



Overview and Summary of Recent Initiatives

The biosciences remain a key component in the second iteration of the Doyle administration's **Grow Wisconsin** economic strategy, which includes a "technology and entrepreneurship" thrust. As a result, biotechnology and medical devices are also two of the three "emerging clusters" recognized and supported by the state Department of Commerce and its **Forward Wisconsin** outreach and recruitment affiliate.

Since the last BIO report, Wisconsin has focused heavily on building its infrastructure for start-up development. The state continued to elaborate its efforts to stimulate capital formation, through both a range of tax credit and grant programs and several early-stage initiatives steered by the **Wisconsin Technology Council**.

The University of Wisconsin–Madison consolidated its status as home to many of the federally approved embryonic stem cell lines with recent designation by the NIH as a **National Stem Cell Bank**. The university also combined various industrial liaison and start-up–support activities at the University of Wisconsin–Madison into a centralized **Office of Corporate Relations (OCR)**.

In Milwaukee, several institutions combined into a state-supported **Biomedical Technology Alliance** of Southeast Wisconsin. Next year Milwaukee will host a 10-state BIO Mid-America Venture Forum catalyzed in part by the **Wisconsin Biotechnology and Medical Device Association (WBMA)**.

Building Bioscience R&D Capacity

Recent state investments in facilities

Construction advanced on the \$100 million **Microbial Sciences Building** at UW-Madison and a \$134 million **Interdisciplinary Sciences Building** at the university's hospital. Upgrades to the **Biotechnology Center** and the **Biochemistry Building** are already complete. An initial \$50 million in borrowing and fund-raising was also approved toward a planned \$375 million interdisciplinary **Wisconsin Institute for Discovery**, which will combine research in biology and bioinformatics with science and engineering disciplines. At the Medical College of Wisconsin in Milwaukee, \$35 million in bonding was approved toward a \$132 million research facility on infectious disease, cardiovascular illness, and bioengineering.

Research programs

The budget signed in 2005 included \$2.5 million for Alzheimer's and Life Science Research at the UW-Madison Medical School. The state also funded \$5 million in product development through a **Consortium on Biobased Industry**, which is due to make further recommendations in the spring of 2006.

Encouraging Academic/Industrial Interaction

WBMA hosts monthly best-practice events in Madison and Milwaukee to expose bioscience companies to research ongoing in the UW system.

UW-Madison OCR is funded by the Wisconsin Department of Commerce at \$600,000 annually to offer the **Industrial and Economic Development Research Program**. I&EDR offers faculty grants up to \$35,000 for 12 months' effort on applied research projects of interest to Wisconsin businesses or likely to open opportunities for additional support.

Academic/industrial interaction is the key focus of the **Biomedical Technology Alliance of Southeast Wisconsin**, which includes the Medical College of Wisconsin.

Moving Technology into the Marketplace

Commercializing university technology

UW-Madison OCR is supported by Wisconsin Alumni Research Foundation (WARF) at \$400,000 annually to offer the **Robert Draper Technology Innovation Fund**. This fund provides grants up to \$35,000 to faculty who have filed invention disclosures with WARF and need to conduct additional work in order to perfect the university's patent position prior to licensing or spin-off formation.

The **WARF**, a supporting foundation that returns patent license revenues to the university through an annual grant program, has added an explicit focus on creating start-up vehicles that will remain in-state, operated by the subsidiary **WiSys Technology Foundation**. In concert, the university sponsors **First Look Investor Forums** to introduce university spin-offs to sources of informal and formal capital.

The **Center for International Business Education and Research**, part of the business school at UW-Madison, has provided grants through WBMA to allow early-stage bioscience companies to showcase themselves at the BIO conference.

Supporting bioscience entrepreneurs and emerging companies

Commercialization assistance backed by WiSys and other UW affiliates will be available from the **Wisconsin Entrepreneurs Network**, a set of four regional "technology transfer centers" funded at \$1 million under the Grow Wisconsin Initiative.

