

Minnesota



Minnesota has a sizable and highly specialized bioscience industry and is a national leader in medical device manufacturing. The state’s bioscience industry employed nearly 48,000 in 2012 across 1,699 individual business establishments. More than half of Minnesota’s bioscience industry jobs are in its specialized medical device and equipment subsector where the state is nearly 300 percent more concentrated than the national average. The state is also highly concentrated in bioscience-related distribution with a location quotient of 1.10 in 2012. While the industry has experienced a slight, 1 percent employment decline since 2007, three of its five major subsectors have increased employment—drugs and pharmaceuticals; research, testing, and medical labs; and agricultural feedstock and chemicals. Minnesota’s research universities are especially focused in the biosciences relative to other fields with their \$612 million in bioscience academic R&D in 2012 accounting for 72 percent of all academic research compared with 61 percent for the national average. The state’s bioscience patenting activities place it among the top tier of states in this important innovation indicator.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metric	Minnesota	United States	Quintile
Bioscience Industry, 2012			
Bioscience Industry Employment	47,997	1,619,746	II
Bioscience Industry Location Quotient	1.45	n/a	I
Bioscience Industry Establishments	1,699	73,088	II
Academic Bioscience R&D Expenditures, FY 2012			
Bioscience R&D (\$ thousands)	\$612,265	\$38,139,876	II
Bioscience Share of Total R&D	72%	61%	I
Bioscience R&D Per Capita	\$113	\$119	III
NIH Funding, FY 2013			
Funding (\$ thousands)	\$493,986	\$22,293,255	II
Funding Per Capita	\$91	\$70	I
Bioscience Venture Capital Investments, 2009–13 (\$ millions)	\$1,084.7	\$49,401.7	II
Bioscience and Related Patents, 2009–13	7,295	100,238	I

State ranking figures for bioscience performance metrics are calculated as quintiles, where I = top quintile, III = middle quintile, and V = bottom quintile.

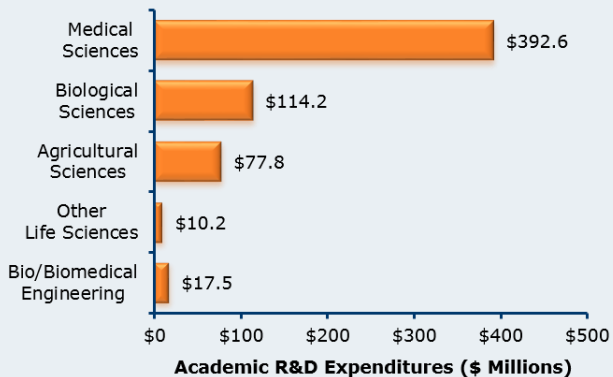
For source notes, see end of State Profile.

