



S_{SMALL} **B**_{BUSINESS}

T_{TECHNOLOGY}

T_{RANSFER} **P**_{ROGRAM}

(STTR)

ANNUAL REPORT - FY 1999

**Office of Technology
U.S. Small Business Administration**

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I ntroduction

This report is the sixth in a series of annual reports presented by the U.S. Small Business Administration (SBA) pursuant to Public Law 102-564, the Small Business Research and Development Enhancement Act of 1992.

This report covers the operation and administration of the Small Business Technology Transfer program (STTR) for fiscal year 1999.



Summary of Legislation

Public Law 102-564

Public Law 102-564 authorized the STTR program. Title I of that legislation amended the Small Business Act by reauthorizing the Small Business Innovation Research (SBIR) program. After extensive hearings by several committees and review of extensive testimony from numerous experts, Federal Government officials, participating small businesses, beneficiaries, and oversight groups including the General Accounting Office, Congress passed Public Law 102-564. At the time it was reauthorized, the SBIR program had been in effect for a decade, during which it achieved remarkable success in its program goals of helping small businesses develop important technology and helping keep the Nation at the forefront of technological innovation. Seeking to further expand small business opportunities in the technical arena, Title II of the Act, established the STTR program.

The STTR program shares the underlying philosophy of the SBIR program. It targets federally funded research and development as a base for technological innovation that will

contribute to the growth and strength of the Nation's economy. It differs from the SBIR program in that STTR awards are made to small businesses that pursue technological innovation *through cooperative research and development with Federal laboratories and non-profit scientific and educational institutions.*

Duration of the Program

In October 1992, Congress enacted Public Law 102-564 authorizing the STTR program for fiscal years 1994, 1995, and 1996. In September 1996, Public Law 104-208 reauthorized the STTR program through FY 1997. Current authority (Public Law 105-135) expires September 30, 2001.

The Small Business Technology Transfer Program



Funding

Federal agencies that participate in the STTR program must have an extramural budget for research or research and development in excess of \$1 billion. Program guidelines established the following percentages of funds an agency could expend with small businesses in connection with the STTR program:

- Not less than 0.05 percent of such budget in fiscal year 1994;
- Not less than 0.1 percent of such budget in fiscal year 1995; and
- Not less than 0.15 percent of such budget in fiscal year 1996, 1997, or thereafter.



Federal Agencies Participating

The five Federal agencies that meet the funding threshold and are participating in the program are:

- Department of Defense
- Department of Energy
- Department of Health and Human Services
- National Aeronautics and Space Administration
- National Science Foundation



The Three-Stage STTR Process

Public Law 102-564 structured the STTR program as a three-phase process designed to identify and nurture promising research and development interests within the small business community. These phases are:

Phase I: Awards are made to determine, to the extent possible, the scientific, technical, and commercial merit and the feasibility of ideas submitted. Phase I awards generally will not exceed \$100,000 and are for a 1-year effort. Award amounts are set at the discretion of the participating agencies.

Phase II: In Phase II, Phase I projects with the most potential may be funded to further develop ideas to meet particular program needs. Phase II awards will generally not exceed \$500,000 for a 2-year effort. Specific amounts awarded are at the discretion of the awarding agencies.

Phase III: No Federal STTR funds are expended during this phase. In Phase III, program participants pursue commercial applications of the innovations developed in Phases I and II. However, in Phase III, program participants may receive additional non-STTR Federal funds to develop products and services for use by the Federal Government. They may also receive awards from non-STTR Federal funding sources for continuation of competitively selected research and research and development.



Eligibility for Participation in STTR

The STTR program involves cooperative research and development performed jointly by a small business and a research institution. Thus, each STTR project involves at least two partners, each of which must meet eligibility

criteria in order for the project to be funded.

To be eligible for an STTR award, a *small business* must have no more than 500 employees, be independently owned and operated, not be dominant in the field of operation in which it is proposing, have its principal place of business in the United States, be organized for profit, and be primarily owned by U.S. citizens.

To be eligible for participation in an STTR award, a *research institution* must be a non-profit institution as defined by the Stevenson-Wydler Technology Innovation Act of 1980, or a federally funded research and development center (FFRDC) as identified by the National Science Foundation in accordance with the Office of Federal Procurement Policy Act. Thus, most universities and colleges, non-profit research centers, and Federal Government-owned, company-operated laboratories are eligible.

Small businesses interested in participating in the STTR program are required to find a research institution meeting this definition and to develop a working agreement before proposing to compete for an STTR award.



Distribution of Work

An STTR award is intended to be a true partnership venture for both the small business and the research institution. To ensure such a relationship, the program establishes minimum performance levels for each participant. Public Law 102-564 stipulates that under an STTR award, the small business must perform at least 40 percent of the work, and the research institution must perform at least 30 percent of the work.



Management of STTR Projects

Although the conduct of the project is a cooperative research and development venture, the small business exercises overall management, control, and responsibility for the project.

