IOWA

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

Iowa's bioscience industry is sizable and specialized, with 31 percent more bioscience jobs than the national average (location quotient is 1.31). In 2016, state firms employed 24,540 in 1,282 business establishments across the state. Iowa is a national leader in the agricultural feedstock and industrial biosciences subsector, with an extremely high employment specialization. The state is also specialized in its concentration of jobs in bioscience-related distribution. Iowa's bioscience industry had a modest employment decline from 2014 through 2016 (down 1.3 percent); although three of its five major subsectors increased employment during this period. The state's research universities conducted more than $512 million in bioscience-related R&D in 2016 which translates into a very high concentration on a per capita basis. NIH funding contributes to academic R&D expenditures, and these awards have been on the rise in Iowa, reaching $177 million in FY 2017.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metric	Iowa	United States	Quintile
Bioscience Industry, 2016			
Bioscience Industry Employment	24,540	1,743,639	III
Bioscience Industry Location Quotient	1.31	n/a	II
Bioscience Industry Establishments	1,282	85,702	III
Academic Bioscience R&D Expenditures, FY 2016			
Bioscience R&D ($ thousands)	$512,502	$41,972,205	III
Bioscience Share of Total R&D	66%	62%	II
Bioscience R&D Per Capita	$164	$130	I
NIH Funding, FY 2017			
Funding ($ thousands)	$177,383	$26,150,485	III
Funding Per Capita	$56	$80	III
Bioscience Venture Capital Investments, 2014-17 ($ millions)	$80.41	$66,168.62	III
Bioscience and Related Patents, 2014-17	1,625	102,862	III

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.

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Industry Subsector	Iowa		United States	
	2016	2014–2016 Change	2016	2014–2016 Change
Agricultural Feedstock and Industrial Biosciences				
Establishments	125	-1.6%	1,709	-3.2%
Employment	7,952	2.5%	68,027	-1.2%
Location Quotient	10.85		n/a	
Direct-Effect Employment Multiplier	7.56			
Total Employment Impact	60,076			
Average Annual Wage	$74,170	4.7%	$80,961	2.7%
Bioscience-Related Distribution				
Establishments	812	-1.6%	39,149	3.8%
Employment	9,529	-7.8%	469,640	3.7%
Location Quotient	1.88		n/a	
Direct-Effect Employment Multiplier	2.03			
Total Employment Impact	19,337			
Average Annual Wage	$70,568	1.8%	$93,677	2.7%
Drugs and Pharmaceuticals				
Establishments	48	-4.0%	3,754	13.7%
Employment	3,180	4.1%	299,113	2.0%
Location Quotient	0.99		n/a	
Direct-Effect Employment Multiplier	3.14			
Total Employment Impact	9,977			
Average Annual Wage	$71,136	7.1%	$113,815	-3.2%
Medical Devices and Equipment				
Establishments	60	22.4%	8,083	5.9%
Employment	1,695	-2.2%	359,293	2.9%
Location Quotient	0.44		n/a	
Direct-Effect Employment Multiplier	2.41			
Total Employment Impact	4,093			
Average Annual Wage	$72,651	56.3%	$84,746	6.5%
Research, Testing and Medical Laboratories				
Establishments	237	12.4%	33,007	13.1%
Employment	2,185	10.1%	547,566	8.2%
Location Quotient	0.37		n/a	
Direct-Effect Employment Multiplier	2.04			
Total Employment Impact	4,461			
Average Annual Wage	$67,991	5.2%	$106,942	5.5%
Total Bioscience Industry				
Establishments	1,282	1.6%	85,702	7.7%
Employment	24,540	-1.3%	1,743,639	4.4%
Location Quotient	1.31		n/a	
Direct-Effect Employment Multiplier	3.99			
Total Employment Impact	97,944			
Average Annual Wage	$71,723	6.3%	$98,961	3.1%
Total Private Sector				
Establishments	95,031	1.8%	9,243,034	3.4%
Employment	1,302,037	1.7%	120,884,570	4.2%
Average Annual Wage	$44,342	5.7%	$53,354	4.3%

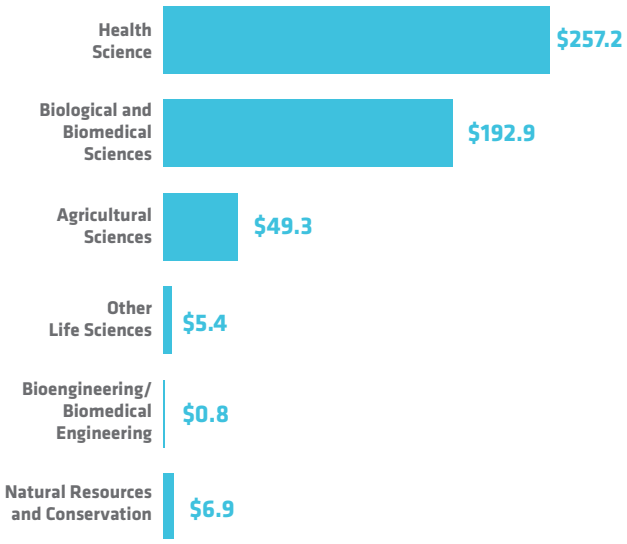
Note: U.S. employment metrics include Puerto Rico.

