



Maximizing your Phase I to Phase II Conversion Rate

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Outline

Purpose is to help
small businesses
prepare and adapt

- Context – Why are we here?
- You've won Phase I, now what?
- Project Execution
- Key Considerations for Winning Phase II
- Resources from TechOpp

Intro to TechOpp

Who we are and what we do

- Founded in 2009
- All about helping small businesses
- Focus on technology commercialization
- SBIR/STTR and other federal funding



Bob Fielder

- Navy Nuke, Submarines, 9yrs
- M.S. Mat. Sci. & Engineering
- Luna Innovations, 9yrs
- Founded TechOpp in 2009



Context

SBIR Reauthorization

Reauthorization
deadline is 9/30/2025

119TH CONGRESS
1ST SESSION

S. 853

To improve the SBIR and STTR programs under the Small Business Act,
and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 5, 2025

Ms. ERNST introduced the following bill; which was read twice and referred
to the Committee on Small Business and Entrepreneurship

A BILL

To improve the SBIR and STTR programs under the Small
Business Act, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) **SHORT TITLE.**—This Act may be cited as the
5 “Investing in National Next-Generation Opportunities for
6 Venture Acceleration and Technological Excellence” or the
7 “INNOVATE Act”.

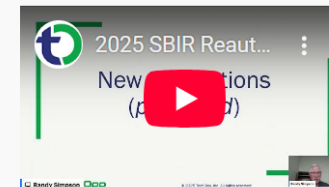
- SBIR program is reauthorized every few years
- Currently three separate bills
- First and most complete was INNOVATE Act
- Some key provisions include:
 - *Phase IA opportunity for first time participants*
 - *Increased minimum standards for Phase I to Phase II conversion*
 - *Increased standard for securing non-SBIR funding*
- Our webinar series provides strategies for each of these provisions

INNOVATE Act: <https://www.congress.gov/bill/119th-congress/senate-bill/853>

Webinar Series

In case you missed some

- Webinar 1: Overview of proposed changes
- Webinar 2: Leveraging changes for new companies
- Webinar 3: Meeting Phase II conversion requirement
- Webinar 4: Meeting the non-SBIR funding requirement



Leveraging Proposed SBIR Changes for Early-Stage Businesses

Potential changes to the SBIR program could be beneficial to early-stage businesses. We reviewed the proposed changes and how to take advantage of them.



Navigating SBIR Reauthorization

The SBIR program must be reauthorized by 9/30/2025 to continue to provide R&D funding to small businesses. We present an overview of changes proposed to the SBIR program through the INNOVATE ACT, and strategies to adapt.

Webinar Archive: <https://techopp.com/resources/webinar-archive/>

Today's Webinar

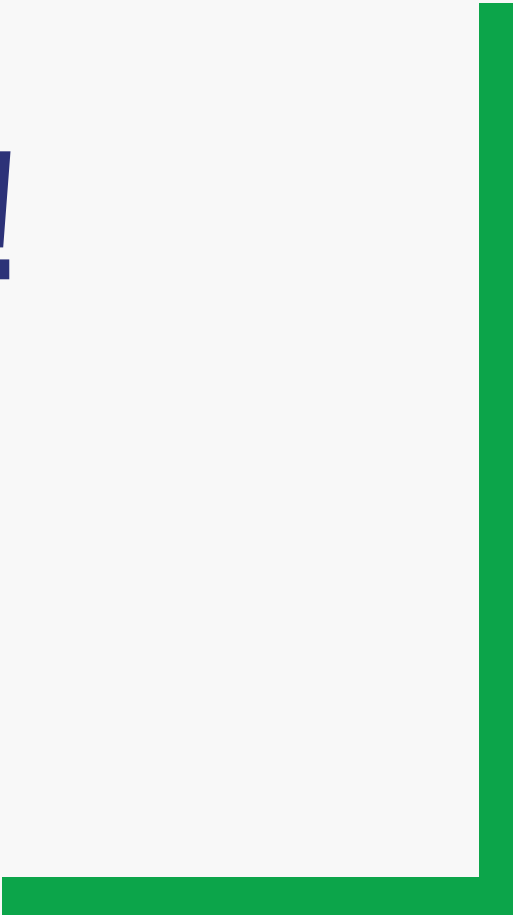
Focused on the PI to PII conversion standard

