# Small Business Association of Michigan

## ...*Towards and Entrepreneurial Economy*

### Public Testimony on the Jobs For Michigan Fund Proposal

*Submitted by:*

**Mark H. Clevey, MPA**
**Vice President, Entrepreneurial Development**
**Small Business Association of Michigan**

**May 31 2005**

### Introduction

I sincerely wish to thank the Chairperson and members of the Committee for the opportunity to provide testimony on the proposed Jobs for Michigan Fund (JFMF) proposal. My name is Mark H. Clevey and I am the Executive Director for the Small Business Foundation of Michigan and the Vice President for Entrepreneurial Development, Small Business Association of Michigan (SBAM). Founded in 1969, SBAM is one of the largest state-based organizations in the nation dedicated exclusively to the interests of small businesses. SBAM has been on the forefront of technology—related business development issues since the early 1970's. SBFM was founded by the past SBAM Directors and conducts research aimed at fostering an Entrepreneurial Economy in Michigan. I have been associated with SBAM since 1983.

I have over 30 years of experience in business, technology and financing relating to competitive edge technologies. I am a veteran of the U.S. Air Force and hold a Masters Degree in Public Administration (MPA), with emphasis in new industry development and public-private partnerships. I also hold an Advanced Business Counselor Certification from the Michigan Small Business Development Center Network (MI-SBDC).

I specialize in government-sponsored R&D funding programs, R&D commercialization and related economic development issues. Previously, I served as both Administrator of the Michigan State Research Fund and Director of the nationally-recognized, award-winning Michigan SBIR Support and "Winners" Program (both of which were funded by grants from the Michigan Strategic Fund). I have served as an advisor to several federal Small Business Innovation Research and Small Business Technology Transfer programs (SBIR/STTR) as well as an expert consultant to the National Academy of Sciences for their review of the SBIR/STTR programs. I also served as one of Governor Engler's appointees to the National Governors Association, Entrepreneurial Academy and currently serve on several advisory groups for the current administration.

Previously I served as a Business Plan Reviewer for the NIST Advanced Technology Program (ATP), and currently serve as an SBIR/STTR Phase II Commercialization Plan Reviewer for the National Science Foundation, Environmental Protection Agency and U.S. Department of Energy. I am also a Member of the Western Michigan University Engineering Advisory Board.



Small Business Association of Michigan (SBAM), 222 N. Washington Sq., Ste 100, P.O. Box 16158, Lansing, MI 48901-6158. Tel: (800) 362-5461, FAX: (517) 482-4205, www.sbam.org.

In recognition of my expertise in business, technology and financing relating to competitive edge technologies, I have received several state and national awards, including:

- Special Projects Award ("Michigan SBIR Winners Program") (1990), Michigan Small Business Development Center Network
- Innovation Advocate for the Year (1991), U.S. Small Business Administration;
- Innovation Achievement Award (1995), U.S. Small Business Administration;
- Tibbetts Award ("SBIR Support Program Model of Excellence") (1996), U.S. Small Business Administration;
- Vision 2,000 Award (1999) (SBIR Support Program as a Model Economic Development Initiative), U.S. Small Business Administration;
- 2000 Advance America Honor Role, American Society of Association Executives;
- Award for Excellence (2003/04), ENERGY STAR Small Business Program

## Jobs For Michigan Fund

SBAM's Technology Subcommittee, Legislative Action Committee, Board, staff and consultants have reviewed the Jobs for Michigan Fund proposal and proposed alternatives. While SBAM generally agrees with the intent and economic development purpose of these initiatives, we have serious concerns regarding whether or not they will serve as an effective instrument to foster an Entrepreneurial Economy in the state. Of particular concern are the questions of equity ownership and issues relating to the commercialization of JFMF funded research.

A recent report from the Small Business Foundation of Michigan titled "Michigan Entrepreneurship Score Card: 2004/05" found that Michigan was performing very poorly in the area of entrepreneurial business development (See Attachment I). Within this context, several key findings from another April 2005 report titled "The Innovation-Entrepreneurship NEXUS: A National Assessment of Entrepreneurship and regional Economic Growth and Development" underscores and reflects our concerns about the proposed JFMF:

> **Entrepreneurship is by nature an economic process and is a significant driver of regional economic growth. It's not enough to just focus economic development on inventors and innovation. Entrepreneurs need to be cultivated as well, so that innovations can be turned into jobs and economic growth. Developing strategies, policies and programs for leveraging the nexus between innovation and entrepreneurship, therefore, appears to be of vital importance to the competitiveness and vitality of regions.** [1]

Within this context SBAM believes that a Bond Fund must effectively embody **strategies, policies and programs for leveraging the nexus between innovation and entrepreneurship and the competitiveness and vitality of Michigan.** Accordingly, SBAM recommends a number of principles we believe should be included in the JFMF. We believe these changes will better balance innovation and entrepreneurship and result in the stimulation of a more entrepreneurial economy in our state.

