



South Dakota’s bioscience industry is growing and has a specialized concentration of employment relative to the national average. In 2016, the state’s bioscience industry employed 6,061 in 504 business establishments. South Dakota bioscience firms have increased their employment base by 2.4 percent since 2014 with three of the five major industry subsectors gaining jobs during this period. The state has industrial strengths in several subsectors, with specialized employment concentrations in agricultural feedstock and industrial biosciences; bioscience-related distribution; and in medical device and equipment manufacturing. South Dakota has seen recent increases in NIH funding awards—in FY 2017, state institutions were awarded \$23.5 million, up from \$20.6 million in FY 2015.

## Bioscience Performance Metrics

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

Metric	South Dakota	United States	Quintile
<b>Bioscience Industry, 2016</b>			
Bioscience Industry Employment	6,061	1,743,639	IV
Bioscience Industry Location Quotient	1.21	n/a	II
Bioscience Industry Establishments	504	85,702	IV
<b>Academic Bioscience R&amp;D Expenditures, FY 2016</b>			
Bioscience R&D (\$ thousands)	\$60,759	\$41,972,205	V
Bioscience Share of Total R&D	59%	62%	III
Bioscience R&D Per Capita	\$71	\$130	IV
<b>NIH Funding, FY 2017</b>			
Funding (\$ thousands)	\$23,547	\$26,150,485	V
Funding Per Capita	\$27	\$80	IV
<b>Bioscience Venture Capital Investments, 2014-17 (\$ millions)</b>	\$22.30	\$66,168.62	IV
<b>Bioscience and Related Patents, 2014-17</b>	303	102,862	IV

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	South Dakota		United States	
	2016	2014-2016 Change	2016	2014-2016 Change
<b>Agricultural Feedstock and Industrial Biosciences</b>				
Establishments	26	4.0%	1,709	-3.2%
Employment	815	0.7%	68,027	-1.2%
Location Quotient	4.17		n/a	
Direct-Effect Employment Multiplier	6.93			
Total Employment Impact	5,652			
Average Annual Wage	\$60,426	-1.2%	\$80,961	2.7%
<b>Bioscience-Related Distribution</b>				
Establishments	353	10.8%	39,149	3.8%
Employment	2,673	4.2%	469,640	3.7%
Location Quotient	1.98		n/a	
Direct-Effect Employment Multiplier	2.01			
Total Employment Impact	5,375			
Average Annual Wage	\$62,825	3.6%	\$93,677	2.7%
<b>Drugs and Pharmaceuticals</b>				
Establishments	3	50.0%	3,754	13.7%
Employment	9	-65.5%	299,113	2.0%
Location Quotient	0.01		n/a	
Direct-Effect Employment Multiplier	12.72			
Total Employment Impact	113			
Average Annual Wage	\$67,486	167.8%	\$113,815	-3.2%
<b>Medical Devices and Equipment</b>				
Establishments	15	7.1%	8,083	5.9%
Employment	1,704	-3.9%	359,293	2.9%
Location Quotient	1.65		n/a	
Direct-Effect Employment Multiplier	2.44			
Total Employment Impact	4,165			
Average Annual Wage	\$62,840	4.3%	\$84,746	6.5%
<b>Research, Testing and Medical Laboratories</b>				
Establishments	108	9.5%	33,007	13.1%
Employment	860	15.4%	547,566	8.2%
Location Quotient	0.55		n/a	
Direct-Effect Employment Multiplier	2.01			
Total Employment Impact	1,729			
Average Annual Wage	\$55,950	-2.6%	\$106,942	5.5%
<b>Total Bioscience Industry</b>				
Establishments	504	10.2%	85,702	7.7%
Employment	6,061	2.4%	1,743,639	4.4%
Location Quotient	1.21		n/a	
Direct-Effect Employment Multiplier	2.81			
Total Employment Impact	17,033			
Average Annual Wage	\$61,538	2.5%	\$98,961	3.1%
<b>Total Private Sector</b>				
Establishments	30,615	3.3%	9,243,034	3.4%
Employment	347,533	2.5%	120,884,570	4.2%
Average Annual Wage	\$41,127	6.5%	\$53,354	4.3%

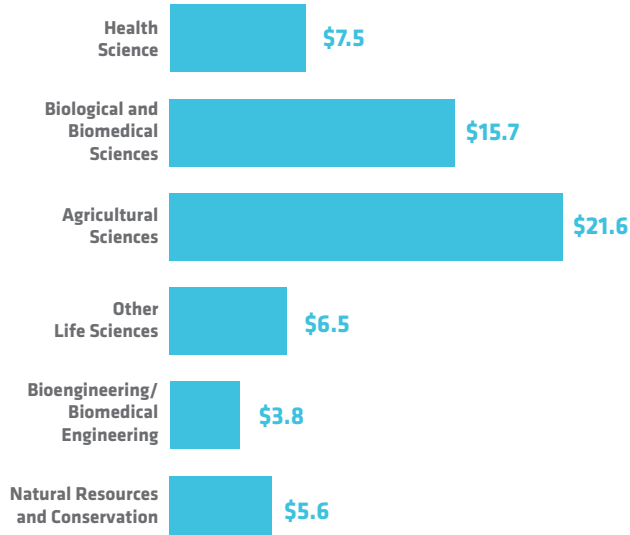
Note: U.S. employment metrics include Puerto Rico.