- Summary of proposed minimum standard (paraphrased)
 - *Small businesses with >10 Phase I awards must convert 25% of Phase I awards to Phase II or be ineligible to perform on SBIR/STTR projects for one year*
 - *Small businesses with >25 Phase I awards must convert 50% of Phase I awards to Phase II or be ineligible to perform on SBIR/STTR Phase I projects for one year + limited to 5 Phase I awards annually thereafter until the conversion standard is met.*
- Current national average conversion rates (Approximate):
 - DOD 29%
 - NASA 42%
 - DOE 36%
 - DHHS 22%
 - NSF 15%

What does it take to win Phase II?

Typically no multiple awards for Phase II

- Phase II success has multiple components
 - *Strongly address the topic requirements*
 - *Know the TPOC requirements/preferences*
 - *Connect the dots with the Use Case*
 - *Focus on long-term transition / commercialization*
 - *Plan / Execute / Report*
- We will focus on some common shortcomings



Congratulations!

You've won a Phase I!

Next Steps After Winning

Begin Phase II positioning as early as possible



- Contract Negotiations
- Project Plan
 - *Refine with TPOC insights*
- Begin Work
 - *Update gap analysis*
- Phase II Proposal Preparation
 - *Plan for transition / commercialization*
- Final Report/Final Review Meeting
 - *Do this early enough to inform PII proposal*

Agency Kickoff Meeting

Engage with your TPOC

Brief on Approach

- Brief slide deck
- Additional supporting data
- Highlight differentiators
- Fundamental advantages

Project Objectives

- Key performance parameters
- Milestones & validation
- Phase I success criteria
- TRL progression

Technology Transition

- Understand target use case
- Operational requirements
- Acquisition process
- Commercial markets
- Market entry strategy

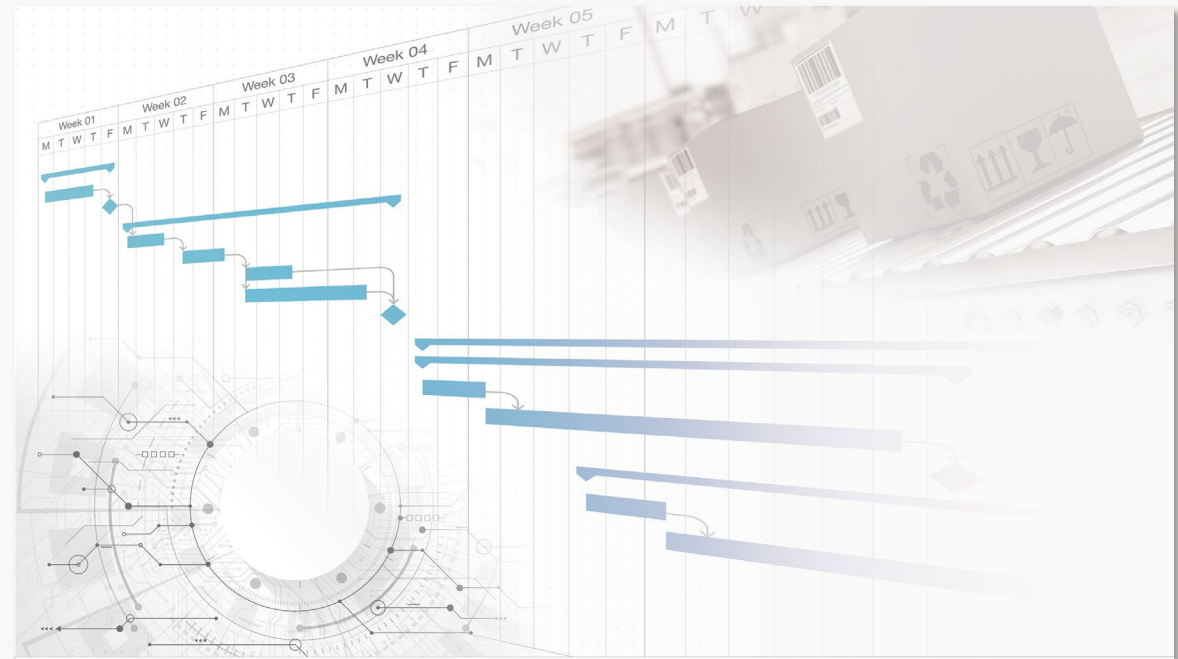
Risks

- Discuss risks and mitigation plan
- Technical risk
- Transition risk
- Adjust focus accordingly