The state Department of Commerce provides **Technology Assistance Grants** to help companies hire third-party consultants to assist in securing federal or private funding.

Making Capital Available

Pre-seed and seed capital

The state Department of Commerce offers **Technology Development Loans** on a range of terms to help businesses develop or commercialize new technology and **Technology Venture Fund Loans** to underwrite half the cost of seeking capital investment. Firms winning Phase I SBIR awards are eligible for both **Technology Matching Grants** to prepare Phase II proposals and **Technology Bridge Grants** to sustain them during the interval between phases.

Verified angel investors are eligible for personal income-tax credits of 25 percent on up to \$500,000 in investment in **Qualified New Business Ventures** as defined by Act 255 of 2003. The credits are offered over 2 years. Commerce may allocate \$3 million a year in credits up to an authorized maximum of \$30 million. In 2005 all the credits were claimed, resulting in more than \$15 million in leveraged investments.

At least 15 regional angel-capital groups are now linked by the statewide **Wisconsin Angel Network** created by the Wisconsin Technology Council. Deal-sharing allows groups that would not normally see bioscience companies in their parts of the state to participate in start-ups that originate in Madison or Milwaukee. A report commissioned by the state found that the number of angel deals doubled in the past year, and the amount invested grew by 65 percent.

Venture capital

Also under Act 255, certified formal venture funds that invest in the same class of business ventures are eligible for analogous 25 percent credits on investments up to \$2 million.

Previously, Wisconsin's **CAPCO** program allocated \$50 million in tax credits to three firms that agreed to target investments in companies with incomes of less than \$2 million and fewer than 100 employees. These firms are as follows:

- **Advantage Capital Wisconsin Partners I**
- **Banc One Stonehenge Capital Fund Wisconsin**
- **Wilshire Investors.**

Four formal venture-capital firms either headquartered or otherwise active in Wisconsin have a total of \$135 million in capital committed by the **State of Wisconsin Investment Board** under its **Wisconsin Private Equity Program**:

- **Mason Wells Biomedical Fund**
- **Venture Investors Early Stage III**
- **Baird Venture Partners I**
- **Frazier Technology Ventures II.**

In late 2005, the board approved in principle an additional \$50 million in investments targeted at Mason Wells II and Venture Investors IV.

The Wisconsin Technology Council sponsors the **Wisconsin Early Stage Symposium** (formerly the Life Sciences and Venture Conference).

Providing Space for Bioscience Companies

Incubators

The **MGE Innovation Center** at University Research Park in Madison, which totals 117,000 square feet of both wet and dry space, opened 20 new suites of 700 to 1,400 square feet each in space vacated by an incubator graduate.

The **Technology Innovation Center** at Milwaukee County Research Park, which totals 137,000 square feet of mixed space, likewise added 6,600 square feet of wet-lab space upon graduation of an earlier tenant.

Several bioscience companies have taken office space in the **Technology, Education, and Commerce Center** at Madison Area Technical College.

Facilities financing

Five million dollars in corporate income-tax credits have been granted to each of eight **Technology Zones** created around the state.

Bioscience research parks

University Research Park at UW-Madison announced plans for a second park to be developed on 270 acres on Madison's Far West Side. The existing park, 3 miles from the university campus, now houses 110 companies in 34 buildings totaling 1.5 million square feet, set on 255 acres. Bioscience companies also continued to settle at private development such as **Fitchburg Technology Campus** south of Madison and **Old Sauk Trails** west of the city.

Milwaukee County Research Park in Wauwatosa, which totals 1.3 million square feet in 10 buildings on 175 acres, added a \$90 million, 500,000-square-foot, single-tenant building housing the global headquarters of GE Healthcare's Information technologies unit.

Addressing Talent Needs

Recruiting management talent

UW-Madison OCR manages a mentoring program to provide counseling and assistance to CEOs of university spin-offs and also sponsors a CEO breakfast series aimed at the same target.

