

**Wisconsin's New Federal and State Partnership
program (FAST): Promoting State Competitiveness for
Federal R & D Dollars in the Small Business Innovation
Research Program (SBIR)**

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Overview of Small Business Innovation Research Program

The Small Business Innovation Research Program (SBIR) was established in 1982 as part of the Small Business Innovation Development Act. The program encourages small businesses to explore their technological potential and provides the incentive for them to profit from its commercialization. The SBIR program, a highly competitive program that annually awards about \$1.2 billion, is the country's premier federal funding source for small companies developing next-generation technologies, products, and services.

The goals of the SBIR program are to:

- ❑ Stimulate technological innovation.
- ❑ Use small businesses to meet federal research and development needs.
- ❑ Encourage the participation of disadvantaged and minority persons in technological innovation.
- ❑ Increase private sector commercialization through federal research and development sponsorship.

The SBIR program is an initiative of the U.S. Small Business Administration Office of Technology. The Office of Technology promotes small business high technology programs to improve the competitive capability of small research and development businesses with particular emphasis on emerging and under-served small firms. Since its inception, the SBIR program has helped thousands of small businesses (less than 500 employees) to compete for federal research and development awards. SBIR has funded programs in diverse fields such as aquaculture, advanced materials, wastewater treatment, small engine development, distance education, computer security, biotechnology, and medical devices. In 2002, topics such as research and development in homeland security and bio-terrorism are anticipated to be funded.

There are numerous advantages to SBIR funding. Companies retain intellectual property rights in the commercial market to technologies and products developed in the SBIR Program. Winning an award confers national recognition on a company's

technology. Since the R&D conducted in the program proves feasibility and reduces product risk, SBIR can be “early-stage” capital that acts as a magnet for subsequent rounds of angel and venture capital financing. Finally, since the awards are grants or R&D contracts, SBIR provides a capital infusion without taking on debt or giving up equity.

Small businesses must meet certain eligibility criteria to participate in the SBIR program. Businesses must be for-profit entities, be at least 51% American-owned, be located in the United States, and be independently operated. The principal investigator must be employed by the small business more than half time at the time of SBIR award.

SBIR funding is awarded in three phases. Phase I awards up to \$100,000 are given to support exploration of the technical feasibility of an innovative idea that has commercial potential. Phase II awards, up to \$750,000, transition Phase I results to the prototype stage. During Phases I and II, research and development work is performed and the commercialization potential is evaluated and planned. The final phase, Phase III (commercialization), is where the innovation moves from the laboratory into the marketplace. The program does not fund Phase III; it is expected that small businesses will find funding in the private sector or through federal procurement sources. (Note: these funding caps are guidelines. Depending on their budgets, some agencies exceed funding guidelines for Phase I and II, while other agencies do not go up to the specified maximum.)

A companion-funding program to the SBIR program is the Small Business technology transfer Program (STTR). The STTR program provides funding to small technology-based businesses that collaborate with non-profit research institutions to undertake research and development projects that have commercial potential. This program is also administered through the U.S. Small Business Administration’s Office of Technology.

SBIR Funding in the State of Wisconsin

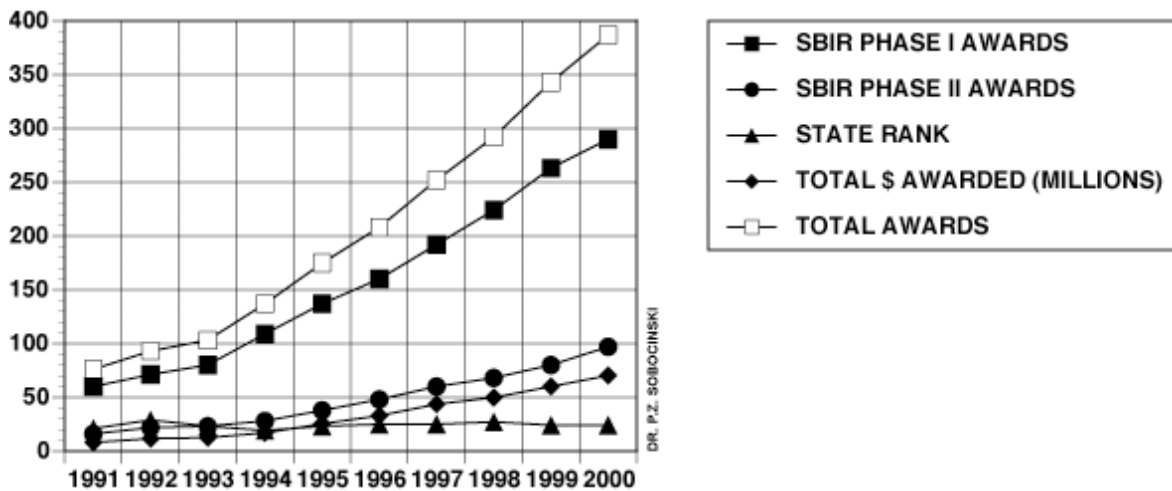
In spite of Wisconsin’s wealth of research (UW-Madison ranks second among public institutions receiving federal R & D and is spinning out an estimated 13 new ventures a year), the state is not considered a leader in entrepreneurship or successful

technology commercialization. Wisconsin lags behind neighboring states on key new economy indicators such as formation of growth businesses, number of high tech jobs, and average per capita income. Wisconsin's economy is dominated by agriculture and manufacturing, with an existing culture and infrastructure less experienced in developing business strategies based on emerging technologies. Compounding this has been a shortage of the risk capital typically required by technology ventures as they progress from research and development activities through market entry and business expansion. Nevertheless, data indicates that technology development is on the upward trend in the state. Wisconsin now ranks 10th nationally in biotechnology firms and employment yet remains concentrated in Madison.