1. JFMF funding should expand its focus to include *Medical Informatics* and *BioTerials*.

   - **Medical Informatics** - Rising health care costs and the loss of our information technology industry to global outsourcing is a perfect storm with significant business development potential. SBAM thus calls on the State to expand definition of Life Sciences and place a priority on "***Medical Informatics***." Medical informatics is the application of information systems – such as

[1] Advanced Research Technologies, LLC, SBA Office of Advocacy and the Edward Lowe Foundation, "The Innovation-Entrepreneurship NEXUS: A National Assessment of Entrepreneurship and regional Economic Growth and Development" (U.S. Small Business Administration, Office of Advocacy: Contract Number SBAHA-03-00353) April, 2005.



**Small Business Association of Michigan (SBAM), 222 N. Washington Sq., Ste 100, P.O. Box 16158, Lansing, MI 48901-6158. Tel: (800) 362-5461, FAX: (517) 482-4205, www.sbam.org.**

those used by the automotive industry to manage its suppliers and supply system – to manage the information of health care delivery, reduce medical errors, provide decision support for clinicians, and extract outcome and public health information from large datasets. Medical Informatics provides us an opportunity to forge strong synergy between Michigan's software and Life Science industries. For example, one key area of Informatics that is particularly important for Michigan is the application of computers to make sense of the enormous amount of data coming from genomics.

With regard to entrepreneurs, the National Library of Medicine program funds Medical Informatics SBIR/STTR grants in four key areas: (A) Mechanisms to integrate new information into existing knowledge bases, and software to extract and analyze information from large patient record databases (i.e., secondary data aggregation); (B) Development of organizing and synthesizing systems that closely match specific health problem areas to help health care providers manage information better; (C) Systems, devices, or programs that facilitate utilization of electronic medical record systems in clinical practice, for such functions as chart entry, ordering, scheduling, decision support and reduction of errors; (D) Projects relevant to the informatics of disaster management. There are other SBIR agencies that fund Medical Informatics related topics as well.

- **BioTerials**[2] - Bio-based fuels, materials and processes represent a significant market opportunity for businesses seeking to substitute energy-intensive and environmentally unfriendly materials with cost-effective alternatives. According to a 2000 National Research Council publication titled, Bio-Based Industrial Products: Priorities for Research and Commercialization, *"Biological sciences are likely to make the same impact on the formation of new industries in the next century as the physical and chemical sciences have had on industrial development throughout the century now coming to a close. The biological sciences, when combined with recent and future advances in process engineering, can become the foundation for producing a wide variety of industrial products from renewable plant resources. These 'Bio-based industrial products' will include liquid fuels, chemicals, lubricants, plastics and building materials."*

  Bio-based materials and processes represent a significant market opportunity for durable-goods industries seeking to substitute energy-intensive and environmentally unfriendly materials with cost-effective alternatives. A U.S. Department of Energy study titled, Plant/Crop-Based Renewable Resources 2020, for example, notes that Bio-based materials provided a way to "meet the growing need for industrial building blocks and to maintain the leadership of the U.S. into the next century." The report goes on to say, *"There will be economic, environmental and societal advantages from the development of this resource base. The opportunity is clear. However, it requires forward-thinking vision, integration of stakeholders, investment in new approaches, and the coordination of research to generate a secure future." Given its importance to the Michigan economy, we strongly* recommend the JFMF be expanded to include BioTerials.

2. The JFMF should recognize the premier role small business entrepreneurs play in technology and economic development. Michigan is *not keeping pace* with the national average increase in SBIR proposal activity. While Michigan is *increasing in raw numbers of SBIR grants, it dropping in percent share of both proposals and awards.* (See Attachment II for a detailed assessment of Michigan's SBIR/STTR performance). Moreover, the current MTTC program, designed and operated by the Michigan Economic Development Corporation, does not encourage SBIR/STTR R&D grant proposals with **demonstrated commercial merit** (in the form of Third-Party

[2] See: U.S. Department of Energy, Plant/Crop-Based Renewable Resources 2020: A Vision to Enhance U.S. Economic Security Through Renewable Plant/Crop-Based Resource Use, DOE/GO-10097-385, January, 1998



**Small Business Association of Michigan (SBAM), 222 N. Washington Sq., Ste 100, P.O. Box 16158, Lansing, MI 48901-6158. Tel: (800) 362-5461, FAX: (517) 482-4205, www.sbam.org.**

Commercialization Cash Match. [3] Towards this end, the JFMF should place greater emphasis on encouraging and leveraging federal small business R&D grants[4] with not only scientific, technical merit but, most importantly, ***commercial merit***.

