



Current Report

Cooperative Extension Service • Division of Agriculture • Oklahoma State University

Small Business Innovation Research Programs: An Opportunity for Small Businesses in Oklahoma

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Small Business Innovation Research Programs (SBIR) were created by the Small Business Development Act of 1982 to assist small businesses in participating in federally-funded research and development (R&D). The legislation requires all federal agencies with external R&D budgets in excess of \$100 million to award a portion of those funds to small businesses. The total amount of awards nationally has increased from \$45 million (800 awards) in 1983 to \$530 million (5,000 awards) in 1987. The objectives of this Current Report are to provide an introduction to SBIR programs and assist Oklahoma small businesses in obtaining additional information and assistance.

What are the objectives of SBIR programs?

The primary intent of SBIR programs is to assist small businesses in participating in federally-funded research and development activities. Specifically, the objectives of SBIR programs are:

- To stimulate technological innovation in the private sector.
- To increase the opportunities for small businesses to participate in federally funded research.
- To foster and encourage minority and disadvantaged small business firms in technological innovation.
- To encourage private sector commercialization of innovations derived from federally-supported research and development efforts.

How might a small business benefit from participation in SBIR programs?

Firms which are awarded SBIR grants are

provided with up to \$50,000 for up to six months of feasibility related research under phase I (idea stage) of the program. Phase II awards (product stage) provides up to \$500,000 for up to 24 months of continued research and development of those projects found most promising after Phase I. All phase I and phase II awards are issued as research grants. Phase III consists of commercializing the new technologies developed by government-funded research and development in phases I and II. Phase III (business stage) funding comes from the private sector and/or regular government procurement contracts.

Who owns the patent rights to inventions developed with SBIR funds?

Small businesses normally may retain the principal worldwide patent rights to any invention developed with SBIR funds. The government receives a royalty-free license for its own use (not commercial application), and requires that anyone exclusively licensed to sell the invention in the United States must normally manufacture it domestically.

What businesses qualify for SBIR?

A company is eligible for SBIR funding if at the time of the award:

- It is a U.S. corporation.
- It is organized for profit.
- It is independently owned or operated.
- It is not dominant in the field in which it is proposing.
- It has 500 or fewer employees (full-time, part-time, temporary, or other).
- It is the primary source of employment of the principal investigator of the proposed effort at the

time of the award and during the conduct of the proposed research.

What Federal agencies participate in SBIR programs?

The following federal agencies have participated or are participating in SBIR programs:

Department of Agriculture (USDA)
 Department of Commerce (DOC)
 Department of Defense (DOD)
 Department of Education (DOED)
 Department of Energy (DOE)
 Environmental Protection Agency (EPA)
 Department of Health and Human Services (DHHS)
 Department of Interior (DOI)
 National Aeronautics and Space Administration (NASA)
 National Science Foundation (NSF)
 Nuclear Regulatory Commission (NRC)
 Department of Transportation (DOT)

Participating agencies are subject to change from year to year depending on levels of funding for research and development.

What are the selection and evaluation criteria for SBIR proposals?

SBIR proposals are judged competitively in a two-stage process, based primarily upon scientific or technical merit. First, each agency prescreens the proposal to ensure that it meets stated requirements and is in response to a research topic area outlined in the solicitation. In the second stage, the technical merits of the proposal are evaluated by both internal and external reviewers. Evaluations are kept confidential to the extent permitted by law.

Final decisions are made by each agency based upon ratings assigned by reviewers and consideration of the **potential commercial application** of the proposal and other factors, including the scientific/technical quality of the research plan, the importance of the problem or opportunity and anticipated benefits of the proposed research, the adequacy of the research objectives to show feasibility of the approach, and the qualifications of the principal investigator(s).

What are some examples of proposals which have received SBIR awards?

The following examples are drawn from technical abstracts published by the U.S. Department of Agriculture in November 1988. Examples were selected to illustrate the variety of research topics which have received SBIR phase I awards from the USDA.

- Thermoset plastics from cellulose (\$46,348/6 months)
- Evaluation of moisture content and density of wood products using microwaves (\$50,000/6 months)
- Enzyme-targeted antimicrobials for plant disease control (\$50,000/6 months)
- Integrated pest management assistant for citriculture (\$49,899/6 months)
- Development of electrostatic pesticide applicators (\$50,000/6 months)
- Selective breeding criteria for disease resistance in foodfish (\$26,834/6 months)
- Cashmere production: a revenue-generating opportunity for rural America (\$50,000/6 months)
- Business development for rural adults (\$50,000/6 months)
- Alternative agricultural enterprises for rural communities and small family farms (\$42,400/6 months)
- Aging information dissemination in rural America using CD-ROM technology (\$50,000/6 months)

When should SBIR proposals be submitted for consideration?

Each federal agency specifies the period in which proposals may be submitted. The release dates and closing dates for fiscal 1989 are presented below.