Participating agencies are required to ensure that the small business manages and controls the funding agreement pursuant to a business plan that provides for the commercialization of the technology being funded.



Continued Use of Federal Government Property

STTR guidelines also direct Federal agencies to allow small businesses that use Federal Government equipment during the conduct of an STTR award to continue to do so for not less than 2 years after the beginning of Phase III.



Model Agreements

Public Law 102-564 directs SBA to establish guidelines for a model agreement to be used by all STTR participating agencies in allocating intellectual property rights and follow-on rights.

Representatives of each of the five participating agencies issued two model agreements: one published by the Departments of Energy and Health and Human Services, and the other published by the Department of Defense, the National Science Foundation, and the National Aeronautics and Space Administration. The SBA approved both model agreements.

Small businesses are required to negotiate agreements with research institutions, but they are not required to

use the model agreements. Rather, they are free to formulate and execute their own agreements or to use the models in whole or in part.



Rights to Data

A major concern of small, innovative firms is that data generated while performing research and development for the Federal Government will be made public. Therefore, STTR legislation stipulates that the program provide for the small business to retain the rights to data it generates while performing in the STTR program. These retention rights remain effective for at least 4 years. The intent of this provision is to authorize the participating agency to protect technical data generated under the STTR funding agreement and to refrain from disclosing such data to competitors of the small business. The statute also stipulates that the agency cannot use the information to produce future technical procurement specifications, thus protecting the participating small business until it has a reasonable chance to seek patent protection, if appropriate.

Therefore, the Policy Directive mandates that, except for program evaluation, participating agencies must protect technical data for at least 4 years from the completion of the project that generated the data. The Federal Government, however, retains a royalty-free license for Federal Government use of any technical data delivered under an STTR funding agreement, whether patented or not.



Follow-On Funding Agreements

Following completion of Federal research and development contracts, it is not unusual for the agency involved to have further requirements that result in a continuation of work. There have been numerous instances in which,

following the completion of Phase II of STTR, agencies had requirements to continue development of an innovation or need to produce a product or service developed under the STTR award. To ensure smooth continuation of this work, protect the commercial rights to the innovation, and continue to employ the expertise of the originating small business, agencies are directed, to the degree practicable, to award any non-STTR, follow-on contracts or grants to the originating small business. To make this process more efficient, participating agencies have been advised that the competition for an STTR award serves as meeting the requirements of the Competition in Contracting Act. This allows the agencies to award non-STTR, follow-on work to the small business without further competition.



Critical Technologies

STTR legislation calls for agencies to give special consideration to broad research topics and to topics that further one or more critical technologies. These technologies are identified by the National Critical Technologies Panel (or its successor). To assist the agencies with this requirement, SBA requested a complete listing of critical technologies from the National Critical Technologies Panel and the Office of the Secretary of Defense. These listings were sent to each participating agency.

Authorities and **R**esponsibilities of the **P**articipants



Participating Agencies

As set forth in Public Law 102-564, the authorities and responsibilities of Federal agencies participating in the STTR program are to:

1. Unilaterally determine categories of projects to be included in its STTR program.
2. Issue STTR solicitations according to a schedule determined cooperatively with the SBA.
3. Unilaterally determine research topics within the agency's STTR solicitations, giving special consideration to broad research areas that further one or more critical technologies as identified by either the National Critical Technologies Panel or the Secretary of Defense.
4. Unilaterally receive and evaluate proposals resulting from STTR solicitations.
5. Unilaterally select awardees for its STTR funding agreements and inform each awardee, to the extent possible, of the allowable expenses under the funding agreement.
6. Administer its own STTR funding agreements.
7. Pay recipients on the basis of progress toward or completion of the STTR funding agreement requirements.
8. Submit an annual report on the STTR program to the SBA and the Office of Science and Technology Policy.
9. Develop a model agreement for approval by the SBA that allocates between small businesses and research institutions intellectual property rights and any rights to carry out follow-on research, development, or commercialization.
10. Develop procedures in consultation with the Office of Federal Procurement Policy and the Office of Federal Government Ethics to ensure that federally funded research and development centers that participate in STTR agreements:
 - A) Are free from organizational conflicts of interest relative to the STTR program.
 - B) Do not use privileged information gained through work performed for an STTR agency or private access to STTR agency personnel in the development of an STTR proposal.
 - C) Use outside peer review, as appropriate.
11. Develop procedures for assessing the commercial merit and feasibility of STTR proposals.



Small Business Administration

Public Law 102-564 designates the SBA as the lead Agency to implement the program, govern its policy, and monitor and analyze its performance. As lead Agency, the SBA's authorities and responsibilities are to:

1. Develop, coordinate, and issue a Policy Directive for the general conduct of the STTR programs.
2. Assist small businesses in obtaining Federal Government contracts for research and development.
3. Assist small businesses in obtaining benefits of research and development performed under Federal Government contracts or at Federal Government expense.
4. Develop and maintain a source file and an information program to help ensure each qualified and interested small business the opportunity to participate in technology transfer pilot programs involving Federal agencies.
5. Coordinate with participating agencies a schedule for release of STTR solicitations and prepare a master release schedule that maximizes small businesses' opportunities to respond to solicitations.
6. Independently survey and monitor the operation of STTR programs within participating Federal agencies.
7. Report not less than annually to the Congress on the STTR programs of the Federal agencies.
8. Consult, cooperate, perform studies, and make recommendations to Federal Government agencies.
9. Consult with representatives of small business to assist and encourage such firms to undertake joint programs for research and development.