Given that the JFMF will be based primarily on the Michigan Technology Tri Corridor experience and program design, however, SBAM does not have confidence that the proposed JFMF Steering Committee, under the direction of the MEDC, will adequately address commercialization of funded research nor the "Entrepreneurship" part of the "Innovation – Entrepreneurship NEXUS." Within this context, we recommend that the Legislature specify and require the JFMF to develop special policies for entrepreneurs with regard to matching payments on federal research grants:

- Matching payments on federal research grants shall not exceed 50% [5] of the amount of the federal research grant received under the Small Business Innovation Research or Small Business Technology Transfer Program. Matching payments shall be *limited exclusively* to matching Third Party Commercialization funding at the SBIR and STTR Phase II level, under such programs as the NSF Fastlane, DOD Fast Track and related SBIR/STTR Third-Party Commercialization Cash Match options.

3. SBAM generally supports JFMF as a state match for federally funded research centers and facilities. Given that Michigan universities and colleges can procure funding for Basic Research from a number of sources (foundations (especially their own foundations), the federal government and private industry), however, State funding for Basic Research should be used EXCLUSIVELY to "*complement and leverage*" versus "*replace*" these sources. While we do not support the 10% limitation on university Basic Research Funding, we propose that State grant funding for Basic Research should only be granted under the following conditions:

   - JFMF funding should not be used for projects which are *eligible* for federal grant funding.

   - JFMF Funding priority should also be given to matching federal R&D grants that clearly leverage the federal government's investment in *basic research* into breakthrough technologies, products and processes that will be researched, developed and commercialized in Michigan.

   - The university receiving JFMF funding should agree, as a condition of funding, to cover related patent costs associated with the project.

   - A university Technology Transfer specialist should be written into the basic JFMF research grant proposal as a **Co-Principal Investigator**. The Technology Transfer Specialist should be responsible establishing the outcomes for the research question and developing and implementing the detailed Commercialization Plan section of the Basic Research Grant proposal. The Commercialization Plan should describe, in detail, how the JFMF will receive a return-on-investment from the basic research grant in the form of royalties, fees, etc. The JFMF should track and publish an annual report – TO THE LEGISLATURE - outlining the Commercialization of the research outcomes for a period not less than ten years.

---

[3] See, for example, National Science Foundation, SBIR Phase IIB Program. SBIR/STTR grants with Third-Party Cash Match receive a priority of funding.

[4] Principally federal Small Business Innovation Research (SBIR) nd Small Business Technology Transfer (STTR)

[5] Reference: Sec 88I (D) – Matching Payments shall not exceed 10% of the amount of the federal research grants received.



**Small Business Association of Michigan (SBAM), 222 N. Washington Sq., Ste 100, P.O. Box 16158, Lansing, MI 48901-6158. Tel: (800) 362-5461, FAX: (517) 482-4205, www.sbam.org.**

- The university receiving JFMF funding should be required to commit an amount equal to 50% of the grant award as a contingent Commercialization Challenge Grant to third-party investor(s) interested in commercializing the successful results of the project.

- To facilitate an improvement in the "Innovation – Entrepreneurship NEXUS," [6] the JFMF should be structured to ensure the effective transfer of university technology(s) funded by JFMF to Michigan businesses.

    - Similar to the National Institute of Standards and Technology, Advanced Technology Program, the JFMF should require universities receiving JFMF grant funds to include small business entrepreneurs as collaborators on any projects and transfer the 100% if intellectual property rights from the project to the small business collaborator.

    - Universities should ensure that the commercial viability of business ventures involving the university not be negatively impacted by conflicting policies or decisions made by university officials not directly involved in the success of the venture (i.e., Departmental Deans or other university officials).[7]

4. The JFMF should be part of a larger effort to *optimize Michigan's economy for innovation.* [8] State funding should encourage versus replace private sector investments in the development and commercialization of innovative technologies. Towards this end, the state should enact a **Transferable R&D Tax Credit for JFMF, SBIR/STTR** and related grants whereby the value of the grant can be transferred to one or more **third parties** that invest in the **commercialization of the successful R&D results**. This initiative will help leverage Third-Party Commercialization Match funding for JFMF and SBIR/STTR grants, foster JFMF and SBIR/STTR grants with **demonstrated commercial merit** and offset early-stage funding requirements and accelerate speed-to-market for the resulting products that will be substantially commercialized in Michigan.