Bioscience Research in Iowa

Bioscience Academic R&D Expenditures

$ Millions

FY 2016



NIH Awards

$ Millions

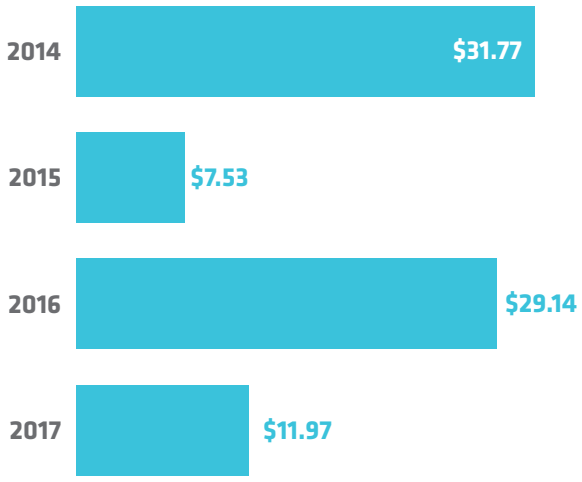
FY 2014-2017

Bioscience Venture Capital in Iowa

Bioscience-Related Venture Capital Investments

$ Millions

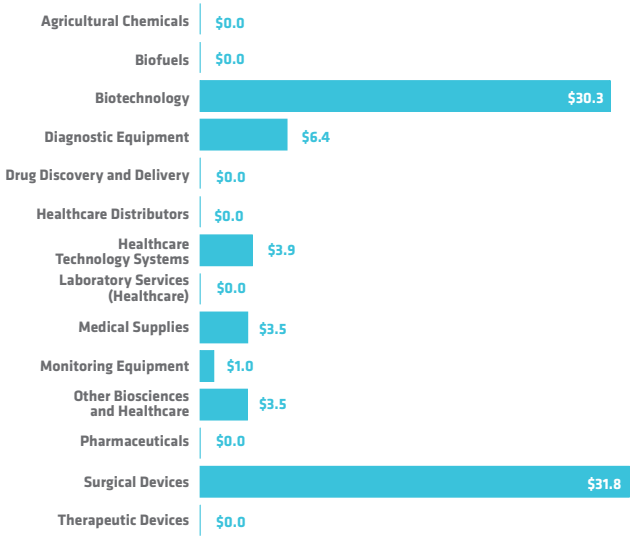
2014-2017



Bioscience-Related Venture Capital Investments by Segment

$ Millions

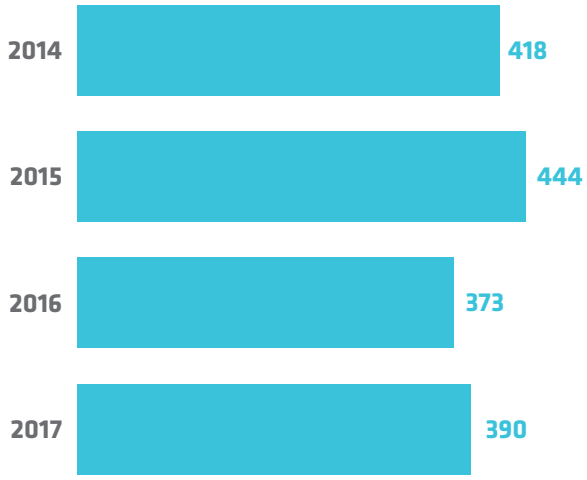
2014-2017



Bioscience Patents in Iowa

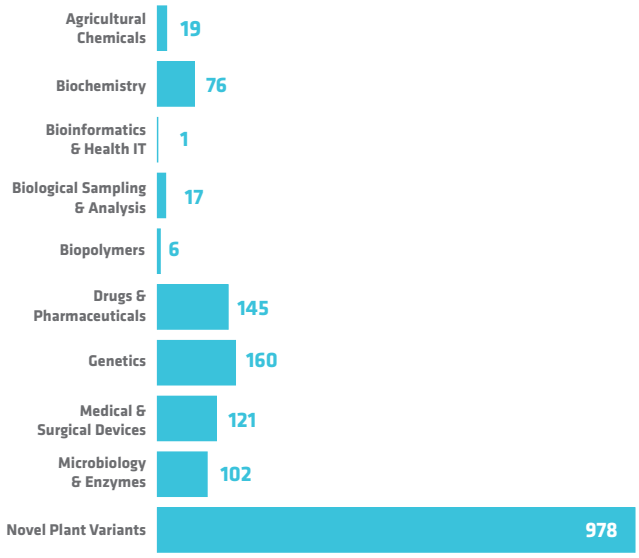
Bioscience-Related U.S. Patents

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.

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Bio Biotechnology Innovation Organization

25 YEARS OF INNOVATION