Industry Subsector	Minnesota		United States	
	2012	2007-2012 Change	2012	2007-2012 Change
Agricultural Feedstock & Chemicals				
Establishments	58	7.4%	1,772	5.2%
Employment	1,621	6.7%	76,404	-1.0%
Location Quotient	1.04		n/a	
Direct-Effect Employment Multiplier	21.9		18.1	
Total Employment Impact	35,514		1,382,637	
Average Annual Wage	\$60,804	13.0%	\$75,828	14.2%
Bioscience-Related Distribution				
Establishments	912	12.3%	36,793	1.4%
Employment	9,791	-12.3%	442,016	-3.9%
Location Quotient	1.10		n/a	
Direct-Effect Employment Multiplier	2.9		2.7	
Total Employment Impact	28,273		1,199,015	
Average Annual Wage	\$86,475	11.0%	\$85,188	11.5%
Drugs and Pharmaceuticals				
Establishments	52	6.1%	3,057	12.0%
Employment	3,432	13.3%	284,331	-10.9%
Location Quotient	0.59		n/a	
Direct-Effect Employment Multiplier	9.4		9.9	
Total Employment Impact	32,423		2,673,265	
Average Annual Wage	\$73,936	13.2%	\$106,576	13.9%
Medical Devices and Equipment				
Establishments	308	2.3%	7,235	12.0%
Employment	26,677	-0.6%	349,432	1.4%
Location Quotient	3.73		n/a	
Direct-Effect Employment Multiplier	4.4		3.9	
Total Employment Impact	118,478		1,318,459	
Average Annual Wage	\$88,765	14.7%	\$75,695	10.7%
Research, Testing, and Medical Laboratories				
Establishments	368	36.3%	24,231	31.0%
Employment	6,476	8.7%	467,563	9.7%
Location Quotient	0.68		n/a	
Direct-Effect Employment Multiplier	2.8		2.7	
Total Employment Impact	18,362		1,284,196	
Average Annual Wage	\$91,078	25.9%	\$91,248	15.9%
Total Bioscience Industry				
Establishments	1,699	14.3%	73,088	11.4%
Employment	47,997	-1.1%	1,619,746	-0.4%
Location Quotient	1.45		n/a	
Direct-Effect Employment Multiplier	4.9		4.9	
Total Employment Impact	236,176		7,857,572	
Average Annual Wage	\$86,605	14.9%	\$88,202	12.8%
Total Private Sector				
Establishments	159,864	0.3%	8,699,564	-0.5%
Employment	2,276,042	-1.7%	111,137,206	-3.1%
Average Annual Wage	\$49,758	11.5%	\$49,130	11.1%

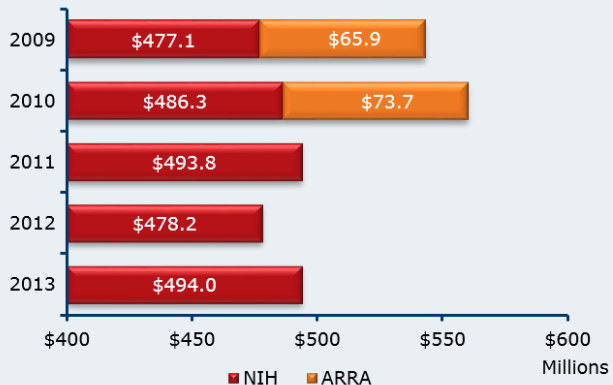
Note: U.S. employment metrics include Puerto Rico. Estimates of total impacts do not include Puerto Rico.