<u>Agency</u>	<u>Release Date</u>	<u>Closing Date</u>
USDA	July 1, 1989	Sept. 1, 1989
DOC	Oct. 15, 1988	Jan. 15, 1989
DOD	Oct. 1, 1988	Jan. 6, 1989
DOED	Jan. 13, 1989	Mar. 17, 1989
DOE	Nov. 18, 1988	Feb. 16, 1989
EPA	Nov. 10, 1988	Jan. 10, 1989
DHHS/PHS/ HCFA	Oct. 1, 1988	Dec. 9, 1988
DHHS/PHS	Jan. 15, 1989	Apr. 15, 1989 Aug. 15, 1989 Dec. 15, 1989
NASA	Apr. 10, 1989	June 9, 1989
NSF	Apr. 3, 1988	June 19, 1989
NRC	Jan. 13, 1989	Mar. 27, 1989
DOT	Feb. 13, 1989	May 1, 1989

The above dates are subject to change by the participating agencies. Agency abbreviations are defined earlier. Some dates may have already expired for fiscal 1989 but interested small businesses should anticipate similar dates for fiscal 1990.

What is OCAST and how does it benefit a firm interested in competing for a SBIR phase I award?

OCAST is an abbreviation for the Oklahoma Center for the Advancement of Science and Technology. The OCAST SBIR Incentive Funding Program is designed to increase the number of federal SBIR phase I applications submitted by Oklahomans. Eligible Oklahoma small businesses can receive a matching award of up to 50 percent -- not to exceed \$3,000 -- of the cost of preparing a federal SBIR phase I proposal.

As of May 1989, OCAST made more than 30 reimbursement awards to Oklahoma companies during fiscal 1989. OCAST reported that as of May 1989, it had \$90,000 remaining to award through the program during the current fiscal year. The OCAST SBIR phase I program is summarized in SBIR: Federal and State R&D Funding for Small Oklahoma Businesses, copies of which can be obtained by contacting:

Assistant Director of Technology Development
OCAST
205 N.W. 63rd., Suite 305
Oklahoma City, OK 73116-8209
(405) 848-2633

Is assistance available in obtaining scientific and technical information pertaining to SBIR proposals?

The Central Industrial Applications Center with Rural Enterprises, Inc. can provide technology search and document services which may be useful in preparing SBIR proposals. They should be contacted directly for service and cost information.

Central Industrial Applications Center
Rural Enterprises, Inc.
P.O. Box 1335
10 Waldron Dr.
Durant, OK 74702
(405) 924-5094

What are the suggested steps to follow in submitting a SBIR funding proposal?

- Identify technical qualifications and research interests.
- Obtain copies of SBIR solicitations from the agencies of interest.

- Determine if research interests coincide with any of the topic descriptions contained in the solicitations.
- Contact the agency in question to determine if any changes in the SBIR program have been made since the solicitation was published.
- Prepare the SBIR proposal according to the requirements outlined in the solicitation. (Proposals not meeting the screening criteria may be returned to the proposing small business without review and may not be resubmitted under the current solicitation.)
- Submit the proposal by the stated deadline following guidelines on number of copies, binding, and packaging.

Where can one obtain additional information on SBIR programs?

Additional information on SBIR programs can be obtained by contacting participating federal agencies directly. Specifically, each participating agency publishes a SBIR program solicitation which provides detailed information on the program and instructions for submitting proposals. A directory of participating federal agencies is provided below.

SBIR Program
Department of Commerce
SPC, Room 207
Suitland, MD 20233
ATTN: Edward V. Tiernan
(301) 763-4240

SBIR Program
Department of Defense
Defense Technical Information Center
Building 5, Cameron Station
Alexandria, VA 22304-6145
(800) 368-5211
(202) 274-6902

SBIR Program Manager
Department of Energy
Washington, DC 20545
(301) 353-5707

PHS SBIR Solicitation Office
Department of Health and Human Services
3202 Monroe Street, Suite 300
Rockville, MD 20852
(301) 231-6378

Contracts Management Division (MD-33)
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711
(919) 541-3113

SBIR Coordinator
Cooperative State Research Service
U.S. Department of Agriculture
901 D Street, S.W., Room 323
Washington, DC 20251-2200
(202) 447-7002

DOT SBIR Program Office, DTS-23
U.S. Department of Transportation
Transportation Systems Center
Kendall Square
Cambridge, MA 02142
ATTN: Dr. George Kovatch
(617) 494-2051

SBIR Program Manager
Code R
National Aeronautics and Space Administration
600 Independence Avenue, S.W.
Washington, DC 20546

National Science Foundation
Forms and Publications Office
1800 G Street, N.W., Room 232
Washington, DC 20550
(202) 357-7861

SBIR Program Manager
Bureau of Mines
U.S. Department of the Interior
2401 E. Street, N.W.
Washington, DC 20241

SBIR Program Manager
Division of Contracts
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SBIR Program Manager
Office of Educational Research and Improvement
Department of Education
1200 Nineteenth Street, N.W.
Washington, DC 20208

For a broad overview of SBIR programs, you may want to obtain a copy of Small Business Innovation Research Grants: How to Obtain Them to Finance Your Ideas prepared by the High Technology Practice of Peat, Marwick, Mitchell & Co.

Information on federal agency participation, agency solicitation announcements and proposal deadlines, can also be obtained by contacting the Small Business Administration (SBA), 1441 L Street, N.W., Washington, DC 20416. In Oklahoma, the SBA can be reached at (405) 231-5197.

How does the Oklahoma Cooperative Extension Service provide assistance in preparing SBIR proposals?

The Oklahoma Cooperative Extension Service can provide assistance in a number of ways.

- o Evaluation of SBIR proposals prior to submission.
- o Assistance in the review of literature to determine previous research that has been performed.
- o Information on closing dates, current agency submission requirements, etc.

Contact the authors (405-744-6081) for details.



**Cooperative
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