The STTR Program Policy Directive

Public Law 102-564 authorized the SBA to issue a Policy Directive to conduct the STTR Pilot Program within the Federal Government. Before issuing this Policy Directive, the SBA consulted with the heads of the two Federal agencies participating in the formulation of the program: the Commissioner of Patents and Trademarks and the Administrator of the Office of Federal Procurement Policy.

The SBA met with the representatives of each of these organizations, and after significant discussion and modifications, finalized the Policy Directive effective October 1, 1993.

The Policy Directive guides participating agencies in the operation of the STTR programs. It mandates simplified, standardized, and timely solicitations and funding processes. It also directs the participating agencies to reduce regulatory burdens associated with participation in STTR programs. In addition, the directive also provides guidelines for a model agreement to be used by all agencies for allocating intellectual property and other rights between small businesses and research institutions. It also provides procedures to ensure that recipients of STTR awards meet eligibility requirements as small businesses and that they manage and control the performance of the STTR funding agreement.

Finally, the directive instructs the participating agencies to develop procedures to ensure follow-on, non-STTR funding agreements with the small business when appropriate.



Surveying, Monitoring, and Reporting

Pursuant to the legislation, the SBA is required to independently survey and monitor the operation of STTR programs within participating Federal agencies. The law directs SBA to report not less than annually to the Committee on Small Business of the Senate and the House of Representatives and to the Committee on Science of the House of Representatives on the STTR programs of the Federal agencies.

STTR – The Program's 6th Year - FY 1999

Public Law 102-564 provides both general guidance and specific instructions concerning the implementation of the STTR program. To ensure a successful implementation, the law specifically directed several important actions and established completion dates. All mandated actions were implemented in a timely manner.



Solicitation Schedule

STTR policy directs each Federal agency participating in the program to issue STTR solicitations in accordance with a schedule determined cooperatively with the SBA. After approval of SBA's master schedule, these agencies issued solicitations early in fiscal 1999 to invite small business to propose STTR projects.

After approval of its solicitation schedule, each participating agency provided SBA with information necessary to publish a pre-solicitation announcement. The announcements provided interested small businesses with information on forthcoming opportunities in the STTR program, as well as basic information on program requirements, opening and closing dates of solicitations, and agency contact points for further information.

In fiscal year 1999, the participating agencies had the following solicitation periods:

- Department of Defense - December 1, 1998 through April 14, 1999
- Department of Energy – October 1, 1998 through January 7, 1999

- Department of Health and Human Services - January 1999 with closings April 1, August 1 and December 1, 1999
- National Aeronautics and Space Administration - March 2, 1999 through May 14, 1999
- National Science Foundation – August 18, 1999 through February 4, 1999



Award Obligation Requirements

Program policy required participating agencies to expend on STTR awards not less than 0.15 percent of their fiscal year 1999 extramural budget for research and development. In fiscal year 1999, \$62,147,778 should have been obligated program-wide to meet this requirement; however, actual obligations were \$64,840,532 exceeding the requirement by 1.04 percent.



Small-Business Participation

During FY 1999, small businesses submitted 1,391 proposals under the STTR program, including 1,197 Phase I proposals and 194 Phase II proposals. A total of 329 awards were made, including 251 Phase I awards and 78 Phase II awards. Awards were made to 294 small businesses. In FY 1999, total STTR program obligations were \$64,840,532. Small business received \$33,766,092 or 52 percent of total funding. Research institutions received \$23,652,507 or 36 percent.



Minority and Disadvantaged Firms

Of the 294 firms that successfully competed for STTR awards, 40 or 13.6 percent were firms owned by minority or disadvantaged persons. They received \$7,596,569 or 12 percent of the \$64,840,532 total obligated.



Research Institutions

Small businesses interested in participating in the STTR program must find a research institution that meets the program's definition and develop a working agreement before proposing to compete for an STTR award.

The statistics available at the end of the fiscal year indicate that 294 firms collaborated with 329 research institutions. Of contracts and grants awarded during the year, 283 were made to universities and colleges, 22 to federally funded research and development centers, and 24 to other non-profit research institutions. The research institutions were located in 41 states.

