



TEconomy/BIO

**The Value of Bioscience Innovation in Growing Jobs and Improving Quality of Life 2016**

**Wisconsin**

Wisconsin’s bioscience industry is sizable and in 2014 totaled nearly 32,000 jobs that spanned 1,264 business establishments across the state. Industry employment has been flat since 2012 though two industry subsectors have increased jobs during this period—research, testing, and medical labs and drugs and pharmaceuticals. Wisconsin has a specialized employment concentration in medical device manufacturing with a 40 percent greater concentration in Wisconsin relative to the national average (location quotient is 1.40). The state is also highly concentrated in bioscience-related distribution. Wisconsin’s research universities are especially focused in the biosciences relative to other fields with their \$887 million in bioscience academic R&D in 2014 accounting for 70 percent of all academic research compared with 61 percent for the national average. State inventors have been issued 3,014 bioscience-related patents since 2012 with a focus in medical and surgical devices, agricultural biosciences, and several other areas.

**Bioscience Performance Metrics**

Summary of State Performance in Selected Bioscience-related Metrics

Metric	Wisconsin	United States	Quintile
<b>Bioscience Industry, 2014</b>			
Bioscience Industry Employment	31,687	1,655,680	II
Bioscience Industry Location Quotient	0.94	n/a	II
Bioscience Industry Establishments	1,264	77,283	III
<b>Academic Bioscience R&amp;D Expenditures, FY 2014</b>			
Bioscience R&D (\$ thousands)	\$887,048	\$38,873,926	II
Bioscience Share of Total R&D	70%	61%	I
Bioscience R&D Per Capita	\$154	\$122	II
<b>NIH Funding, FY 2015</b>			
Funding (\$ thousands)	\$403,409	\$22,869,746	II
Funding Per Capita	\$70	\$71	II
<b>Bioscience Venture Capital Investments, 2012–15 (\$ millions)</b>	\$181.2	\$48,742.10	III
<b>Bioscience and Related Patents, 2012–15</b>	3,014	101,026	II

State ranking figures for bioscience performance metrics are calculated as quintiles, where:

top quintile – I II III IV V – bottom quintile

For source notes, see end of State Profile.



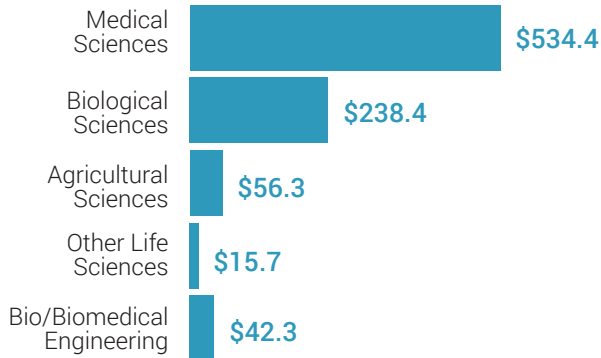
Industry Subsector	Wisconsin		United States	
	2014	2012–2014 Change	2014	2012–2014 Change
<b>Agricultural Feedstock and Chemicals</b>				
Establishments	41	-10.9%	1,811	2.2%
Employment	1,188	-9.7%	77,545	1.5%
Location Quotient	0.75		n/a	
Direct-Effect Employment Multiplier	16.4		18.4	
Total Employment Impact	19,486		1,432,125	
Average Annual Wage	\$63,993	13.5%	\$80,640	6.3%
<b>Bioscience-Related Distribution</b>				
Establishments	711	-12.9%	37,833	2.8%
Employment	10,227	-0.7%	452,325	2.3%
Location Quotient	1.11		n/a	
Direct-Effect Employment Multiplier	2.9		3.0	
Total Employment Impact	29,674		1,358,820	
Average Annual Wage	\$71,830	1.7%	\$90,458	6.2%
<b>Drugs and Pharmaceuticals</b>				
Establishments	79	-1.3%	3,301	8.0%
Employment	4,277	4.2%	293,353	3.2%
Location Quotient	0.72		n/a	
Direct-Effect Employment Multiplier	10.2		11.0	
Total Employment Impact	43,424		3,242,627	
Average Annual Wage	\$72,987	11.8%	\$117,524	10.3%
<b>Medical Devices and Equipment</b>				
Establishments	176	-5.4%	7,636	5.5%
Employment	9,936	-8.9%	349,045	-0.1%
Location Quotient	1.40		n/a	
Direct-Effect Employment Multiplier	4.8		4.6	
Total Employment Impact	48,101		1,596,802	
Average Annual Wage	\$90,343	7.3%	\$79,537	5.1%
<b>Research, Testing, and Medical Laboratories</b>				
Establishments	257	-2.1%	26,702	10.2%
Employment	6,059	18.1%	483,412	3.4%
Location Quotient	0.62		n/a	
Direct-Effect Employment Multiplier	2.9		3.1	
Total Employment Impact	17,747		1,554,719	
Average Annual Wage	\$65,350	5.6%	\$97,485	6.8%
<b>Total Bioscience Industry</b>				
Establishments	1,264	-9.1%	77,283	5.7%
Employment	31,687	-0.2%	1,655,680	2.2%
Location Quotient	0.94		n/a	
Direct-Effect Employment Multiplier	5.2		5.5	
Total Employment Impact	163,191		9,185,094	
Average Annual Wage	\$76,258	5.0%	\$94,543	7.2%
<b>Total Private Sector</b>				
Establishments	145,955	-0.1%	8,937,672	2.7%
Employment	2,356,655	2.2%	116,018,300	4.4%
Average Annual Wage	\$43,725	4.7%	\$51,148	4.3%