Specialized postsecondary programs

Through the university-wide Technology Enterprise Cooperative, three UW-Madison colleges (business, engineering, and agriculture) collaborate on the **G. Steven Burrill Technology Business Plan Competition**, endowed by the bioscience venture capitalist. Students compete for prizes up to \$10,000. A separate **Governor's Business Plan Contest** is run by the Wisconsin Technology Council and has also been heavily focused on the biosciences.

Pending Proposals

In his 2006 State of the State Address, Governor Jim Doyle proposed a \$5 million fund to recruit stem-cell companies to Wisconsin and a \$2 million increase for the Biomedical Technology Alliance in Southeast Wisconsin. The administration's most recent Grow Wisconsin document identified these additional legislative priorities:

- A pilot early-stage investment fund (investments up to \$4 million) to be run directly by the Wisconsin Housing and Economic Development Agency
- Changes to Chapter 946 of Wisconsin Statutes to clarify the ability of UW faculty to become involved in spin-off formation
- Technical changes to the Angel Tax Credits created under Act 255
- An Electronic Medical Records Initiative for state health systems with the dual purpose of supporting Wisconsin-based start-ups.

Contacts

Thomas Still
President, Wisconsin Technology Council
615 East Washington Avenue, P.O. Box 71
Madison, WI 53701-0071
(608) 442-7557
tstill@wisconsintechcouncil.com