FY 1999 STTR Research Institutions

Alabama

Other
Southern Research Institute
Auburn University
University of Alabama (4)
University of Alabama, Birmingham
University of South Alabama
Vanderbilt University

Florida

University
University of Florida
University of Miami
Embry-Riddle Aeronautical University
University of Florida
University of Miami

Arizona

University
University of Arizona (5)
Northern Arizona University
University of Arizona (5)

Georgia

University
University of Georgia
University of Georgia
University of Georgia
University of Georgia
Clark Atlanta University
Emory University
Georgia Institute of Technology (4)
Georgia Tech Research Corp.
Georgia Tech Research Institute

California

FFRDC
Lawrence Berkeley National Laboratory
Lawrence Livermore Laboratory (3)
Sandia National Laboratories
Other
Nonlinear Optics Laboratory
Other
The Scripps Research Institute
University
California State University
Stanford University (2)
University of California (17)
University of Southern California (4)

Illinois

FFRDC
University
University of Illinois
University of Illinois
University of Illinois
Argonne National Laboratory
Illinois Institute of Technology
Northwestern University (2)
University of Chicago
University of Illinois (2)

Indiana

Other
Purdue Research Foundation

Iowa

FFRDC
University
Ames Laboratory, University of Iowa
Iowa State University

Colorado

FFRDC
Other
National Renewable Energy Laboratory
JILA/NIST
Colorado School of Mines
Colorado State University
University of Colorado (6)

Kentucky

University
University of Louisville
University of Kentucky
University of Louisville

Connecticut

University
University of Connecticut (2)
Yale University (3)

Louisiana

University
University of Louisiana
University of Louisiana
Iowa State University
Louisiana State University
Louisiana Tech University

District of Columbia

University
University of America
George Washington University
Georgetown University (2)

Maryland

University
University of Maryland (5)
Johns Hopkins University
University of Maryland (5)

FY 1999 STTR Research Institutions

Massachusetts

FFRDC MIT (7)
Other Dana-Farber Cancer Institute
University Boston University
University Massachusetts General Hospital
University Northeastern University (2)

Michigan
University Michigan State University
University Michigan Technological University
University of Michigan (4)
University Wayne State University (2)

Minnesota

University of Minnesota (2)

Mississippi

University of Mississippi

Missouri

University of Washington

Montana

University of Montana

Nevada

University of Nevada Las Vegas

New Jersey

University Dartmouth College
University Princeton University (3)

New Mexico

FFRDC Los Alamos National Laboratory (2)
FFRDC Sandia National Laboratories (2)
FFRDC Sandia Thermal Spray Research
Other Lovelace Biomedical & Environmental
University of New Mexico

New York

Other Roswell Park Cancer Institute
University Alfred University (2)
University Calspan Ub Research Center
University Clarkson University
University Columbia University (2)
University Cornell University (2)
University New York University
University New York University Medical Center
University Rensselaer Polytechnic Institute (3)
University State University of New York

North Carolina

Other Research Triangle Institute
University Duke University
University East Carolina University
University North Carolina State University (2)
University Wake Forest University

North Dakota

University of North Dakota

Ohio

Other Battelle Columbus Operations
Other Cleveland Clinic Foundation
Other Edison Welding Institute (4)
Other Ohio State University
University John Carroll University
University Kent State University
University Miami University
University Ohio State University (2)
University Ohio University
University of Cincinnati
University of Dayton (3)

Oklahoma

University of Oklahoma
11 University of Oklahoma

FY 1999 STTR Research Institutions

Oregon

University
University

Oregon Graduate Institute
University of Oregon

Washington

University
University

University of Washington (5)
Washington State University (2)

Pennsylvania

University
University
University
University
University

Drexel University
Pennsylvania State University (4)
Temple University
University of Pennsylvania
University of Pittsburgh (2)

Wisconsin

University
University

University of Milwaukee
University of Wisconsin (3)

Wyoming

University

University of Wyoming (2)

Rhode Island

University

Brown University

South Dakota

University

South Dakota School of Mines

Tennessee

FFRDC
Other
University

Oak Ridge National Laboratory (2)
Lockheed Martin Energy Research Corp.
Vanderbilt University

Texas

Other
University
University
University

Texas Engineering Experiment Station
Olympia Electrical Systems Institute
Texas A&M University
University of Texas (4)

Utah

University

University of Utah (4)

Virginia

University
University
University
University

George Mason University
University of Virginia
Virginia Commonwealth University (3)
Virginia Polytechnic Institute (4)

FY 1999 STTR Phase I Awardees

Alabama

Birmingham

Tranzyme, Inc.
Vaxin Pharmaceuticals, Inc.

Huntsville

Advanced Optical Systems, Inc.
Cfd Research Corp.
Research Genetics, Inc. RESEARCH
United Applied Technologies (2)

Alaska

Anchorage

Imlach Consulting Engineering

Arizona

Chino Valley

Conceptual Systems & Software

Mesa

Guided Therapy Systems, Inc.

Scottsdale

Zona Technology, Inc.

Tucson

NP Photonic Technologies, LLC

Tucson

Advanced Ceramics Research, Inc.

Arkansas

Fayetteville

Bioengineering Resources, Inc.

California

Aptos

Chase Scientific Co.

