



National Institute of Food and Agriculture

U.S. DEPARTMENT OF AGRICULTURE

BIOENERGY, CLIMATE, AND ENVIRONMENT
FOOD PRODUCTION AND SUSTAINABILITY
YOUTH, FAMILY, AND COMMUNITY
FOOD SAFETY AND NUTRITION
INTERNATIONAL PROGRAMS

NIFA

USDA Small Business Innovation Research & Small Business Technology Transfer

INVESTING IN SCIENCE | SECURING OUR FUTURE | WWW.NIFA.USDA.GOV

USDA IS AN EQUAL OPPORTUNITY PROVIDER, EMPLOYER, AND LENDER



SBIR/STTR Program Goals

A decorative graphic on the left side of the slide, consisting of a blue curved line that starts at the top and ends at the bottom, with four colored circles (yellow, orange, brown, and dark orange) arranged vertically along its curve. Each circle is partially overlapping a blue horizontal bar.

Stimulate technological innovations in the private sector

Strengthen the role of small businesses

Increase the commercialization of innovations

Foster and encourage participation by historically underserved populations



Non-Discrimination Statement

<https://www.usda.gov/non-discrimination-statement>

- In accordance with federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs, are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.
- Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.
- To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax (202) 690-7442; or (3) email: program.intake@usda.gov.
- USDA is an equal opportunity provider, employer and lender.



USDA SBIR/STTR Programs

Phase I

Fund research to establish:

- Technical merit
- Feasibility
- Commercial potential

Phase II

Funding based on:

- Phase I results
- Expand Phase I R&D
- Scientific, technical merit and commercial potential in Phase II

Phase III

Alternative funding sources:

- Continue commercialization efforts



USDA SBIR/STTR: Budget

Annual Budget: ~\$34

Phase I

\$125,000 –
\$175,000

SBIR: 8 months
STTR: 12 months

Phase II

\$600,000

24 months

Other Differences Between SBIR & STTR

Elements	SBIR	STTR
Nonprofit Research Institution or Federally Funded R&D Center Participation	May	Must
% Participation of Nonprofit Research Institution or Federally Funded R&D Center	33% or less (Phase I) < 50% (Phase II)	30 to 60% (Phase I and Phase II)
Primary Employment of the Principal Investigator	Must be employed with small business	May be employed with either small business or non-profit research institution
Formal Cooperative Agreement Required Outlining Intellectual Property Rights	No	Yes



USDA SBIR Program Funding

Phase I

FY21: 79 awards out of 526 applications (15%)

FY22: 77 awards out of 525 applications (~15%)

Phase II

FY21: 31 awards out of 64 applications (~48%)

FY22: 34 awards out of 68 applications (~50%)



USDA SBIR/STTR Programs: Success Metrics





Features of USDA SBIR/STTR Programs

- ❑ Ideas are Investigator-Initiated
- ❑ Awards are based on
 - Scientific and Technical Merit
 - PI and Company Qualifications
 - Commercial Potential of the Innovation
- ❑ Subcontracting to Universities and Federal Labs
- ❑ Technical and Business Assistance (TABAs)



What is Technical and Business Assistance?

- ❑ TABA— introduced as part of The John S. McCain National Defense Authorization Act for Fiscal Year 2019
- ❑ TABA can include:
 - IP legal costs
 - Marketing
 - Market research
 - Financial review
 - Consults on funding strategy
 - Activities related to manufacturing



USDA SBIR/STTR: TABA Budget

Phase I

\$6,500

To develop a
Commercialization
Plan

Phase II

\$50,000

To accelerate
commercialization of
the innovation into the
market



USDA SBIR/STTR Topic Areas



8.1

Forests & Related Resources



8.2

Plant Production & Protection (Biology)



8.3

Animal Production & Protection



8.4

Conservation of Natural Resources



8.5

Food Science & Nutrition



8.6

Rural & Community Development*



8.7

Aquaculture



8.8

Biofuels & Biobased Products



8.12

Small & Mid-Sized Farms*



8.13

Plant Production & Protection (Engineering)