Annual SBIR award dollars to the state increased through the 1990's, but in fiscal year 2000, Wisconsin ranked only 24th in total SBIR dollars awarded, receiving a total of \$10,450,067. Of this amount, \$2,470,546 were awarded for Phase I (27 awards), and \$7,979,521 for Phase II (17 awards). In addition, less than 12 of over 300 cumulative total Phase I awards to Wisconsin companies since 1983 have been made to women-owned businesses or to socially and economically disadvantaged businesses. In 2001, Wisconsin companies secured a total of \$9,637,276 in SBIR/STTR funding.

Wisconsin's SBIR state ranking has not changed substantially over the past 10 years (see Figure 1 below). However, as shown in Figure 1, Wisconsin has continued to increase the number of Phase I and II awards at least at a rate sufficient to maintain its SBIR state ranking.

FIGURE 1. Wisconsin's performance in the federal SBIR Program for the past ten year period (1991-2000). With the exception of State Rank, data are cumulative.



When comparing Wisconsin to other regional Midwestern states, the state has the second lowest Phase I participation rate as measured by the number of applications submitted. These findings strongly suggest that, in order for Wisconsin to increase its competitive position via state ranking, it needs to increase the total number of firms submitting SBIR Phase I applications, while maintaining its current success rate with quality proposals.

In 2002, these programs became even more accessible for Wisconsin companies, thanks to the development of Wisconsin's new SBIR/FAST outreach office.

In Fall 2001, Wisconsin received a \$100,000 federal grant from the U.S. Small Business Administration's Federal and State Technology Transfer Partnership Program (FAST) to provide technical assistance and other services to small high technology businesses. Collaborators of Wisconsin's FAST program include the University of Wisconsin-Extension Small Business Development Center (SBDC), the Wisconsin Department of Commerce (COMMERCE), the University of Wisconsin-Madison office of University-Industry Relations (UIR), the Wisconsin Small Business Innovation Consortium (WiBIC), and the Wisconsin Technology Council.

During the first year of funding, the FAST Program built on the best practices of its two partners experienced in stimulating SBIR activity (WiBIC & UIR) and addressed long-term critical needs related to technology transfer, new business formation, and the

state's SBIR/STTR performance. Specific objectives accomplished in the past year include the following:

- ❑ Implemented the SBIR/FAST office and hired an experienced SBIR specialist to provide critical one-on-one SBIR/STTR orientation and proposal preparation advice to small businesses.
- ❑ Laid the foundation for an SBIR/STTR assistance and mentor network.
- ❑ Began active SBIR/STTR outreach activities in two under-served but technology rich regions of Wisconsin, leveraging the resources of the FAST partners.
- ❑ Designed and implemented a Wisconsin SBIR web site as a central access point to SBIR program information and relevant Wisconsin resources.
www.wisconsinsbir.org
- ❑ Through the development of the Wisconsin Technical Partnership (WisTIP), improved small business access to university library information services for SBIR/STTR proposal preparation and business planning.

While accomplishments have been made in the past year (Wisconsin ranks among the highest states in the ratios of proposed vs. awarded applications), there are still critical unmet needs related to increasing Wisconsin's success rate with SBIR/STTR funding. Wisconsin has had very few women-owned or socially and economically disadvantaged small businesses involved in SBIR/STTR programs. Metropolitan Milwaukee and the Chippewa Valley-to-Minneapolis corridor are two urban regions of Wisconsin that feature industry clusters, corporate and university intellectual property, and burgeoning support for entrepreneurs. However, these regions have historically under-participated in the SBIR/STTR programs. A need exists for assistance with intellectual property, accounting, and marketing issues related to SBIR/STTR participation, as well as a need for additional proposal review capacity to support increased SBIR/STTR participation. There is also a need for commercialization education and assistance for Phase II SBIR proposals, as there is often a lack of understanding about the commercialization process and how to devise a financing strategy and capital structure appropriate for different stages of business development.

Wisconsin has the research and development capability to excel at technology transfer and the formation of technology-based businesses. The goal of the FAST

program is to improve Wisconsin's long-term SBIR/STTR participation rate and award performance. Year 2 activities will focus on the unmet needs indicated above through the following objectives:

- ❑ Continue the SBIR/FAST office and support of the SBIR specialist and expand services to meet the needs of potential SBIR/STTR participants.
- ❑ Expand the FAST assistance network through recruiting additional mentors and volunteers, and by providing train-the-trainer workshops.
- ❑ Provide statewide SBIR/STTR awareness and education workshops targeting women-owned and socially and economically disadvantaged businesses.
- ❑ Enhance orientation and outreach programs for southeastern Wisconsin relative to SBIR/STTR opportunities.
- ❑ Continue FAST outreach efforts to the Chippewa Valley region of northwestern Wisconsin.
- ❑ Continue to improve small business access to university resources through the continuation of WisTIP.
- ❑ Transition SBIR awardees to Phase II and Phase III through commercialization education services.

BIBLIOGRAPHY

Philip Z. Sobocinski, Ph.D.. Technology & Economic Development: High-Tech Business Clusters. Invited White Paper: Wisconsin Economic Summit 2000, November 29-December 1. , 2000

P.Z. Sobocinski, Ph.D.(Author/Editor). Creating High-Tech Business Growth in Wisconsin: UW-Madison Technology Transfer & Entrepreneurship. Regents of The University of Wisconsin. 312p, 1999

Small Business Administration, Office of Technology Web Site: www.sba.gov/SBIR/

Wisconsin FAST proposal, 7/2002.

Wisconsin SBIR – FAST Web Site: www.wisconsinsbir.org/

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