5. SBAM continues to be troubled by the prospect of the JFMF taking equity in small businesses as a condition of funding. While we do recognize the need to ensure program quality and a return on investment to tax payers, we believe equity ownership has the potential to hamper the businesses ability to raise additional commercialization capital. Rather than equity ownership, SBAM recommends the state consider the example of the federal government and simply require that the results from JFMF investments be "substantially commercialized and manufactured in Michigan." SBAM believes that a Transferable R&D Tax Credit and more balanced "Innovation – Entrepreneurship NEXUS" would greatly enhance the prospects for the Michigan based commercialization of JFMF technology innovations.

6. The PEER Review Process is designed principally to allow university professors to review grant proposals submitted by other university professors. While the PEER Review process is an excellent mechanism for determining *scientific and technical* merit, **it is wholly unsuited to determining *"commercial"* merit**. Again, given that the JFMF will be based primarily on the Michigan Technology Tri Corridor experience and program design, we do not have confidence that the JFMF Steering Committee, under the direction of the MEDC, will ensure that commercialization merit is

---

[6] Advanced Research Technologies, LLC, SBA Office of Advocacy and the Edward Lowe Foundation, "The Innovation-Entrepreneurship NEXUS: A National Assessment of Entrepreneurship and regional Economic Growth and Development" (U.S. Small Business Administration, Office of Advocacy: Contract Number SBAHA-03-00353) April, 2005.

[7] See: T/J Technologies, Ann Arbor, MI.

[8] 2004 report from the Council on Competitiveness titled, Innovate America (http://www.compete.org/.



**Small Business Association of Michigan (SBAM), 222 N. Washington Sq., Ste 100, P.O. Box 16158, Lansing, MI 48901-6158. Tel: (800) 362-5461, FAX: (517) 482-4205, www.sbam.org.**

given sufficient emphasis in an AAAS R&D grant review process. We therefore call upon the Legislature to specify the nature of the grant review process in the enabling legislation.

Two federal programs have exceptional and demonstrated expertise in evaluating R&D grant proposals on the basis of scientific, technical and, most importantly, commercial merit:

(1) National Institute for Standards and Technology (NIST), Advanced Technology Program; and
(2) National Science Foundation Small Business Innovation Research and Small Business Technology Transfer Program.

In both the NIST ATP and NSF SBIR/STTR programs, qualified Business/Commercialization Reviewers are given ***equal status*** to qualified Scientists in the review process. More importantly, ***commercial merit*** is treated equally to, or greater than, scientific and technical merit in the grant review and scoring process.

It is our belief that once R&D grant proposals meet the minimum scientific and technical standards for merit, the grants should be awarded **exclusively** on commercial merit. Towards this end, SBAM recommends that the JFMF use the NIST-ATP and NSF SBIR scientific, technical and commercial proposal review methodology and process. [9]

7. The JFMF should specify that it shall not make a qualified investment in a qualified business unless recommended by a Panel of at least Three (3) [10], versus one (1), Independent Job Creation expert(s) selected by the Steering Committee and approved by the Board. Further, the JFMF should specify that the Job Creation Experts must have qualifications in the specific industry addressed in the proposal **Commercialization Plan**, as well as Federal R&D Grant Programs, the related industry, commercialization of research and development, university technology transfer and business financing.

[9] NIST is the forefront of funding alternative energy, life science and advanced manufacturing projects on a national basis. The NIST Advanced Technology Program has exceptional expertise in R&D grant proposal reviews – including Business Plan reviews.

[10] Reference: Sec 88I ((1) (A) and (B) – The fund shall not make a qualified investment in a qualified business unless recommended by an independent job creation expert selected by the Steering Committee and approved by the Board.



**Small Business Association of Michigan (SBAM), 222 N. Washington Sq., Ste 100, P.O. Box 16158, Lansing, MI 48901-6158. Tel: (800) 362-5461, FAX: (517) 482-4205, www.sbam.org.**

# Attachment I

## Small Business Foundation of Michigan

## Michigan Entrepreneurship Score Card, 2004/05

**www.sbam.org. Click on "Michigan Entrepreneurship Score Card"**



Small Business Association of Michigan (SBAM), 222 N. Washington Sq., Ste 100, P.O. Box 16158,
Lansing, MI 48901-6158. Tel: (800) 362-5461, FAX: (517) 482-4205, www.sbam.org.

# Attachment II

## Michigan SBIR/STTR Performance

**Mark H. Clevey, MPA, Executive Director**
**Small Business *Foundation* of Michigan**

**Former Director, Michigan SBIR Support Program and Administrator, Michigan, State Research Fund Program**

**Current SBIR/STTR Phase II Commercialization Plan Reviewer**

**April 28 2005**

### Introduction

Federal grants such as the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) [11] programs provide critically important APPLIED RESEARCH funding to cutting-edge small businesses to research and develop breakthrough technology innovations. Through the Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) program, the federal government provides opportunities for well-qualified small businesses to participate in federal research and development initiatives and promotes partnerships between small business and nonprofit research institutions, including universities.