Burlingame

Kosan Biosciences

Canoga Par

Technical Associates

Carlsbad

Isis Pharmaceuticals, Inc. (2)
Ormet Corp.

Chico

Makel Engineering, Inc. (2)

Costa Mesa

Avyd Devices, Inc.
Quality Material Inspection

Cypress

Focus/MRL, Inc.

Del Mar

Tumorex, Inc.

Goleta

Frontier Technology, Inc.

FY 1999 STTR Phase I Awardees

Hawthorne

Systems Technology, Inc.

Hayward

Kinetic Ceramics, Inc.

Huntington Beach

Advanced Composite Products Tech

Irvine

Energy & Environmental Research Corp.
Metrolaser, Inc. (2)

La Jolla

John McNeil & Co.
SQM Technology, Inc.

Los Angeles

Genetic Biotechnology Ventures
Virasim, Inc.

Mountain View

Vista Research, Inc.

Oak Hill

Diamondback Systems, Inc.

Pasadena

Materials Reserch Sources Llc

Redding

Mallard Medical Co., Inc.

Richmond

Sangamo Biosciences, Inc.

Riverbank

Ceracon, Inc.

San Diego

Energy Science Laboratories
Integration Partners, Inc.
Oncosis, Inc.
Tera Biotechnology Corporation
Tristan Technologies, Inc.
Vical Inc

San Francisco

Mandalmed, Inc.

San Jose

Immersion Corp.

Santa Barbara

Mission Research Corporation
UniAx Corporation

Santa Barbara

Iridicom, Inc.
Mission Research Corp.
Nanodevices, Inc.
UniAx Corporation

Santa Clara

Focused Research, Inc.

Santa Ynez

Pacific Advanced Technology

Colorado

Boulder

Astralux, Inc.
Cmd Optics, Inc.
Knowledge Analysis Technologies,

FY 1999 STTR Phase I Awardees

Colorado Springs

AAAA Energy Enterprises, Inc.

Golden

Hazen Research Inc.

Lafayette

Boulder Nonlinear Systems Inc. (2)

Lakewood

ELS Technology

Littleton

D & W Enterprises, Ltd.

Wheat Ridge

Global Solar Energy, Llc
ITN Energy Systems Inc
Materials Research Group

District of Columbia

Washington

Lisboa Associates, Inc.
Network Flight Recorder, Inc.

Florida

Alachua

Ixion Biotechnology, Inc.

Miami

Apostain, Inc.

Oviedo

Electrodynamics Associates, Inc.

Titusville

Analex Corp.

Georgia

Atlanta

Cermet, Inc.
Virtually Better, Inc.

Bogart

On-Line Instrument Systems

Marietta

Global Technology Connection, Inc

Idaho

Idaho Falls

Idaho Technology (2)

Illinois

Chicago

Integrated Genomics, Inc.

Evanston

Applied Thin Films

Highland Park

Smart Material Design

Wheeling

Santec Systems, Inc.

Indiana

FY 1999 STTR Phase I Awardees

Bloomington

Quarrymen Optical, Inc.

Westbrook

Biode, Inc.

Indianapolis

Cybo Robots, Inc.

Maryland

Valparaiso

J And N Enterprises, Inc.

Annapolis

Technology Assessment & Transfer,

West Lafayette

Seas, LLC

Beltsville

Neocera, Inc.

Iowa

Columbia

Conducting Materials Corp.

Ames

Etrema Products, Inc.

Gaithersburg

Antex Biologics, Inc.

C-Motion, Inc.

Iowa City

Enzymed, Inc.

Synergene Therapeutics, Inc.

Kalona

Civco Medical Instruments Comp

Hyattsville

Ers, Inc.

Pragmatica Corporation

Kansas

Kensington

Genex Technologies, Inc.

Lawrence

Pinnacle Technology, Inc.

Lanham

Techno-Sciences, Inc.

Kentucky

Rockville

Informedix, Inc.

Columbia

Image Analysis, Inc.

Massachusetts

Maine

Andover

Physical Sciences Inc (2)

FY 1999 STTR Phase I Awardees

Bedford

Cognition Corp.
Holographic Lithographic Systems
Spire Corp.

Boston

Pharmadyne, Inc.

Burlington

Alphatech, Inc. (2)

Cambridge

Atmospheric & Environmental Research
Dyax Corporation

Chelmsford

Triton Systems, Inc.

Chestnut Hill

Ulex Corporation (2)

Devens

Spinix Corp.

Natick

Busek Co., Inc.

Needham

Beam Technologies, Inc.

Rutland

Biomedical Research Models

Somerville

Science Research Lab Inc

Waltham

Foster-Miller, Inc. (2)

Watertown

Biolink Partners

Wellesley

Boston Microsystems, Inc

Westford

Orion Engineering Company

Weston

Gene Regulation Laboratories
Gene Regulation Laboratories GENE

Woburn

Cardiotech International, Inc.
NZ Applied Technologies

Michigan

Ann Arbor

I Technology Applications
Thromgen, Inc.

