investments in state bioscience companies, and patent awards.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metric	Maryland	United States	Quintile
Bioscience Industry, 2021			
Bioscience Industry Employment	49,945	2,135,704	II
Bioscience Industry Location Quotient	1.38	n/a	I
Bioscience Industry Establishments	3,104	127,389	II
Academic Bioscience R&D Expenditures, FY 2020			
Bioscience R&D (\$ thousands)	\$2,072,579	\$51,108,737	I
Bioscience Share of Total R&D	44%	63%	V
Bioscience R&D Per Capita	\$336	\$154	I
NIH Funding, FY 2021			
Funding (\$ thousands)	\$2,331,768	\$34,751,109	I
Funding Per Capita	\$378	\$105	I
Bioscience Venture Capital Investments, 2018-21 (\$ millions)			
	\$3,384.08	\$197,674.54	I
Bioscience-Related Patents, 2018-21			
	4,066	153,072	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.

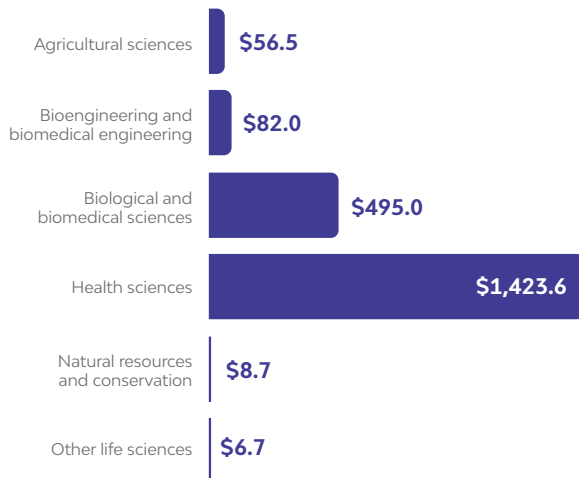
Industry Subsector		Maryland		United States	
		2021	2018–2021 Change	2021	2018–2021 Change
Agricultural Feedstock and Industrial Biosciences	Establishments	24	4.4%	1,948	10.0%
	Employment	249	-15.7%	69,573	1.9%
	<i>Location Quotient</i>	0.21		n/a	
	Average Annual Wage	\$79,739	4.3%	\$91,989	13.1%
Bioscience- Related Distribution	Establishments	851	4.5%	62,697	14.7%
	Employment	7,471	6.8%	602,589	6.6%
	<i>Location Quotient</i>	0.73		n/a	
	Average Annual Wage	\$132,213	10.4%	\$121,606	15.0%
Medical Devices and Equipment	Establishments	174	20.6%	10,268	17.4%
	Employment	3,151	3.7%	398,847	5.5%
	<i>Location Quotient</i>	0.46		n/a	
	Average Annual Wage	\$102,628	13.4%	\$98,481	8.7%
Pharmaceuticals	Establishments	144	23.7%	5,973	34.7%
	Employment	10,260	17.1%	344,839	11.9%
	<i>Location Quotient</i>	1.75		n/a	
	Average Annual Wage	\$162,815	8.2%	\$126,153	10.3%
Research, Testing, and Medical Laboratories	Establishments	1,911	32.5%	46,503	34.5%
	Employment	28,814	17.2%	719,856	19.3%
	<i>Location Quotient</i>	2.36		n/a	
	Average Annual Wage	\$139,367	23.6%	\$147,396	22.0%
Total Bioscience Industry	Establishments	3,104	22.2%	127,389	22.3%
	Employment	49,945	14.3%	2,135,704	11.0%
	<i>Location Quotient</i>	1.38		n/a	
	Average Annual Wage	\$140,498	17.4%	\$125,750	16.4%
Total Private Sector	Establishments	173,388	2.1%	10,665,643	9.3%
	Employment	2,096,129	-4.2%	123,376,557	-1.5%
	<i>Location Quotient</i>	1.00		n/a	
	Average Annual Wage	\$69,420	18.2%	\$67,826	18.9%