The raw number of awards per state is the ***traditional way*** States measure their success in the SBIR program. Although the number of awards is indicative of the state's entrepreneurial activity, what is key for a state's success rate is: some states have fewer applications, but a higher hit rate, while others have many applicants by fewer awards. Most importantly, SBIR and STTR fund "applied" research grant – not commercialization of technological innovations. The most valuable SBIR/STTR grants that a State can have are those that have the **"Third-Party Commercialization Match Funding"**[12] – something that is not captured by the national SBIR award data and ranking or **either adequately encouraged or tracked by the State of Michigan.**[13] Grants with Third-Party Commercialization match funding receive priority

---

[11] Federal Small Business Innovation Research (SBIR) Program: (a) SBIR Phase I: Feasibility study; Proof of Concept research (SBIR – 6 month project up to $100K. STTR – 12 month project up to $100K). (b) SBIR Phase II: Concept Development; full R&D (2-year award up to $500K). Phase IIB: Gap funding; Supplemental research to fit investor needs (NSF support - $50K to $250K, Investor support - $100K to >$750K). (c) Phase III: Commercialization stage; Commercial application (Private funding support).

[12] The federal SBIR/STTR program requires that R&D grants demonstrate scientific, technical and commercial "merit." At the Phase I level commercial merit is demonstrated by a short discussion in a 25 page proposal. The fact that an SBIR Phase I grant is awarded is primarily an indication of its "scientific and technical" - NOT COMMERCIAL – merit! At the Phase II proposal level "commercial merit" is demonstrated in two ways: (a) A detailed Commercialization Plan that is reviewed by a minimum of three Commercialization Plan Reviewers; and, (b) An OPTIONAL Third-Party Cash Match. Generally, those with Third-Party Cash Match receive "priority of funding" and are eligible to receive additional R&D dollars and commercialization training and assistance from the funding agency. Private sector interest and due diligence - in the form of Third-Party Match - is the best mechanism for determining commercial merit.

[13] Currently, the Michigan Economic Development Corporation, SBIR Matching Fund, provides $15,000 to Michigan small businesses that win SBIR/STTR Phase I – not II - grants. The current MEDC SBIR Matching fund does not give priority to projects that have commercial merit (in the form of Third-Party Cash Match or an intent to supply such a match). Moreover, the MEDC Phase I match funding is not factored into the SBIR/STTR Phase I grant review and award deliberations. Thus, the



**Small Business Association of Michigan (SBAM), 222 N. Washington Sq., Ste 100, P.O. Box 16158, Lansing, MI 48901-6158. Tel: (800) 362-5461, FAX: (517) 482-4205, www.sbam.org.**

of funding and are awarded on the basis of "scientific, technical" and most importantly, "commercial" merit.

## 1. National SBIR/STTR Trends

From 2001 to 2004, just about every state (with the exception of Louisiana, South Dakota, Nebraska, & Tennessee) increased their number of submitted SBIR/STTR Phase I proposals. Total Phase I SBIR proposals increased by 78.3% (15,794 in 2001 to 28,160 in 2004).

- **Michigan's increase was 54.2%. While this increase is impressive, the bad news is that it *trails the national average by 24.1%.*** [14]

- **The State of Washington increased their proposal generation by 418%, but their award rate stayed constant as their success rate plummeted (22.6% in 2001 to 6.4% in 2004). Removing their failed effort from the equation and the proposal average drops from 78.3% to 72%.**

### Conclusion

**Michigan is *not keeping pace* with the national average increase in SBIR proposal activity.** Our population and technology industries should be able to support additional activity. We somehow need to generate additional interest from qualified entities seeking to attain market leadership with the robust research, development and commercialization of breakthrough technologies, products and processes.

## 2. How to Interpret the SBIR/STTR Award Data

Again, most Sates view raw SBIR award data per state as the measure of success. According to this view, Michigan increased their proposal generation and awards numbers:

- **2001: 437 Proposals and 78 awards**
- **2002: 540 Proposals and 89 awards**
- **2004: 676 Proposals and 93 awards**

With the overall SBIR numbers increasing on a national basis, the only intelligent way to look at this is to normalize the data by percentage:

- **2001: 2.77% of all proposals came from Michigan and 2.46% of the awards went to Michigan**
- **2002: 2.45% of all proposals came from Michigan and 2.12% of the awards went to Michigan**
- **2004: 2.40% of all proposals came from Michigan and 2.10% of the awards went to Michigan**

---

MEDC SBIR Match Funding program appears to be an ineffective instrument to leverage either federal R&D grant funding or related commercialization investments, for breakthrough technological innovations.