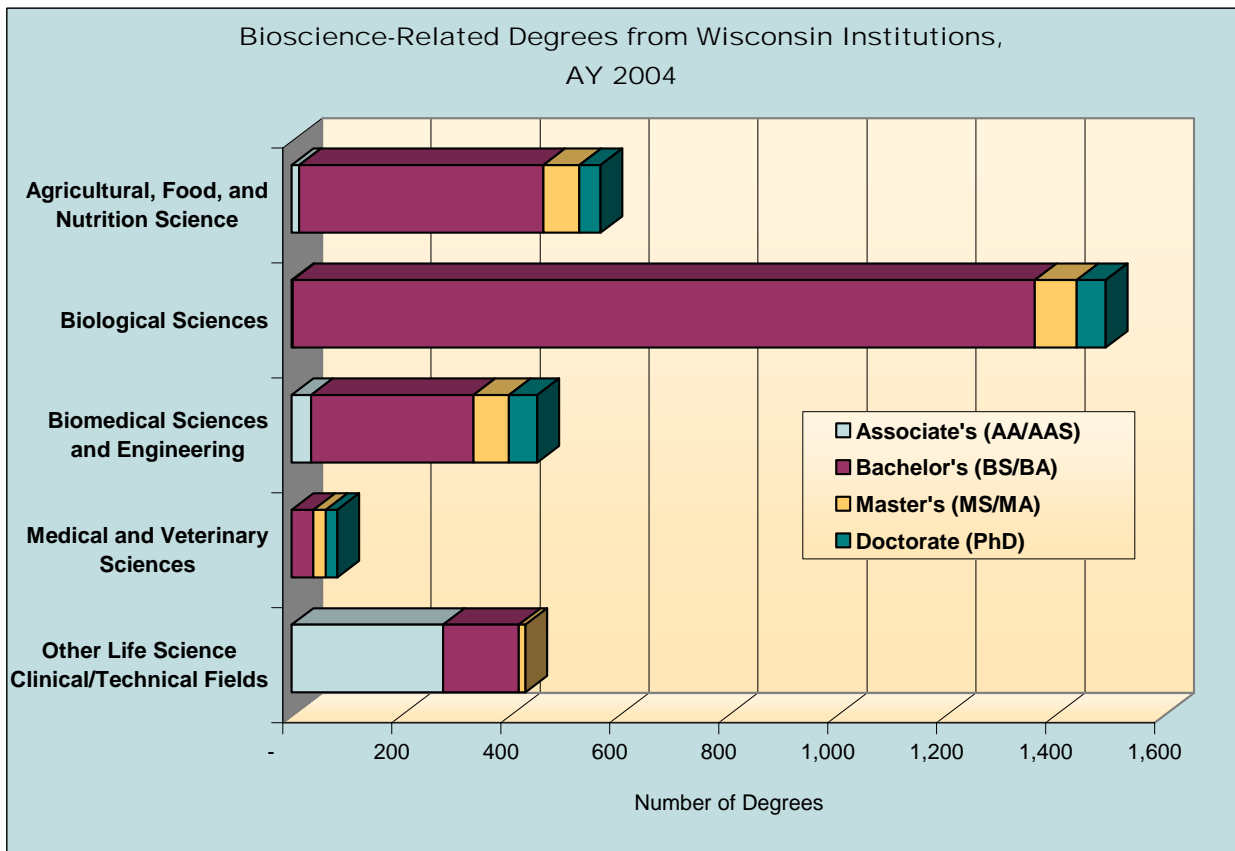
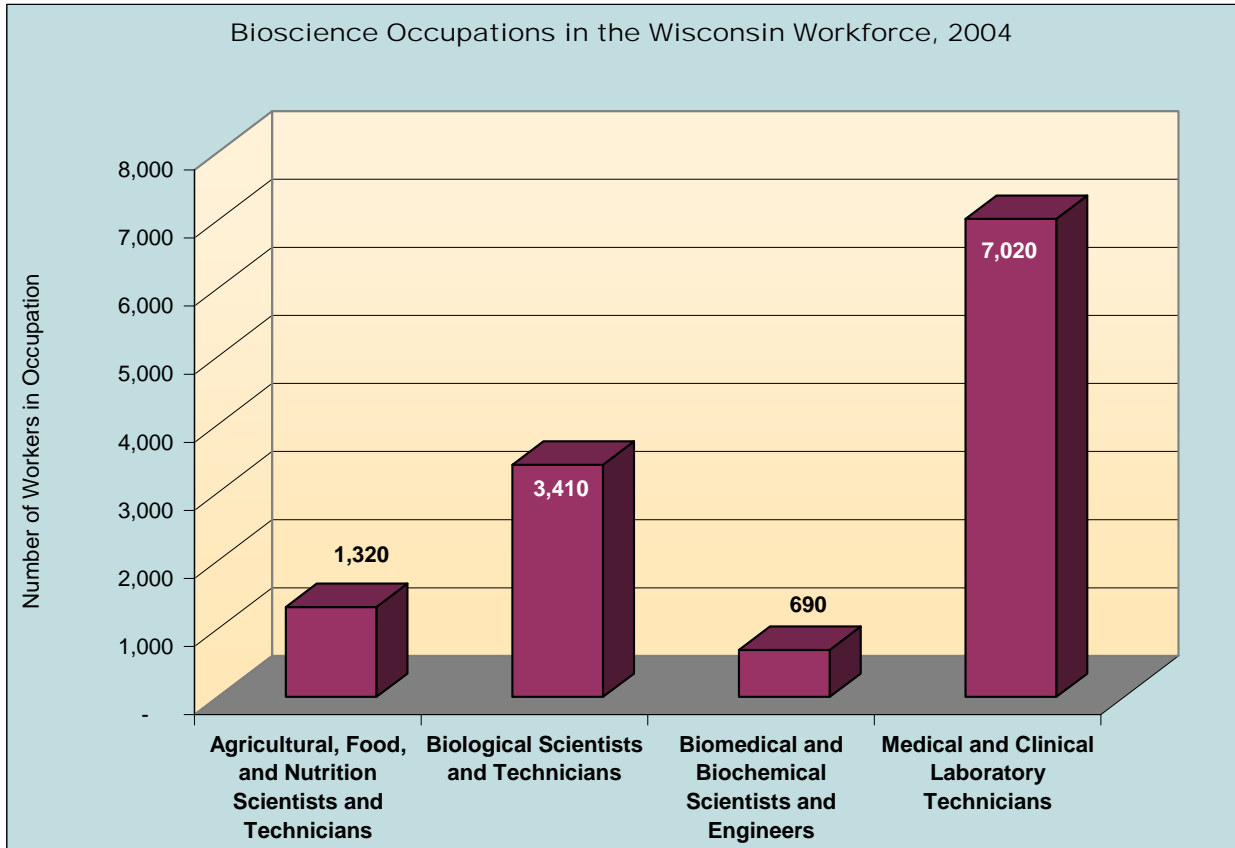
The mission of the Wisconsin Biotechnology and Medical Device Association (WBMA) is to foster Wisconsin's environment for public and private research and product commercialization in biotechnology, pharmaceuticals, and medical devices to benefit society through political advocacy, public promotion, organizational networking, and support of member needs.