Refine Your Project Plan

Prepare for TPOC and your team

- Review with your TPOC at the kickoff meeting
 - *Demonstrate you can “manage” as well as do research*
 - *Offer task-completed collateral for “proof of progress”*
- Typically, a Phase I Project Plan has around 6 tasks
 - *Show collateral for each task*
 - *Not necessarily the contract deliverable*
 - *Demonstrates progress*



Agency Kickoff Meeting

Commercialization

- Emphasize transition and/or commercialization
 - *Confirm first Use Case—within the Agency*
 - *Obtain End User contact information*
 - Confirm ability to connect for specific requirements
 - Validate the contact information
 - *If no End User/ Program of Record identified*
 - Is this foundational research?
 - *What problem are we trying to solve?*
 - *Confirm near-term commercialization is not a success criteria*
 - If operational but no End User identified
 - *Identify potential Prime Contractors in the market*
 - *Identify other federal prospective users*
 - *Emphasize TABA effort to clarify Phase III and make connections*

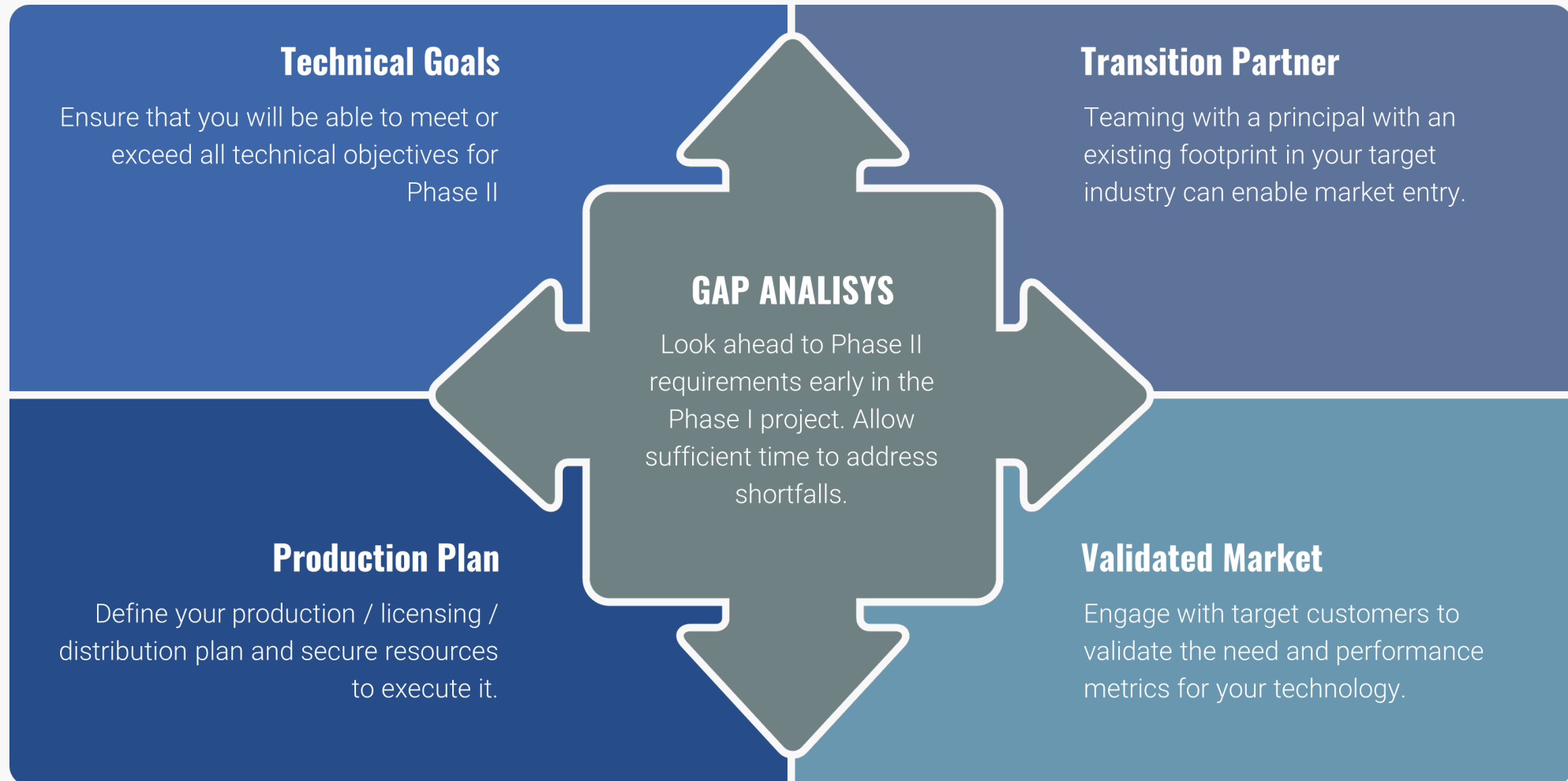
Begin Work

Execute your plan

- Plan for periodic updates with the TPOC
 - *Maintain engagement*
- Confirm staff/subcontractor understanding of work scope/task collateral
 - *Establish a cadence of oversight and expectations*
- Display a professional project management process and execution
 - *Give confidence to TPOC to move to Phase II*

Refine Phase II Gap Analysis

Improve positioning for Phase II



Final Report/Final Review Meeting

Last deliverable

- Link back to topic description as validated/refined at Kickoff Meeting with TPOC
- Note the collateral generated from each WBS task and its importance
- Confirm you are prepared for Phase II—everything is “ready to go”
- Validate Phase III and commercial opportunities
 - *TABA vendor should compile, make connections, get LOC's*
 - *Discuss benefits of commercialization for each Use Case*
 - *Provide market data—size and growth patterns*
 - *Note the 1:1 connections you have made in the market(s)*
- Engage all stakeholders

Phase II Proposal

Writing the Phase II Proposal

Maintain focus on merit review criteria

- Develop strategy and win themes
- Compliant outline
- Develop compelling argument for success
- Strongly focus on merit review criteria
- Differentiate from the competition
- Transition partner should be actively engaged

Phase I Contract Number	Topic Number	Firm Name
4 1 Description of Proposed Phase II Technical Effort Suggested allocation 1 page		Eval Criteria a