Lansing

EFX Systems, Inc.

Lincoln Park

Pointe Scientific, Inc.

Minnesota

Minneapolis

MSP Corporation

Missouri

FY 1999 STTR Phase I Awardees

High Ridge

Kedly, Inc.

St. Charles

Cutting Edge Optronics, Inc.

St. Louis

Vir-RX, Llc

Montana

Butte

Montec Associates, Inc. (2)
Mse Technology Applications

New Hampshire

Hollis

Northeast Photosciences, Inc.

Wilton

Sanders Design International (2)

New Jersey

Cherry Hill

AMT, Inc.

Fort Lee

Menssana Research, Inc.

Highland Park

Ceramare Corporation

Lavallette

Cell And Molecular Technologie

Monmouth Junction

Phytotech, Inc.

Mount Laurel

UHV Technologies, Inc.

Princeton

Jacobus Pharmaceutical Company
Palatin Technologies, Inc.

New Mexico

Albuquerque

Applied Research Assoc., Inc.
Southwest Scientific Resource

Los Alamos

Synergistic Technologies, Inc.

Santa Fe

Spectrumedix Corp

New York

Albany

Mohawk Innovative Technology Inc.

Bronx

Vtec Laboratories, Inc.

Elmsford

Hypres, Inc. (2)

Getzville

Zeptogen Corporation

FY 1999 STTR Phase I Awardees

Hawthorne

Acorda Therapeutics

New York

Gibbs & Cox, Inc.

Schenectady

Turbine Coating, Inc.

Stony Brook

Plus Ultra Technologies, Inc.

North Carolina

Durham

Triangle Pharmaceuticals, Inc.

Research Triangle

Nitronex Corp.

Winston-salem

Anasazi Biomedical Research (2)

Ohio

Barberton

ASB Industries, Inc.

Cleveland

Biomec, Inc.

Orbital Research, Inc.

Columbus

Superconduct Components

Weldware, Inc. (2)

Dayton

Cornerstone Research Group Inc.
Innovative Scientific Solutions, Inc.

Fairborn

Klein Assoc., Inc.

Kent

Kent Displays, Inc.

Rocky River

Sensor Development Corp.

Toledo

Biocheck Laboratories

Receptorpro, Inc.

Worthington

Nextech Materials, Ltd.

Oklahoma

Stillwater

Nomadics, Inc.

Oregon

Eugene

On Time Systems, Inc.

Hubbard

Broadacres Nursery, Inc.

Portland

Wirex Communications, Inc.

FY 1999 STTR Phase I Awardees

Pennsylvania

Dublin

Combustion Research & Flow Technology

Mechanicsburg

Isoperformance, Inc.

Monroeville

RJ Lee Group, Inc.

Penn Valley

Octagen Corporation

Philadelphia

Exzyme, Inc.

So. Williamsport

EMF Technologies, Inc.

York

Industrial Science&Technology

South Carolina

Hilton Head

Kigre, Inc.

Tennessee

Chattanooga

AccuRate Automation Corp.

Franklin

Dynamic Structures & Materials, LLC

Hixson

Chattanooga Group

Nashville

Gene Rx, Inc. (2)

Texas

College Station

Lynntech, Inc.

Houston

Agennix, Inc.
FEM Cadet

Richardson

Scenpro, Inc.

Sugar Land

Translite

Webster

Diagnostic Systems Laboratorie

Utah

Orem

Apollo Light Systems, Inc.

Salt Lake City

Spectrotek, LLC

Virginia

Arlington

Information Extraction & Transport

FY 1999 STTR Phase I Awardees

Blacksburg

Adoptech, Inc.
F&S, Inc.

Centreville

Eyeteel Corporation

Charlottesville

Barron Associates, Inc.

Fairfax

Materials Modification Inc. (2)

Hampton

Analytical Mechanics Assoc. Inc.
High Technology Corp.

Herndon

Research Development Corp.

Manassas

Airak Engineering, Inc.
UTD, Inc.

McLean

Planning Systems, Inc.

New Castle

Airak Engineering, Inc.

Radford

Hy-Tech Research Corp.

Sterling

Reliable Software Technologies Corp.

Virginia Beach

Oceana Sensor Technologies, Inc.

Washington

Bellevue

Energy Intl Inc
MSNW Inc.

Bothell

Aculight Corporation

Issaquah

Advanced Cochlear Systems
Silicon Designs, Inc.

Mercer Island

Quantigraphics, Inc.

Seattle

Linehan Training Group
Mathsoft, Inc.

Wisconsin

Madison

Metabiologics, Inc.

Middleton

Gammex, Inc. GAMMEX, INC.

Wyoming

Laramie

CCTechnology
Critical Angle
Detection Limit, Inc. (2)

FY 1999 STTR Phase II Awardees

Alabama

Santa Clara
HPS Simulations

Huntsville

International Space Systems Inc.
United Applied Technologies

Sunnyvale
Aracor

Opelika

Nanotek Instruments Inc.