USDA SBIR/STTR Programs: Technology Areas

Information
Technology

Electronics

Biotechnology

Nanotechnology

Acoustics

Remote Sensing

Genetic Engineering

Material/Coatings

Biofuels

Machine Vision

Precision
Agriculture

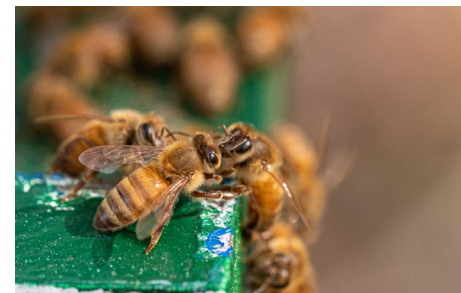
Engineering

Chemistry

Robotics

Physics

Food Safety





Typical Program Timelines

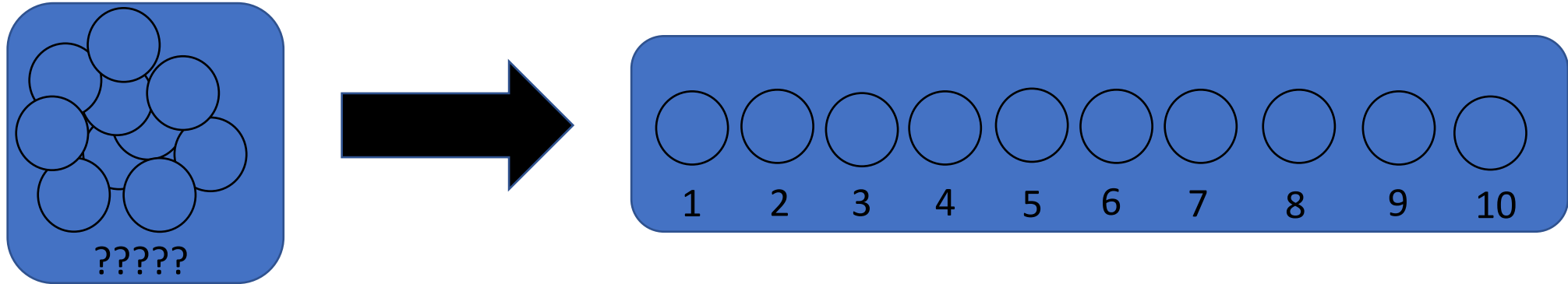
Phase I



Phase II: Only open to Phase I awardees



USDA SBIR/STTR Review Process



- ❑ Proposals are evaluated by confidential peer review using outside experts from academia, industry, non-profits and Federal labs
- ❑ All applicants receive verbatim copies of reviews
- ❑ Phase I applicants that were not selected for funding are able to reapply for Phase I funding during the next solicitation cycle
 - 1-page additional response to comments
- ❑ Phase II applicants are only able to apply one time



University and Government Scientist Involvement in USDA SBIR Program

- ❑ Scientists may serve as **consultants** or receive a **subcontract** and continue to work full time at their home institution
 - Limited to no more than 1/3 of Phase I award or 1/2 of Phase II award
- ❑ Scientists may serve as **PI** by reducing employment at their home institution to 49% for the duration of the grant
- ❑ Usually not acceptable for university or government scientists to serve as consultants and have all the research done in their lab



University and Government Scientist Involvement in USDA STTR Program

- ❑ The PI can be employed with the small business or the research institution
- ❑ STTR specifically states:
 - The small business must perform 40% of the work on the project
 - The research institution must perform at least 30% of the R&D
 - The other 30% that can be outsourced to either the research institution or another subcontractor



CRADA: Cooperative Research & Development Agreement

- ❑ Develop a Cooperative Research and Development Agreement (CRADA) with a Federal Lab or Federal License innovation

“Additional factors that will be considered in the review process include whether a Phase I or II application involves a CRADA with a Federal laboratory, or a license to a USDA technology.”

“If two or more applications are of approximately equal merit, the existence of a CRADA with a Federal laboratory or a license to a USDA technology will be an important consideration.”