<i>[DON Instruction: Address the following sections in this proposal, paying particular attention to the description of the proposed Phase II work plan.]</i>		
Introduction		
• <i>TOC Suggestion: Demonstrate an understanding of the user's concept of operation, problem, critical issue being solved, and the benefit to the end user your solution could bring. If you don't know, ask the Topic Author, do research, talk to an end user; do not submit "blind" to the end user's requirements.</i> • <i>TOC Suggestion: Summarize your solution to the topic or subtopic, addressing the bullet above, in a sentence or two ("elevator story").</i>		[Summarize your offer here] • Challenge (end user) • Solution • Benefit 1 (end user) • ... • Benefit n
Table 1. Summary of [Client's] solution and its response to evaluation criteria		
Criteria	Summary	Proposal Section Reference
a. The soundness, technical merit, and innovation of the proposed approach and its incremental progress toward topic or subtopic solution	<i>TOC Suggestion: Summarize in two or three bullets that you have a sound, innovative approach with technical merit (define the terms)</i> <i>TOC Suggestion: Summarize anticipated results of Phase I that prepares for Phase II that produces a prototype/beta for operational evaluation</i>	<i>TOC Suggestion: Insert links to the relevant sections that touch on the review criteria</i>
b. The qualifications of the proposed principal/key investigators, supporting staff, and consultants. Qualifications include not only the ability to perform the research and development but also the ability to commercialize the results.	<i>TOC Suggestion: Bulletize your key personnel with very brief qualifications, R&D successes, and commercialization successes</i>	<i>TOC Suggestion: Insert links to the relevant sections that touch on the review criteria</i>
c. The potential for commercial (Government or private sector) application and the benefits expected to accrue from this commercialization.	<i>TOC Suggestion: Bulletize federal programs and commercial markets</i> <i>TOC Suggestion: Bulletize benefits to end user(s)</i>	<i>TOC Suggestion: Insert links to the relevant sections that touch on the review criteria</i>
Problem		
• <i>TOC Suggestion: Other people have tried to solve this before, demonstrate an understanding of the current state of the art and how it falls short of satisfying the end user's need (see 1.1).</i>		
Use or disclosure of data contained on this page is subject to the restriction on the first page of this volume.		