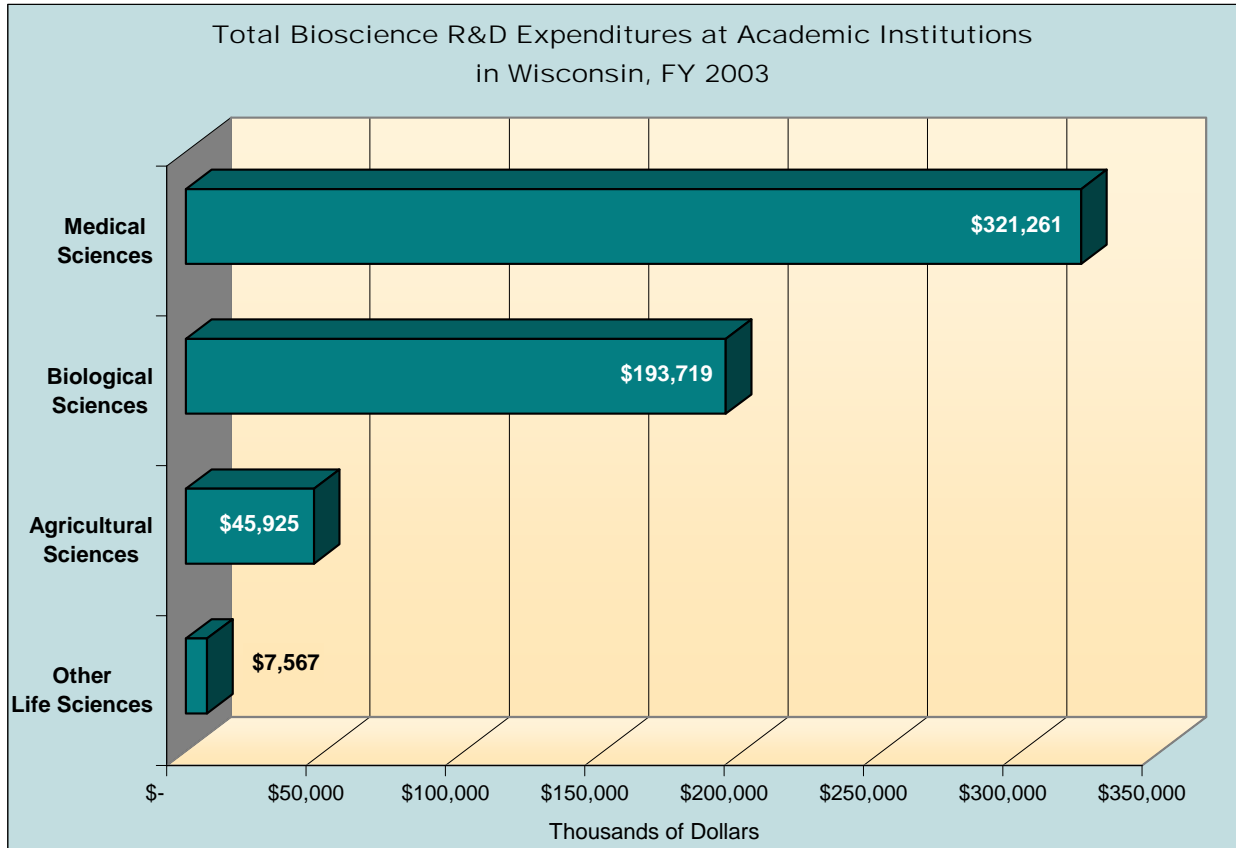
James Leonhart
Executive Vice President, Wisconsin Biotechnology and Medical Device Association
2 East Mifflin Street, Suite 600
Madison, WI 53703
(608) 252-9393
wisbiomed@dewittross.com