Factors that Improve Chances of Award Success

- High Scientific/Technical Merit/Commercial Potential
 - Balance of high risk, high reward
- Good Consultants, CRADA
- Business Expertise
- Strong letters of support from Phase III partners, end-users, consumers and investors
- Clear understanding of entry and sustainability in the market





Application Process: Phase I

Registrations are required in order to submit your application. These steps can take several weeks to complete.

- ✓ Company [registered with SBIR.gov](https://www.sbir.gov)
- ✓ Complete the required steps necessary to [register on grants.gov](https://www.grants.gov)
 - Register with [SAM.gov](https://www.sam.gov) or complete the annual update if you are already registered. This can take up to **2 weeks with an additional 5 more weeks to acquire an UEI**
 - Create a [grants.gov](https://www.grants.gov) username and account



Advice for Phase I Applications

Contact the Topic Area National Program Leader for a consult

Follow application guidelines for format, page limits, and required documents

Ensure application responds to all review criteria listed in the RFA

A large, five-pointed green star with a slight gradient, positioned to the right of the three advice boxes.

**READ
THE
RFA!**



Advice for Phase I Application

- Provide a **VISION**: What is the market opportunity?
- Sell the importance of your project and alignment with USDA priorities
- Provide a detailed experimental plan
- Provide insight into **commercial potential**
- Show connectivity with the communities



Application Assistance Resources

Small Business Development Centers

- Provide support to small businesses applying for SBIR/STTR grants
- At least one SBDC in each state, 62 in total

Main SBDC [website](#)

Federal and State Technology Partnership Program (FAST)

Funding to increase SBIR/STTR awards to women, socially/economically disadvantaged individuals, and small businesses in underrepresented areas - typically rural states

<https://www.sbir.gov/about-fast>

To find local assistance for SBIR proposals

<https://www.sbir.gov/local-assistance>



USDA SBIR/STTR Outreach

In order to foster and encourage participation by underrepresented populations

SBIR program has provided outreach to SBIR/STTR assistance organizations and presented an overview of the program to those that are interested:

- Provide more than 3 virtual overviews of the USDA SBIR/STTR program per month
- Participate in the Small Business Administration's SBIR outreach events e.g., road tours (virtual and in person when they resume)
- Booth and informal consultations at SBIR Tech Connect conferences twice a year
- Some participation at in-person events (limited by budget)



USDA SBIR/STTR Outreach: ICF NEXT

In order to foster and encourage participation by underrepresented populations

We contracted with an organization, **ICF NEXT**, to increase the breadth and depth of our outreach

- ❑ Help to connect Small Business Concerns (SBC) with researchers that can assist them with developing proof-of-concept research projects
- ❑ Connect innovators with Small Business Development Centers, SBIR Accelerators/SBIR Catalysts, State SBIR Coordinators where available
- ❑ Provide application workshops to the target community, particularly for those that do not have access to SBIR Accelerators / State SBIR Coordinators.
- ❑ Help to connect potential applicants with an organization that will guide SBCs through a step-by-step process for their SBIR/STTR application



Contact ICF NEXT

Are you a
researcher looking
for a **small
business** partner?



Are you a **small
business** looking
for an **academic
researcher**
partner?



Email our support
team at
USDASBIR@icf.com





USDA SBIR Success Stories



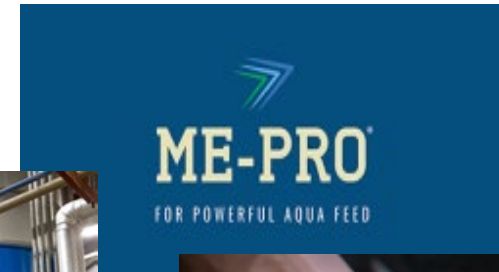
Recent Success Story: Prairie Aquatech

Technology Developed

- Natural process to convert soybean meal to fish feed using microbial enhancement
- “ME-PRO®”

Commercialization Success

- Recipient of the 2019 Aquafeed Innovation Award in Cologne, Germany
- Commissioned a 30,000 ft² facility in summer 2019 to scale up production
- Samples sold or sent to manufacturers in 12 countries
- Currently producing 30,000 tons of ME-PRO®





Recent Success Story: Stony Creek Colors

Technology Developed

- Developed an agricultural supply chain to replace synthetic dyes with plant-based drop-in solutions
- BioPreferred™

Commercialization Success

- Commercial sales of high-purity BioPreferred™ natural indigo dye to world leading brand customers





Success Story *Sonsight wind Inc.