Colorado

Boulder

Gonex, Inc.
Tech-X Corp.

La Jolla

Natural Selection, Inc.

Denver

Allos Therapeutics, Inc.

California

Los Angeles

Alpha Star Research Corp
Pacific Wave Industries, Inc.

Lakewood

ELS Technology

Manhattan Beach

D-Star Technologies, Inc.

Wheat Ridge

TDA Research, Inc.

San Diego

Information Systems Laboratories, Inc.
Jmar Technology, Co.
Newport Instruments
YMB Software Associates (Formerly Bloom

Florida

Winter Park

Engineering Acoustics, Inc.

San Leandr

Alameda Applied Sciences Corp.

Georgia

San Marcos

Aguila Technologies Inc.

Chamblee

Microcoating Technologies (Formerly CCVD,

Norcross

Cytrx Corporation

Santa Barbara

Mission Research Corporation
Santa Barbara Photonics
Uniax Corporation

Illinois

FY 1999 STTR Phase II Awardees

Evanston

Containerless Research, Inc.

New Lenox

Inventek Corporation

Kansas

Lawrence

Kinedyne Corp.

Maryland

Burtonsville

Science & Engineering Services

Rockville

Intelligent Automation, Inc.

Massachusetts

Acton

Electron Power Systems, Inc.

Bedford

Spire Corp.

Burlington

Alaphatech, Inc.

Somerville

IS Robotics, Inc.

Watertown

Control Delivery Systems, Inc.

Woburn

Covalent Associates, Inc.

Scientific Systems Company Inc. (3)

Michigan

Ann Arbor

Soar Technology, Inc.

Dexter

Bio Logic Engineering, Inc.

Minneapolis

Genra Systems, Inc.

Minnesota

Navarre

Gradient Technology

Mississippi

Starkville

Global Aircraft Corp (2)

Missouri

St. Louis

Megan Health

Production Products Manufact & Sale

Montana

Bozeman

Norion Laboratories

FY 1999 STTR Phase II Awardees

New Jersey

Troy
Plastronic, Inc.

Annandale

Medarex, Inc.

Lawrenceville

Partnerships Limited, Inc.

New York

Latham

Zomega Technology Company

North Carolina

Hurdle Mills

Carolina Sputter Solutions

Ohio

Beavercreek

Adtech Systems Research, Inc.
Wright Materials Research Co.

Cincinnati

Modern Computational Technologies, Inc.

Dayton

Cornerstone Research Group Inc.

Eaton

Technirep, Inc.

Miamisburg

Edaptive Computing, Inc.

Pennsylvania

Bala-Cynwyd

Universal Display Corp

Pittsburgh

Computational Diagnostics, Inc
Fox Farsight Productions, Inc.

Tennessee

Clinton

Cryogenic Applications, Inc.

Oak Ridge

H&R Technical Associates Inc.

Texas

Austin

Xidex Corp.

Utah

Orem

Moxtek Inc.

Salt Lake City

Echelon Research Laboratories

Virginia

FY 1999 STTR Phase II Awardees

Blacksburg

F&S, Inc.

Hampton

Analytical Services

Radford

Hy-Tech Research Corp.

Vienna

Image Medical Communications

Washington

Bellevue

Adroit Systems Inc.

Ewing Technology Associates

Bothell

Ekos Corp.

Richland

Corona Catalysis Corp

Seattle

Cell Therapeutics, Inc.

Wisconsin

Waukesha

Waukesha Foundry, Inc.

STTR Program Data - Fiscal Year 1999

AGENCY OBLIGATIONS	DOD	NSF	DOE	NASA	HHS	TOTAL
AGENCY EXTRAMURAL BUDGET	20,004,218,000	2,274,000,000	3,257,790,000	3,533,000,000	12,279,000,000	41,348,008,000
AGENCY STTR BUDGET	30,494,278	3,050,000	4,885,000	5,300,000	18,418,500	62,147,778
DOLLARS OBLIGATED	30,933,909	3,098,489	4,886,277	6,208,802	19,713,055	64,840,532
% OF EXTRAMURAL BUDGET	0.15%	0.14%	0.15%	0.18%	0.16%	0.16%
DEFICIT/SURPLUS	439,631	48,489	1,277	908,802	1,294,555	2,692,754
STTR AWARD PROFILE - COMMITMENTS						
TOTAL PHASE I AWARDS	109	19	16	28	79	251
MINORITY DISAD. PHASE I AWARDS	13	7	2	2	6	30
TOTAL PHASE II AWARDS	37	3	6	13	19	78
MINORITY/DISAD. PHASE II AWARDS	4	1	1	4	0	10
TOTAL PHASE I DOLLARS AWARDED	9,289,454	1,898,489	1,595,606	2,728,211	8,777,311	24,289,071
MIN/DISAD PHASE I DOLLARS AWARDED	1,254,339	699,788	199,996	195,549	632,031	2,981,703
TOTAL PHASE II DOLLARS AWARDED	21,644,455	1,200,000	3,290,671	3,480,591	10,935,744	40,551,461
MIN/DISAD PHASE II DOLLARS AWARDED	1,700,000	400,000	500,000	2,014,866	0	4,614,866
TOTAL PHASE I & II AWARDED	30,933,909	3,098,489	4,886,277	6,208,802	19,713,055	64,840,532
AVERAGE AMOUNT PHASE I AWARDS \$	85,224	99,920	99,725	0	111,105	96,769
STTR SOLICITATION PROFILE						
NO. OF SOLICITATIONS RELEASED	1	1	1	1	1	5
NO. OF RESEARCH TOPICS	48	2	5	4	125	184
NO. OF PH I PROPOSALS RECEIVED	527	96	82	130	362	1,197
NO. OF PH II PROPOSALS RECEIVED	60	8	14	45	67	194
RESEARCH INSTITUTION PROFILE						
NUMBER OF FFRDCS	8	0	10	4	0	22
NUMBER OF UNIVERSITIES	127	22	10	36	88	283
NUMBER OF OTHER NON-PROFIT	11	0	2	1	10	24

