

EXECUTIVE SUMMARY: Biomedical

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Background

Biotechnology is of interest to our region because it attracts investment and creates coveted high-wage, high-skill jobs. The Battelle Institute organizes biotechnology around four sub-groups: 1) agricultural feedstock and chemicals, 2) drugs and pharmaceuticals, 3) medical devices and equipment, and 4) research, testing and medical labs. The focus, albeit not exclusive, of our analysis here is the **medical devices and equipment** segment, often referred to as “biomedical.” Battelle reports that Milwaukee ranked 12th among U.S. metros in 2004 with 6,360 biomedical jobs. In an effort to learn more about the region’s biomedical companies and the growth challenges they face, staff identified 68 such firms and requested interviews with their respective CEOs. Interviews were completed with 37 of these executives (54% response rate).

Key Findings

1. Biomedical is a nascent sector in southeastern Wisconsin consisting of one industry giant – GE Healthcare – and a handful of mostly young, small firms with sizable potential and corresponding risk.
2. The sector has not achieved a critical mass of firms or employment. Nonetheless, biomedical companies are of particular interest to the region because they generate high-wage, high-skill jobs.
3. Growth in employment and profitability is occurring – the sector’s trajectory is positive and can be strengthened with appropriate steps.
4. Firms rate the regional business climate as slightly below average, but improving.
5. Workforce quality and availability, access to capital, and intellectual property development are key ingredients to sector growth.

Quick Facts

- 66% of companies interviewed founded in 1995 or later
- 32% spun-off from local universities
- 88% headquartered in the region.
- 42% have sales of \$1 million or less
- 95% of sales are to customers located outside the region

The following is a brief explanation of these findings:

Lacking critical mass. The region’s biomedical base includes several sophisticated, leading-edge companies that appear poised for growth, but currently the sector is thin and disparate; we have not attained a “critical mass” of companies in any particular biomedical sub-sector. Efforts to build critical mass are hindered by the high failure rate of these firms. Biomedical is unlikely the sole answer to the economic challenges facing the region, but it is well worth exploring how it might be part of the solution.

Firms are growing. Firm profitability is trending upward – 62% of respondents report being “significantly more profitable” or “more profitable” today than three years ago. Moreover, interviewees expressed great optimism for the future – 81% expect their companies to be “significantly more profitable” or “more profitable” three years from now.

Employment is small, but highly skilled and highly compensated. As a subset of the regional economy, biomedical employment is miniscule. There are not many of these firms and most are modest in size: 70% of the firms interviewed have 20 or fewer employees. However, the jobs they create are the high-skill, high-wage variety the region seeks (see Table 1):

Table 1: Biomedical Job Classifications and Wages

<u>Job Classification</u>	<u>Ave. % of employment</u>	<u>Ave. hourly wage</u>
Technical	46%	\$37.65
Professional	3%	\$43.81
Managerial and supervisory	23%	\$67.86
Marketing/sales	8%	\$52.99
Clerical and administrative support	6%	\$21.53
Skilled workers	12%	\$18.18
Unskilled workers	5%	\$14.38

Business climate rates slightly below average, but improving. Biomedical companies rate the regional business climate just below average (mean rating of 2.93, 5=Excellent, 1=Poor). This is marginally lower than the rating given by manufacturers (3.02) in the first round of CEO visits, which were completed in 2006. However, the regional climate, despite its shortcomings, is trending positive according to most respondents: 92% believe the climate will be better three years from now than it is today. Below are the biomedical respondents' ratings of specific elements of the business climate (see Table 2):

Table 2: Biomedical Firms' Rating of Regional Business Climate

<u>Elements of Business Climate</u>	<u>Ave. Importance</u>	<u>Ave. Rating</u>
Availability of skilled technical workers	4.47	3.50
Availability of managerial talent	3.95	3.18
University/college education	3.90	3.65
Health care expenses	3.83	2.17
Access to capital	3.71	2.54
Access to university resources (research, testing, evaluation and training)	3.69	3.43
Availability of appropriate office/lab space	3.68	3.58
Supportive environment for entrepreneurs	3.59	2.69
State taxes	3.57	2.13
Image as a "tech-friendly" region	3.48	2.48
Business and professional networks that support technology companies	3.41	3.14
Regulatory climate	3.33	3.05
Local taxes	3.33	2.50
Overall Regional Business Climate	3.69	2.93

Importance: 5 = Very Important, 1 = Not Important

Climate Rating: 5 = Excellent, 1 = Poor

Critical success factor: Workforce. A qualified workforce, in sufficient supply, is the most often cited critical success factor for biomedical companies:

- Quality of their current workers is cited by 24% of respondents when asked why their company is successful in the region.
- Unfortunately, there are not enough of these qualified workers. Shortage of skilled technical workers is a clear threat to the sector's future viability – 39% of respondents made reference to these shortages.

Risk-averse investment climate. Access to capital followed workforce concerns as a chronic impediment to biomedical growth – 27% of respondents discussed the difficulty of attracting investors and/or financing. Biomedical firms are often high-risk ventures plagued by long commercialization and sales cycles and high initial capitalization. Nonetheless, many respondents are puzzled as to why other regions in the U.S. have developed a greater tolerance for risk and stronger biomedical support systems.

Next Steps

Growing our biomedical base is a complex undertaking involving factors within and outside our control. Nonetheless, the fruits of success are enticing, offering a significant potential boost to the regional economy in the form of high-paying, next-generation jobs, as well as the flow of new investment capital into the region. The purpose of this report is not to chart a specific course for building a biomedical economy, but to shed light on the opportunities and hurdles these firms face and to add the “voice of the customer” to the regional dialogue that has already begun. Any discussion concerning how best to grow our biomedical capacity should involve the CEOs and owners who daily face the challenges of running a biomedical concern in southeastern Wisconsin.