[14] Indeed, in 2004, the U.S. Small Business Administration brought its *"SWIFT"* tour to Michigan – currently a low performer in the SBIR/STTR program – to encourage greater SBIR activity in the state.

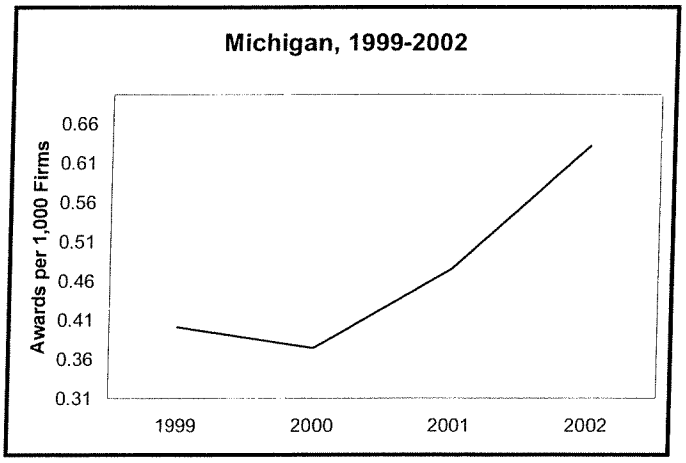


**Small Business Association of Michigan (SBAM), 222 N. Washington Sq., Ste 100, P.O. Box 16158, Lansing, MI 48901-6158. Tel: (800) 362-5461, FAX: (517) 482-4205, www.sbam.org.**

SBFM prefers to look at SBIR/STTR Awards as the **number of SBIR/STTR awards per 1,000 firms.** The following tables give the number of SBIR and STTR awards in each state (for 2002 only) in relation to the state's total number of firms:

### Midwest Performance, 2002

| | | |
|---|---|---|
| *United States* | *0.95* | |
| Ohio | 1.11 | (3rd Quintile) |
| **Michigan** | **0.63** | **(3rd Quintile)** |
| Wisconsin | 0.49 | (3rd Quintile) |
| Illinois | 0.36 | (4th Quintile) |
| *Indiana | 0.34 | (4th Quintile) |




| Rank | | State | Awards per 1,000 firms | 1999-2002 Percent Change |
|---|---|---|---|---|
| | | *United States* | *0.95* | *21.3%* |
| 1 | 1st Quintile | Massachusetts | 5.76 | 12.8% |
| 2 | | Maryland | 2.65 | 8.9% |
| 3 | 2nd Quintile | New Mexico | 2.64 | -2.9% |
| 4 | | Virginia | 2.59 | 36.8% |
| 5 | | Colorado | 2.58 | 17.0% |
| 6 | | New Hampshire | 2.32 | 28.1% |
| 7 | | California | 1.89 | 26.7% |
| 8 | 3rd Quintile | Connecticut | 1.45 | 22.4% |
| 9 | | Alabama | 1.37 | 16.5% |
| 10 | | Arizona | 1.33 | 18.7% |
| 11 | | Utah | 1.30 | 10.2% |
| 12 | | Montana | 1.28 | 77.4% |
| 13 | | Ohio | 1.11 | 33.5% |
| 14 | | Washington | 1.06 | 11.6% |
| 15 | | Delaware | 0.94 | 4.2% |
| 16 | | Pennsylvania | 0.94 | 48.3% |
| 17 | | New Jersey | 0.90 | 16.7% |
| 18 | | Hawaii | 0.88 | -21.6% |
| 19 | | Oregon | 0.85 | 15.3% |
| 20 | | Minnesota | 0.79 | 44.3% |
| 21 | | Rhode Island | 0.75 | 70.9% |
| 22 | | Wyoming | 0.73 | -11.7% |
| 23 | | Vermont | 0.68 | -22.9% |
| 24 | | Texas | 0.65 | 39.1% |
| 25 | | Nevada | 0.64 | 176.2% |
| **26** | | **Michigan** | **0.63** | **57.4%** |
| 27 | | South Dakota | 0.57 | 68.3% |
| 28 | | New York | 0.56 | 25.0% |
| 29 | | Maine | 0.55 | -2.1% |
| 30 | | North Dakota | 0.52 | 82.7% |
| 31 | | Wisconsin | 0.49 | 5.2% |
| 32 | | North Carolina | 0.48 | 38.8% |
| 33 | | Tennessee | 0.48 | 19.7% |
| 34 | | Idaho | 0.45 | 59.4% |
| 35 | | West Virginia | 0.43 | 191.0% |
| 36 | | Georgia | 0.43 | 30.0% |
| 37 | 4th Quintile | Florida | 0.39 | 33.7% |
| 38 | | Oklahoma | 0.38 | 124.1% |
| 39 | | South Carolina | 0.37 | 219.3% |
| 40 | | Illinois | 0.36 | 15.1% |
| 41 | | Indiana | 0.34 | 14.9% |
| 42 | | Kansas | 0.33 | 5.8% |
| 43 | | Missouri | 0.28 | 29.7% |
| 44 | | Iowa | 0.28 | 51.8% |
| 45 | | Mississippi | 0.27 | 1.4% |
| 46 | | Nebraska | 0.24 | 97.6% |
| 47 | | Kentucky | 0.24 | 32.0% |
| 48 | | Arkansas | 0.17 | -9.8% |
| 49 | | Louisiana | 0.16 | 86.2% |
| 50 | | Alaska | 0.13 | -1.0% |