Phase II Work Plan Strategy

Stay firmly grounded in the topic

- Don't forget "why we came into the forest"
 - *Refer to topic description/SOW for Phase I and Phase II*
 - This was the Phase I plan
 - This is what we did
 - This is why we are ready for Phase II
 - *Revisit commercialization/applicable markets*
 - Federal, agency acquisition programs
 - Commercial, provide detailed markets research and entry strategy
- Increasing emphasis on commercialization
 - *Address this in the work plan*

A254-047: Photonic Crystal Surface-Emitting Lasers (PCSEL) for Advanced Laser Systems	
ADDITIONAL INFORMATION	N/A
TECHNOLOGY AREAS:	Materials Sensors
MODERNIZATION PRIORITIES:	Advanced Materials Integrated Sensing and Cyber
KEYWORDS:	Semiconductor laser; Laser diodes; Illuminators; Photonic crystals; Sources
OBJECTIVE:	Develop and optimize designs for near-diffraction limited, near-infrared Photonic Crystal Surface-Emitting Lasers (PCSEL) laser diode arrays; a multi-element, surface-emitting, semiconductor laser structure with single-spatial-mode emission. Devices must output sufficient intensity to be used in various laser-based efforts for the U.S. Army, including solid state laser pumping and direct illumination across near-infrared wavelengths.
DESCRIPTION:	The U.S. Army uses lasers in many of its mission areas and would greatly benefit from a low cost, efficient laser source with high beam quality such as the PCSEL. The Army uses Near Infrared (NIR) lasers, in conjunction with night vision goggles, during night operations for target pointing/marketing, precision fires, and target handoff. The NIR PCSEL can be developed to replace the existing edge emitter laser diode. The PCSEL device would be more compact, lighter weight, and less costly due to the PCSELS easy to manufacture planar structure, greatly improved beam quality, and reduced need for beam shaping and steering optics. The Army also uses compact solid-state lasers in laser rangefinders, for target marking/handoff, designation, and threat detection. These lasers use doped glass or crystal that are pumped by edge-emitting laser diodes. The edge-emitting lasers are highly asymmetric and highly divergent emission must be shaped by optical lenses in order to make it similar in profile to the round optical mode of the laser, as required to achieve good pump-mode overlap and high laser efficiency.
PHASE I:	This topic is accepting Phase I proposals for a cost up to \$250,000 for a 6-month period of performance. This research effort will require the design and optimization and fabrication of proof-of-concept of NIR PCSELS for use in U.S. Army applications. Develop PCSEL designs that meet program requirements as stated in the description portion of this topic, optimizing for beam quality. Results of modeling shall be provided as well as a manufacturing feasibility study. Metrics such as wavelength, power, duty cycle, efficiency, and beam quality should meet program objectives. Prior work in surface emitting laser diodes and photonic crystal meta-structures should be noted.
PHASE II:	Fabricate and deliver >10 proof-of-concept PCSELS of several configurations (multiple near-infrared wavelengths and emitter areas) to validate model and allow selection of best design. These devices should demonstrate significantly improved (>10x) beam quality over existing commercial laser diodes. The packaging should allow them to be easily powered with existing laser diode drivers and integrated into a benchtop laser characterization system.
PHASE III DUAL USE APPLICATIONS:	Lidar, rangefinding, illumination, identification, threat detection

Emphasize Phase III

Keep the long view

- Throughout the project, focus on Phase III as enabled by Phase II
 - *Recall what is done in Phase I is targeting Phase II further development*
 - *And Phase III Use Case(s): federal and commercial*
- What are the benefits to the End User operationally?
 - *Be specific/empirical*
 - *Note your 1:1 interactions with the End User(s) both federal and commercial that validate benefits*