## Bioscience Research in South Dakota

### Bioscience Academic R&D Expenditures

\$ Millions

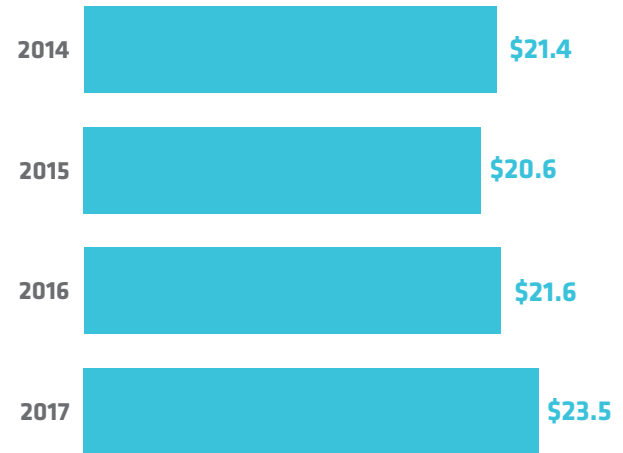
FY 2016



### NIH Awards

\$ Millions

FY 2014-2017

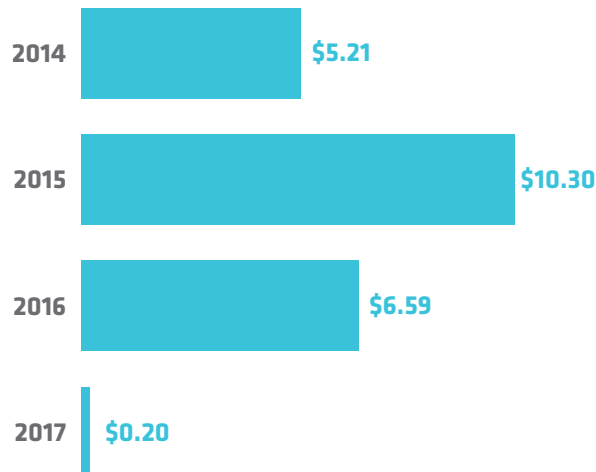


## Bioscience Venture Capital in South Dakota

### Bioscience-Related Venture Capital Investments

\$ Millions

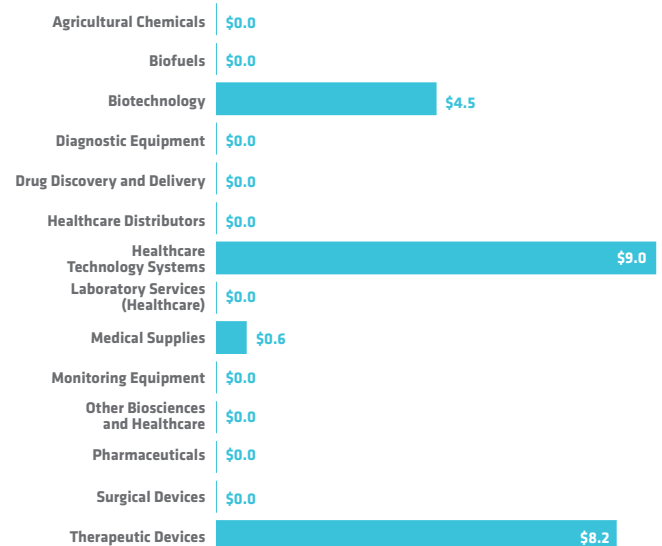
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### Bioscience-Related Venture Capital Investments by Segment

\$ Millions

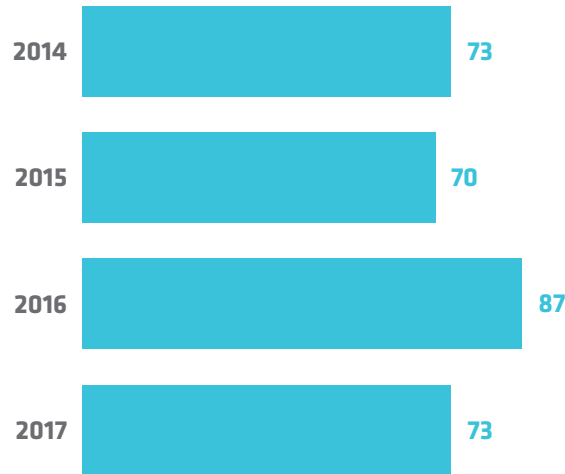
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## Bioscience Patents in South Dakota

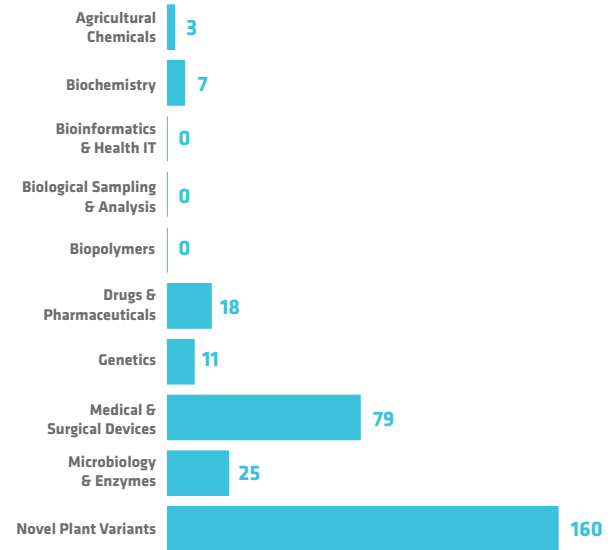
Bioscience-Related U.S. Patents

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.