**Small Business Association of Michigan (SBAM), 222 N. Washington Sq., Ste 100, P.O. Box 16158, Lansing, MI 48901-6158. Tel: (800) 362-5461, FAX: (517) 482-4205, www.sbam.org.**

# Raw Data

| Phase I Grant % Increase 2001 to 2004 | State | Number of Phase I SBIR Grants | % Share of Phase I SBIR | 2001 to 2004 % Increase in Phase I Proposal Generation | 2001 to 2004 Change in Success % |
|---|---|---|---|---|---|
| 0.8% | Alabama | 129 | 2.9% | **81.0%** | **0.4%** |
| 0.7% | Colorado | 219 | 5.0% | **83.4%** | **-4.1%** |
| 0.6% | Pennsylvania | 173 | 3.9% | **110.1%** | **-5.4%** |
| 0.5% | Texas | 203 | 4.6% | **105.1%** | **-5.1%** |
| 0.5% | New York | 180 | 4.1% | 67.3% | **-2.1%** |
| 0.4% | California | 900 | 20.3% | **78.4%** | **-5.5%** |
| 0.4% | North Carolina | 70 | 1.6% | 50.7% | **2.4%** |
| 0.3% | Massachusetts | 591 | 13.4% | 74.9% | **-6.0%** |
| 0.2% | Washington | 95 | 2.1% | **418.8%** | -16.3% |
| 0.2% | Ohio | 192 | 4.3% | **91.8%** | -7.1% |
| 0.2% | New Jersey | 117 | 2.6% | **113.0%** | -7.0% |
| 0.1% | Arizona | 89 | 2.0% | 62.7% | **-2.1%** |
| 0.1% | Oregon | 54 | 1.2% | **78.8%** | **-4.7%** |
| 0.0% | Florida | 103 | 2.3% | 65.8% | **-3.3%** |
| 0.0% | Illinois | 70 | 1.6% | **89.0%** | -6.0% |
| **-0.2%** | **Michigan** | **93** | **2.1%** | **54.7%** | **-4.1%** |
| -0.4% | Maryland | 218 | 4.9% | 73.5% | -6.9% |
| -0.5% | New Mexico | 64 | 1.4% | 58.9% | -10.0% |
| -0.7% | Connecticut | 53 | 1.2% | 42.6% | -10.0% |
| -1.2% | Virginia | 237 | 5.4% | 50.1% | -5.8% |

**Phase I Grant % Increase 2001 to 2004** – The change in percentage share of successful Phase I SBIR grants. For example, in 2001, MI won 78 phase I grants versus 3379 nationwide which equals 2.31%. In 2004, MI won 93 of 4,423 which equals 2.10%. Therefore, MI dropped by .2%.

**State - State**

**Number of Phase I SBIR Grants in 2004** – Successful grants won in the year 2004

**% Share of Phase I SBIR Grants in** 2004 – The percentage share of successful Phase I SBIR grants. For example, Michigan won 93 grants in 2004 out of a nationwide total of 4,423 (or 2.1%)

**2001 to 2004 % Increase in Phase I Proposal** Generation – The percentage increase in SBIR proposals from 2001 to 2004. For example, MI submitted 676 Phase I SBIR proposals in 2004 and 437 proposals in 2001 for an increase of 54.7%. The national average was 78.3%, so we are not keeping pace in this category.

**2001 to 2004 Change in Success** % - This is the change in success percentage from 2001 to 2004. For example, in 2001 Michigan won 17.8% of its proposals (78 of 437). In 2004, Michigan won 13.8% of its proposals (93 of 676). This drop of -4.1% was better than the national average of -5.7%. We are improving in this category.

## Conclusion

**Michigan is *increasing in raw numbers, but dropping in percent share of both proposals and awards.*** Based on current data from the U.S. Small Business Administration, Michigan is in the middle of the pack with regard to SBIR/STTR success rates. However, Michigan is improving in this category.