Proposal Management

Organize your team

- Identify the writing team
- Schedule milestones
- Review gap analysis
- Include multiple reviews
- Integrate win themes

Additional Details

Take it seriously

- Validate proposal instructions and Evaluation Criteria
 - *Start proposal preparations early*
 - *Compliant outline should map to Evaluation Criteria*
 - TechOpp Strategy Guide does this notionally
 - Bulleted outline of the Technical Volume
 - *Ensure macro is compelling*
 - *Then write sections*
- Transition partner should be integrated team member
 - *TABA provider should make these connections and coach*
 - *Integrate partner(s) role into Phase II SOW/deliverables*
 - *Allocate sufficient budget to them with specific SOW/deliverables*
 - *State why these LOC's are “good news” in commercialization section*

Summary and Wrap Up

You are in a “Horse Race”

Multiple Awards for
Phase I

- Do your research—who are your competitors?
 - *Can you assess their solution?*
 - *Emphasize your fundamental advantages*
- Ability to transition / commercialize is key differentiator
 - *Knowledge of the Use Case is essential*
 - Specific empirical knowledge of the Use Case Key Performance Parameters
 - Know the “as-is” and the topic’s “to-be”
 - Benefits to the End User if you are successful
- Professional project management & reporting



Resources from TechOpp

Upcoming Webinar

Beyond SBIR Funding

- Addresses two key provisions from the INNOVATE Act (Paraphrased):
 - *Companies with >\$75M in SBIR/STTR awards will no longer be eligible for SBIR/STTR funding.*
 - *Small businesses with >25 PII lifetime awards must:*
 - Have annual non-SBIR/STTR receipts exceeding the total of PI + PII awards.
 - Receive a minimum of 65% of their receipts from other than SBIR/STTR receipts for the 3 years preceding the most recent fiscal year (only 35% of revenue can come from SBIR/STTR).



Moving Beyond SBIR Funding

Randy Simpson | 7/23/2025 | 2:00pm(EST)

Many successful companies who have leveraged SBIR funding to support R&D and product development may become ineligible. In this webinar we focus on how to secure non-SBIR funding to enable continued innovation.

 Add to Calendar

[Register Here](#)

Techopp.com/webinars

Information Resources

Stay Informed, Be Prepared, Speak Out

SBIR Reauthorization 2025

The SBIR program is due for reauthorization and must be completed by September 30, 2025. The proposed changes may present challenges to established participants and new opportunities for early stage companies. We offer informational resources and actionable guidance to assist small businesses to navigate this evolving landscape.

[Upcoming Live Webinars](#)

RECENT NEWS



Stay up to date with recent news. We summarize relevant articles from across the web with links to full articles.

[Read More](#)

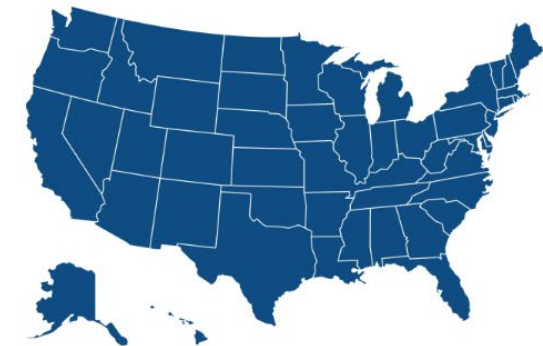
PROPOSED LEGISLATION



Multiple bills are currently proposed related to SBIR reauthorization. We provide summary highlights and links to full text documents.