STTR Program Data - Fiscal Year 1999

COOPERATIVE RESEARCH PROFILE		DOD	NSF	DOE	NASA	HHS	TOTAL
TOTAL DOLLARS OF AWARDS		30,933,909	3,098,489	4,886,277	6,208,802	19,713,055	64,840,532
DOLLARS TO SMALL BUSINESS		15,974,893	1,820,007	2,927,514	5,681,773	7,361,905	33,766,092
DOLLARS TO RESEARCH INSTITUTION		10,681,388	1,278,482	1,615,316	3,493,000	6,584,321	23,652,507
NO. OF AWARDS TO UNIVERSITIES		127	22	10	36	88	283
DOLLARS TO UNIVERSITIES		8,602,324	1,278,482	528,243	2,958,000	6,031,738	19,398,787
NO. OF AWARDS TO FFRDCS		8	0	10	4	0	22
DOLLARS TO FFRDCS		979,010	0	1,017,139	323,000	0	2,319,149
NO. OF AWARDS TO OTHER NON-PROFITS		11	0	2	1	10	24
DOLLARS TO OTHER NON-PROFITS		1,100,054	0	69,934	212,000	552,583	1,934,571
PHASE I							
NUMBER OF FFRDC AWARDS		4	0	5	3	0	12
NUMBER OF UNIVERSITY AWARDS		98	19	9	25	70	221
NO. OF OTHER NON-PROFIT AWARDS		7	0	2	0	9	18
TOTAL DOLLARS OF AWARDS		9,289,454	1,898,489	1,595,606	2,728,211	8,777,311	24,289,071
DOLLARS TO SMALL BUSINESS		5,441,864	1,101,870	1,029,445	1,718,773	4,523,992	13,815,944
DOLLARS TO RESEARCH INSTITUTIONS		3,664,373	796,619	566,161	1,002,000	4,192,270	10,221,423
NO. OF AWARDS TO UNIVERSITIES		98	19	9	25	70	221
DOLLARS TO UNIVERSITIES		3,345,083	796,619	353,243	929,000	3,721,991	9,145,936
NO. OF AWARDS TO FFRDCS		4	0	5	3	0	12
DOLLARS TO FFRDCS		137,970	0	142,984	73,000	0	353,954

STTR Program Data - Fiscal Year 1999

	DOD	NSF	DOE	NASA	HHS	TOTAL
NO. OF AWARDS TO OTHER NON-PROFITS	7	0	2	0	9	18
DOLLARS TO OTHER NON-PROFITS	181,320	0	69,934	0	470,279	721,533
PHASE II						
NUMBER OF FFRDCS	4	0	5	1	0	10
NUMBER OF UNIVERSITIES	29	3	1	11	18	62
NUMBER OF OTHER NON-PROFIT	4	0	0	1	1	6
TOTAL DOLLARS OF AWARDS	21,644,455	1,200,000	3,290,671	3,480,591	10,935,744	40,551,461
DOLLARS TO SMALL BUSINESS	10,533,029	718,137	1,898,069	3,963,000	2,837,913	19,950,148
DOLLARS TO RESEARCH INSTITUTIONS	7,017,015	481,863	1,049,155	2,491,000	2,392,051	13,431,084
NO. OF AWARDS TO UNIVERSITIES	29	3	1	11	18	62
DOLLARS TO UNIVERSITIES	5,257,241	481,863	175,000	2,029,000	2,309,747	10,252,851
NO. OF AWARDS TO FFRDCS	4	0	5	1	0	10
DOLLARS TO FFRDCS	841,040	0	874,155	250,000	0	1,965,195
NO. OF AWARDS TO OTHER NON-PROFITS	4	0	0	1	1	6
DOLLARS TO OTHER NON-PROFITS	918,734	0	0	212,000	82,403	1,213,137

FY 99 dollars obligated include modifications to previous year's awards for DOD (\$3,154,930) and HHS (\$559,022)