Bioscience Research in Minnesota

Bioscience Academic R&D Expenditures, FY 2012

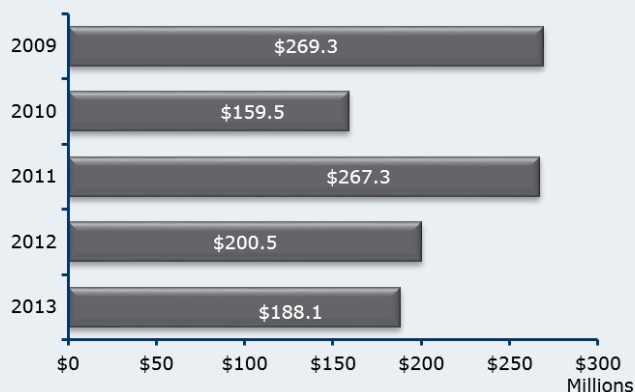


NIH Awards, 2009–2013

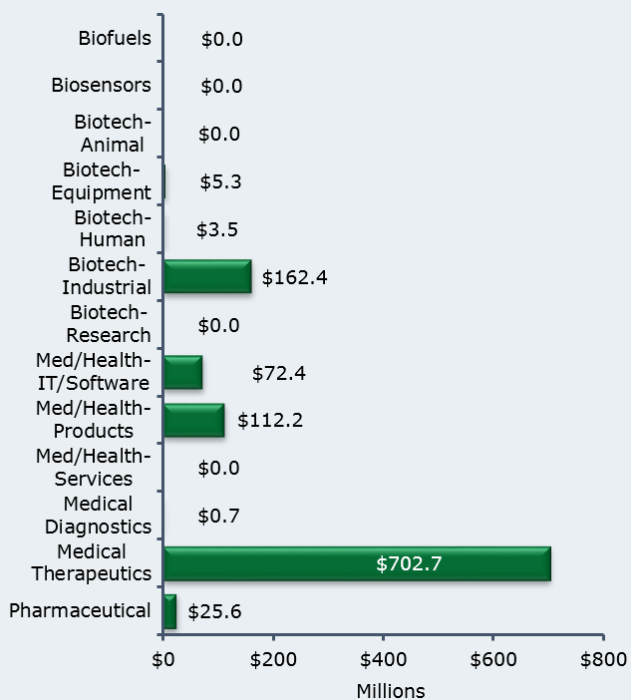


Bioscience Venture Capital in Minnesota

Bioscience-Related Venture Capital Investments, 2009–2013

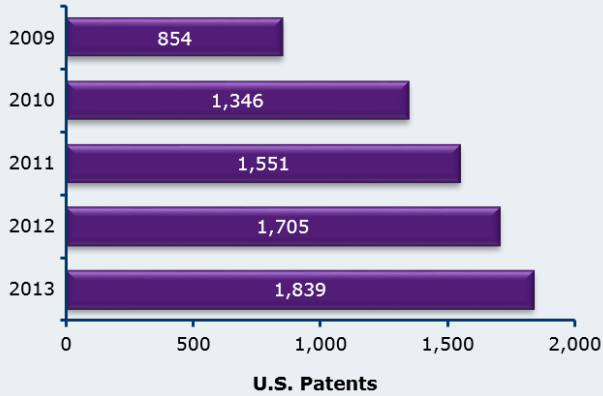


Bioscience-Related Venture Capital Investments by Segment, 2009–2013

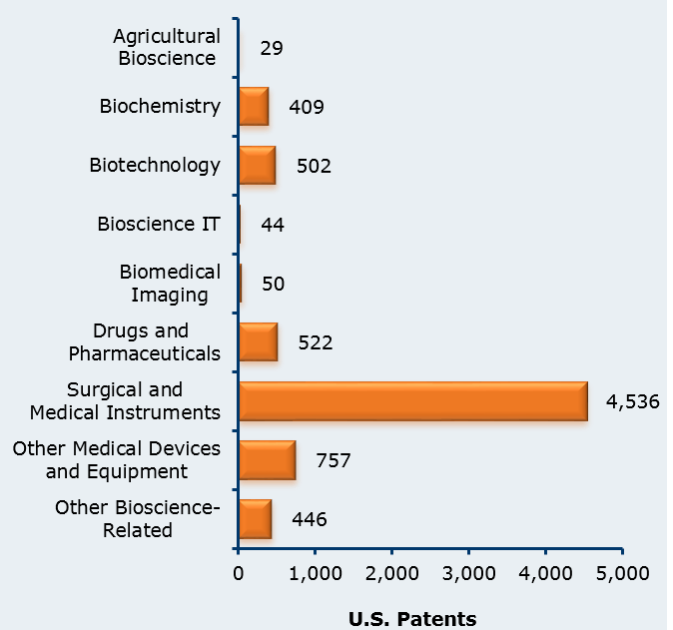


Bioscience Patents in Minnesota

Bioscience-Related Patents, 2009–2013



Bioscience-Related Patents by Segment, 2009–2013



Source Notes

Employment, Establishments, and Wages: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW), enhanced file from the IMPLAN Group, LLC.

Employment Multipliers: IMPLAN Group, LLC 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), and NIH-managed funding for FY 2009 and FY 2010 from the American Recovery and Reinvestment Act (ARRA) website.

Venture Capital: Thomson Reuters Thomson ONE venture capital database.

Patents: U.S. Patent & Trademark Office data from Thomson Reuters Delphion Patent Analysis Database.

For a more detailed discussion of the data and methodology used, please see the Appendix to the full national report.