[Read More](#)

FUNDING DISTRIBUTION



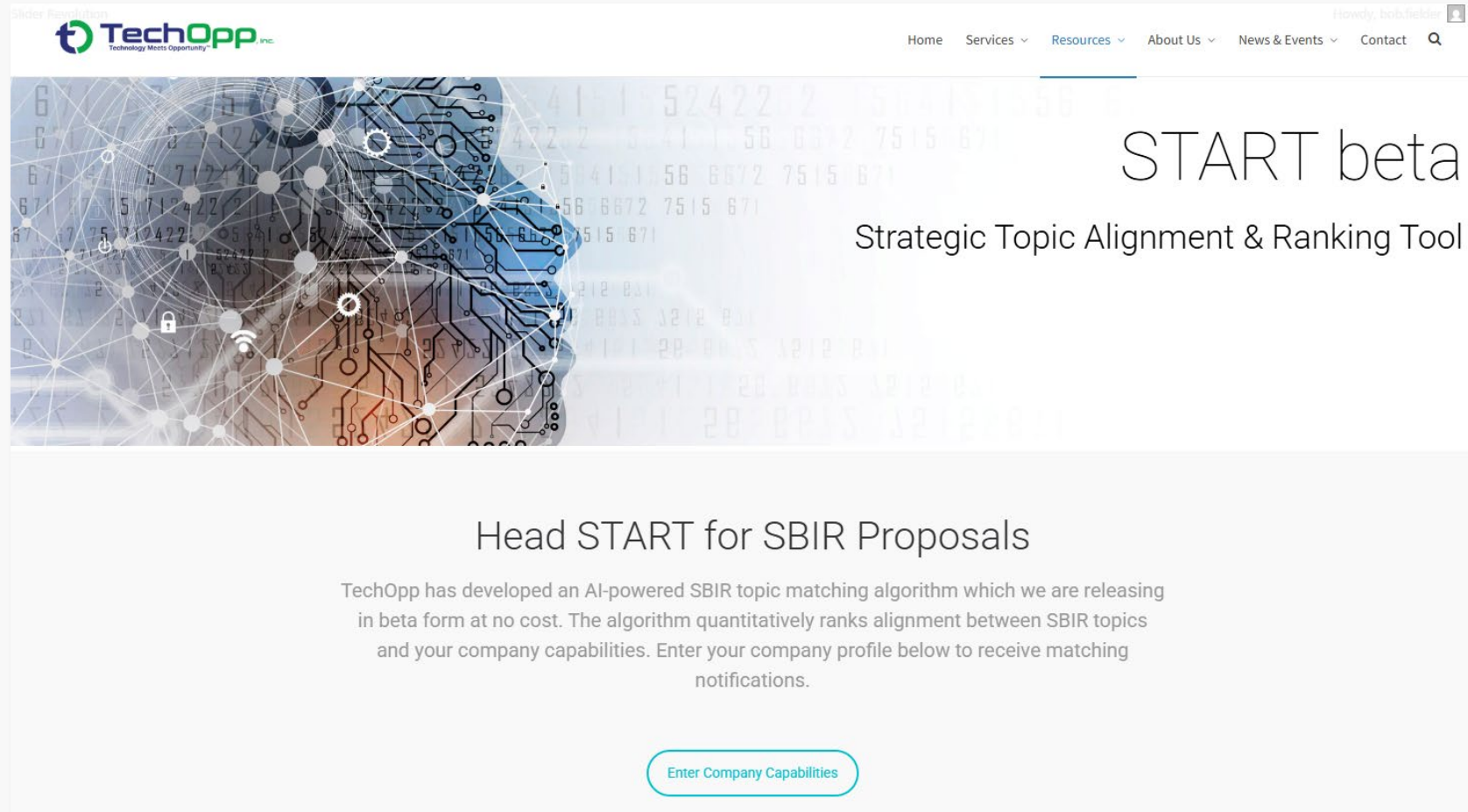
See SBIR funding distribution at the state and Congressional district level. We include links to your elected representatives.

[Read More](#)

Location: <https://techopp.com/resources/sbir-reauthorization/>

SBIR Topic Search Tool

Enter capabilities,
receive early
notification of topics



Location: <https://techopp.com/resources/sbir-topic-search-tool/>

Direct Support

How we can help



PROPOSAL DEVELOPMENT

Our proposal management process includes coaching, writing, editing, and assistance with proposal submission.



TECHNICAL AND BUSINESS ASSISTANCE (TABAs)

Our hands-on TABA support leverages federal funding to support technology transition and commercialization.



TRAINING

We leverage our hands-on experience to provide actionable SBIR training for state agencies and small businesses.



STRATEGIC MARKETING

Our marketing services focus on increasing brand visibility and driving customer engagement.





Thank You

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