- **SONSIGHT WIND Inc.**, Lawrenceville, GA
- Founder: Dr. Devon McIntosh
- Funding: 7 grants, from 2002 to 2014
- Manufacture advanced small wind turbines that successfully compete with rooftop solar even within moderate wind areas





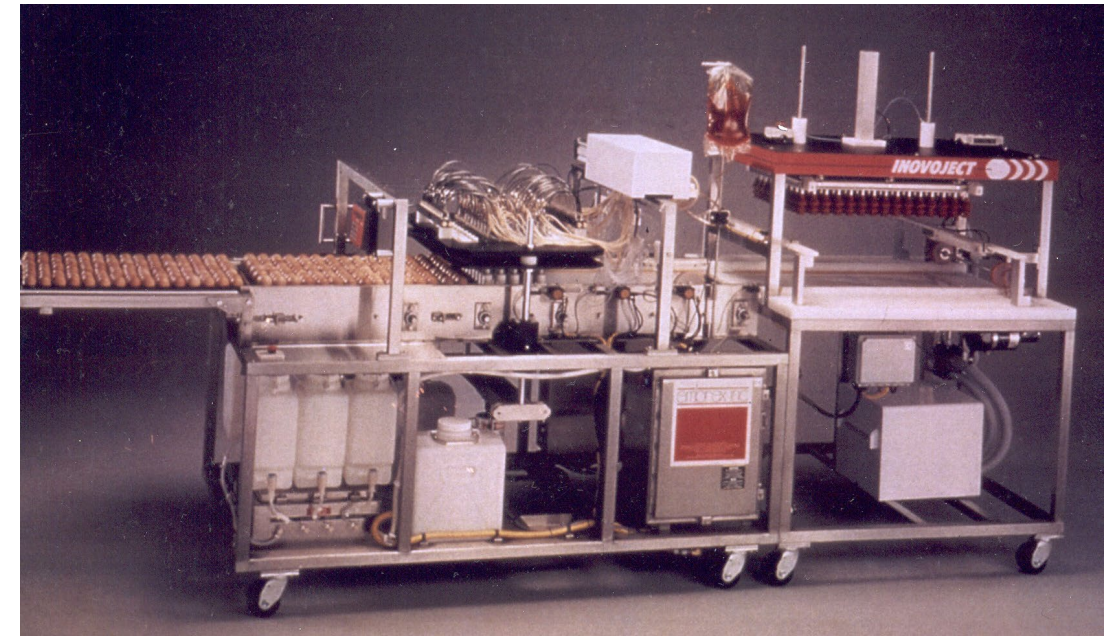
Success Story: Embrex

Technology Developed

- Embrex developed higher throughput and superior technology for in ovo vaccination
- Technology provided benefits to enhance efficiency and bird performance

Commercialization Success

- In 2001 \$44M in revenues
- Employees increased from <10 to >200
- Purchased by Pfizer





SBIR/STTR Brochure

<https://nifa.usda.gov/small-business-innovation-research-program-sbir-brochure>

SBIR/STTR

**SMALL BUSINESS INNOVATION RESEARCH AND
SMALL BUSINESS TECHNOLOGY TRANSFER PROGRAMS**

Enhancing American Agriculture, Rural Health Care,
Rural Communities and the Environment





CONTACT US

Thank You!

Visit our website:

[NIFA.USDA.GOV/SBIR](https://nifa.usda.gov/sbir)

Melinda Coffman

SBIR Program Coordinator

Melinda.Coffman@usda.gov

David Songstad

National Program Leader

David.Songstad@usda.gov

Tammi Neville

Program Specialist

SBIR@usda.gov

Nurun Nahar

Program Specialist

SBIR@usda.gov