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

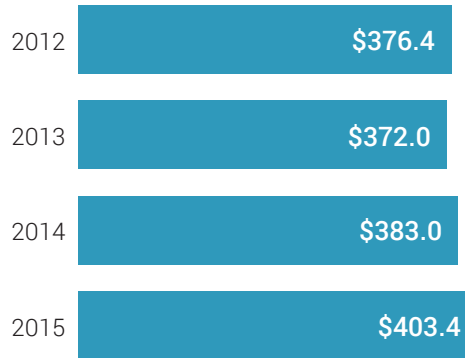


**Bioscience Research in Wisconsin**

Bioscience Academic R&D Expenditures  
\$ Millions  
**FY 2014**

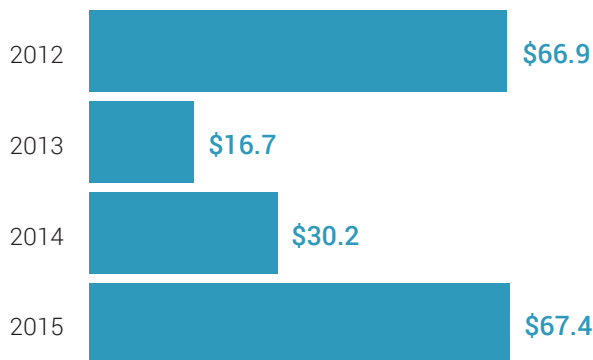


NIH Awards  
\$ Millions  
**FY 2012-2015**

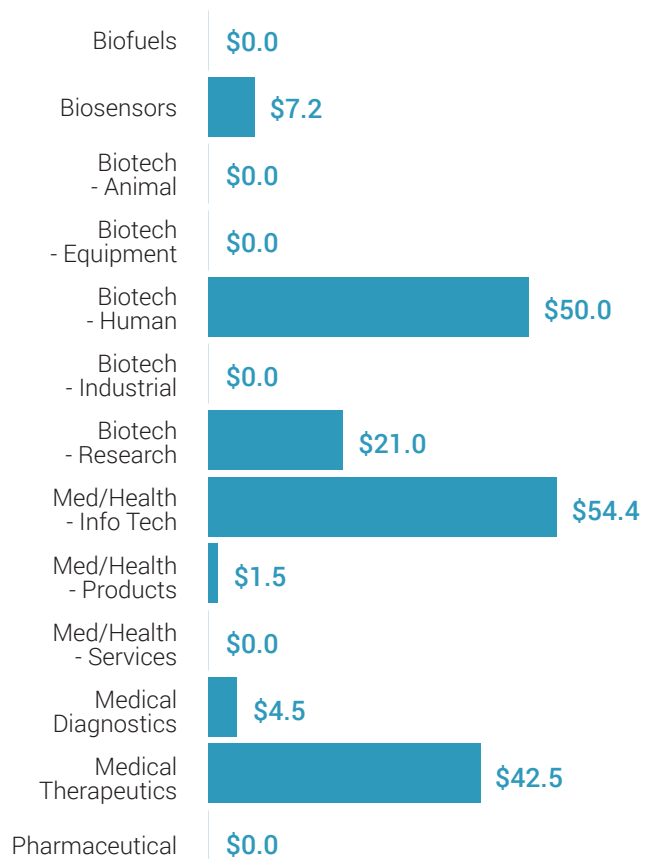


**Bioscience Venture Capital in Wisconsin**

Bioscience-Related Venture  
Capital Investments  
\$ Millions  
**2012-2015**



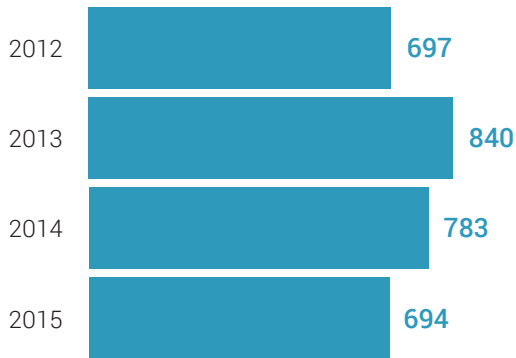
Bioscience-Related Venture  