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

Bioscience Research in Maryland

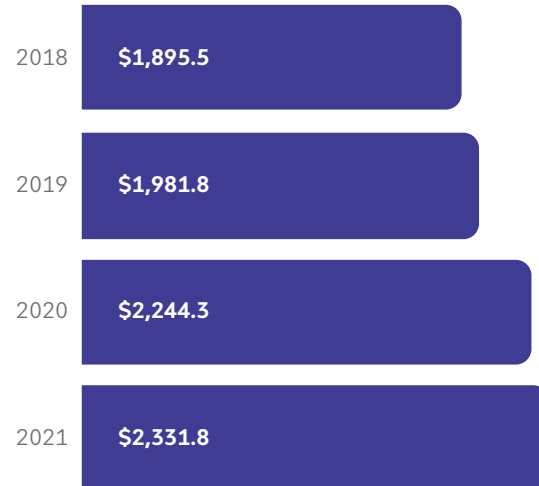
Bioscience Academic R&D Expenditures

\$ Millions, FY 2020



NIH Awards

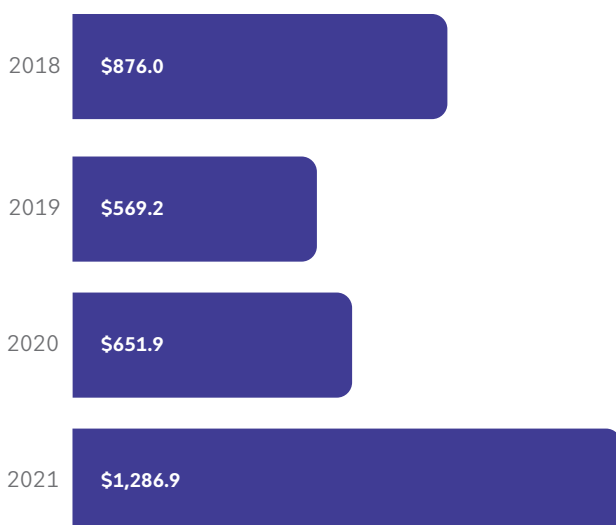
\$ Millions, FY 2018-2021



Bioscience Venture Capital in Maryland

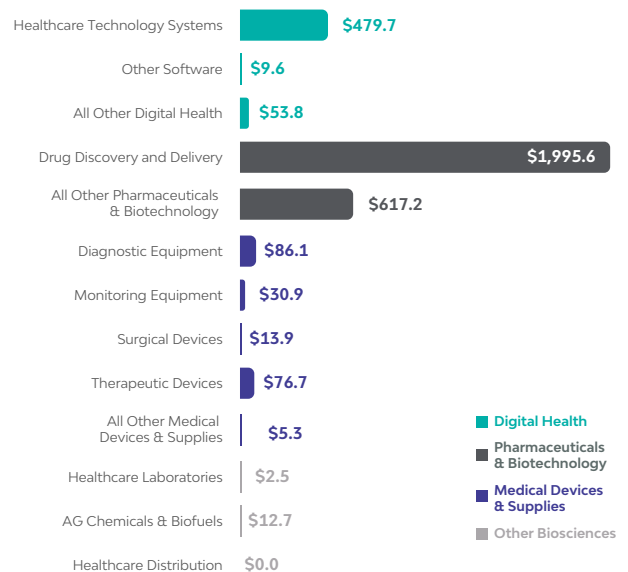
Bioscience-Related Venture Capital Investments

\$ Millions, 2018-2021



Bioscience-Related Venture Capital Investments by Segment

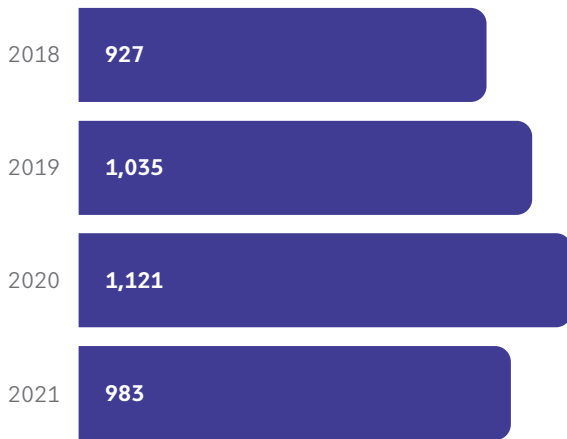
\$ Millions, 2018-2021



Bioscience Patents in Maryland

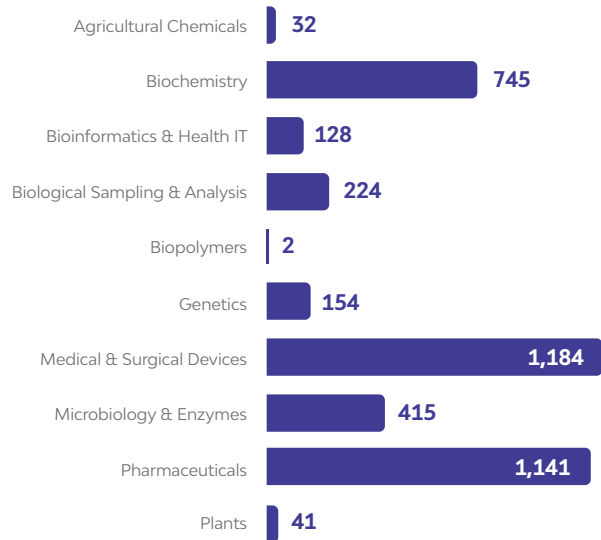
Bioscience-Related U.S. Patents

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.