- **In 2001, MI success rate was 17.8% (ranking 38th against a U.S. avg of 21.4%)**
- **In 2002, MI success rate was 16.5% (ranking 36th against a U.S. avg of 19.0%)**
- **In 2004, MI success rate was 13.8% (ranking 31st against a U.S. avg of 15.7%)**

While there is room for improvement, the numbers indicate that Michigan has the capability to improve their SBIR/STTR grant award success rate. It should be noted that these are R&D grant and ***do not provide any indication of the commercialization success*** rate for these awards.

## Observations for Michigan

1. **"Innovation- Entrepreneurship NEXUS"** - The SBIR/STTR program is intimately related to the Innovation – Entrepreneurship NEXUS that measure the relationship between innovation, entrepreneurship and regional economic growth and development." [15] The following are some of the key findings from this report:

    - **Entrepreneurship is by nature an economic process and is a significant driver of regional economic growth.**
        - **It's not enough to just focus economic development on inventors and innovation. Entrepreneurs need to be cultivated as well, so that innovations can be turned into jobs and economic growth.**
    - **Innovative regions need entrepreneurship to more fully develop local economies.**
        - **The commercializing activities of local entrepreneurs are necessary to convert a region's innovation assets into long-term economic gain.**
    - **Developing strategies, policies and programs for leveraging the nexus between innovation and entrepreneurship, therefore, appears to be of vital importance to the competitiveness and vitality of regions.**
        - **Regional development leaders are actively seeking policies and strategies that foster the nexus between innovation and entrepreneurship for their economic development portfolios.**

2. **Commercial Merit** - It is important that Michigan not follow the Washington model of increasing SBIR submissions but not awards for grants with scientific, technical and commercial merit. The standards for scientific, technical and commercial merit are rigorous and thorough. Substandard grant proposals send the wrong message about a states capabilities and seriousness with regard to cutting-edge small business development. **Michigan must stop subsidizing SBIR grants with no demonstrated commercial merit**. SBIR matching grants from the Michigan Economic Development Corporation should be done on a "challenge grant" basis and provided exclusively as a match to SBIR Third-Party Commercialization Match funds.

[15] Advanced Research Technologies, LLC, SBA Office of Advocacy and the Edward Lowe Foundation, "The Innovation-Entrepreneurship NEXUS: A National Assessment of Entrepreneurship and regional Economic Growth and Development" (U.S. Small Business Administration, Office of Advocacy: Contract Number SBAHA-03-00353) April, 2005.

3. **"Transferable R&D Tax Credit"** - Michigan needs to broaden its narrow focus beyond Angel/Venture Capitalists and better leverage Michigan manufacturers as a source of funding for the commercialization of SBIR/STTR funded technology innovations. Towards this end, the Small Business Association of Michigan (SBAM) was instrumental in eliminating SBIR grants from the SBT in the last year. We now call for the State to create a **"Transferable R&D Tax Credit"** where the value of SBIR/STTR grants can generate a tax credit that, in turn, can be transferred to third parties that invest in the commercialization of the successful R&D results. This will help offset early-stage funding requirements and accelerate speed-to-market for made-in-Michigan breakthrough products.

4. **Medical Informatics** - Rising health care costs and the loss of our information technology industry to global outsourcing is a perfect storm with significant business development potential. SBAM thus calls on the State to place a priority on "Medical Informatics" in its Life Sciences program. Medical informatics is the application of information systems – such as those used by the automotive industry to manage its suppliers and supply system – to manage the information of health care delivery, reduce medical errors, provide decision support for clinicians, and extract outcome and public health information from large datasets. Medical Informatics provides us an opportunity to forge strong synergy between Michigan's software and Life Science industries.

   The National Library of Medicine program, for example, funds Medical Informatics SBIR/STTR grants in four key areas: (A) Mechanisms to integrate new information into existing knowledge bases, and software to extract and analyze information from large patient record databases (i.e., secondary data aggregation); (B) Development of organizing and synthesizing systems that closely match specific health problem areas to help health care providers manage information better; (C) Systems, devices, or programs that facilitate utilization of electronic medical record systems in clinical practice, for such functions as chart entry, ordering, scheduling, decision support and reduction of errors; (D) Projects relevant to the informatics of disaster management. There are other SBIR agencies that fund Medical Informatics related topics as well.

5. **Homeland Security** - Alabama has close to 109 DOD awards (85% of their Phase I's) and their success rate increase is entirely due to their DOD activities. While Michigan is not traditionally classified as a Defense State (a state with a high concentration of military bases and/or laboratories), we do have some defense related capabilities that could be better leveraged. For example, the TACOM/TARDEC has an SBIR budget. Policy makers should focus on how to increase the TACOM/TARDEC research budget for those technologies that directly relate to Michigan's commercial strengths. We should also look to how our Homeland Security interests can be leveraged with SBIR/STTR grants.