Capital Investments by Segment  
\$ Millions  
**2012-2015**



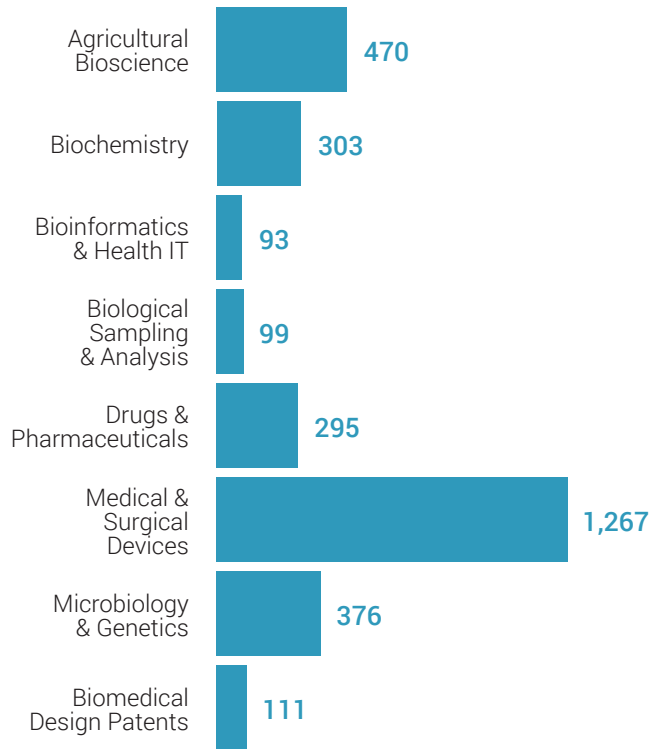


Bioscience Patents in Wisconsin

Bioscience-Related U.S. Patents 2012-2015



Bioscience-Related U.S. Patents by Segment 2012-2015



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).

**Venture Capital:** Thomson Reuters Thomson ONE venture capital database.

**Patents:** U.S. Patent & Trademark Office data from Thomson Reuters Thomson Innovation patent analysis database.

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