Industry Subsector	Wisconsin	United States
Agricultural Feedstock & Chemicals		
Establishments 2004	68	2,111
2001-2004 Establishment % Change	5.7%	0.4%
Employment 2004	2,224	104,893
2001-2004 Employment % Change	6.9%	-6.9%
Share of U.S. Employment	2.1%	100.0%
Location Quotient	0.99	n.a.
Average Annual Wage 2004	\$44,371	\$63,383
Direct-Effect Employment Multiplier	4.97	10.91
Total Employment Impact	11,061	1,212,094
Drugs & Pharmaceuticals		
Establishments 2004	62	2,589
2001-2004 Establishment % Change	10.7%	-0.6%
Employment 2004	2,715	313,207
2001-2004 Employment % Change	4.3%	2.7%
Share of U.S. Employment	0.9%	100.0%
Location Quotient	0.41	n.a.
Average Annual Wage 2004	\$53,328	\$79,303
Direct-Effect Employment Multiplier	4.70	9.51
Total Employment Impact	12,766	2,731,321
Medical Devices & Equipment		
Establishments 2004	306	15,190
2001-2004 Establishment % Change	5.5%	0.2%
Employment 2004	12,873	411,460
2001-2004 Employment % Change	0.6%	-3.6%
Share of U.S. Employment	3.1%	100.0%
Location Quotient	1.46	n.a.
Average Annual Wage 2004	\$62,409	\$56,449
Direct-Effect Employment Multiplier	3.86	4.56
Total Employment Impact	49,712	1,817,705
Research, Testing, & Medical Laboratories		
Establishments 2004	218	20,565
2001-2004 Establishment % Change	24.5%	19.4%
Employment 2004	4,668	413,550
2001-2004 Employment % Change	21.6%	8.2%
Share of U.S. Employment	1.1%	100.0%
Location Quotient	0.53	n.a.
Average Annual Wage 2004	\$54,600	\$65,414
Direct-Effect Employment Multiplier	2.25	3.15
Total Employment Impact	10,500	1,272,936
TOTAL PRIVATE SECTOR		
Establishments 2004	150,314	8,156,137
2001-2004 Establishment % Change	6.5%	4.8%
Employment 2004	2,335,273	109,249,195
2001-2004 Employment % Change	-0.1%	-0.7%
Share of U.S. Employment	2.1%	100.0%
Location Quotient	n.a.	n.a.
Average Annual Wage 2004	\$34,387	\$39,003

Source: Battelle calculations -- based on Bureau of Labor Statistics QCEW data from the Minnesota Implan Group, RIMS II Employment Multipliers from the Bureau of Economic Analysis, and the Census Bureau's Economic Census.

Note: n.a. = metric is not applicable.





	Wisconsin	United States	Rank
University R&D Expenditures, FY 2003			
Total (\$ thousands)	\$881,214	\$40,104,621	13
Life Science R&D (\$ thousands)	\$573,116	\$24,062,088	15
Percent of Total R&D	65.0%	60.0%	
Life Sciences Per Capita	\$104.73	\$82.74	
Change in Life Sciences FY 1999–2003	50.3%	52.7%	
NIH Support to Institutions, FY 2004			
Total (\$ thousands)	\$391,933	\$22,556,459	17
Per Capita Expenditures	\$71.62	\$77.56	
Change in Expenditures FY 2000–2004	54.8%	53.2%	
Higher Education Degrees in Bioscience Fields, AY 2004	3,025	111,329	11
Bioscience Occupations in the Workforce, 2004	12,440	616,140	17