



# Welcome!

**Webinar on USPTO Resources for  
SBIR/STTR Applicants**

# What We'll Cover Today

- Welcome and Introductions
- Overview of the SBIR/STTR Program
- IP and USPTO Basics for SBIR Applicants
- Q&A



# *America's Seed Fund* **How the U.S. Uses the SBIR Program to Foster Innovation**

Alison Evans, Program Analyst  
Office of Innovation and Technology  
Office of Investment & Innovation

# Why SBIR Program Was Started in 1982

- Prior to 1982 almost all Federal R&D funding was going to large businesses, government labs, and universities.
- SBIR was designed to force the US Government (USG) to spend a portion of their R&D funding with startups and small businesses working on high-risk, high-impact R&D in areas where other sources of funding were not available.
- Belief that the Nation was missing out on innovative ideas that needed to be matured outside of the universities.
- Not designed to fund minor improvements, late-stage, or productization but for first of a kind or cutting-edge technologies.
- Many projects will not succeed but funding is staged in Phases so that many ideas can be seeded and best funded more fully

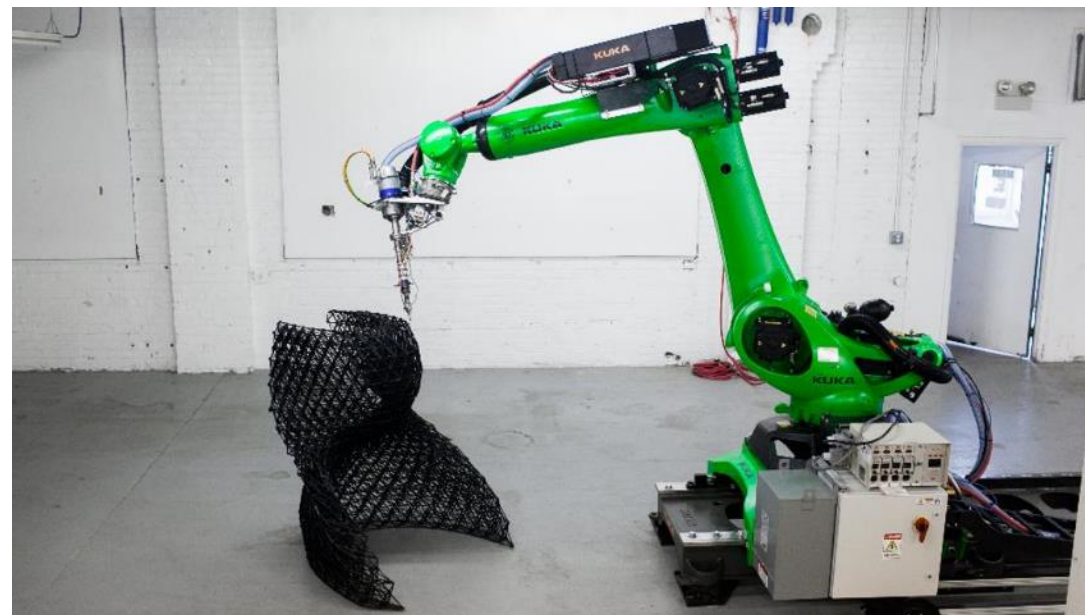
# Program has Produced Massive Economic Impact



- Created millions of high paying jobs
- Stimulated economic growth in new areas of the country
- ROI of over 20 to 1
- 11 of the 15 top US Biotech firms are SBIR awardees
- Tens of thousands of patents

# Why Small Business Loves about SBIR

- **Provides Non-Dilutive Capital**
- **Firms maintain Data Rights**
- **Funds ideas that others may not**
- **Ability to win sole source follow on contracts**



# What does an SBIR firm look like?



## PRODUCT

Built upon years of development, Ubiquitous Energy's transparent photovoltaic window coating harnesses solar energy from glass surfaces to generate electricity, all while remaining visibly indistinguishable from traditional windows.

Hydrionalix produces a line of unmanned vehicles that span from commercial products to military ones



# SBIR and STTR Basics

## Small Business Innovation Research (SBIR)

→ 3.2% of the extramural research budget for agencies with a budget greater than \$100 M per year

**~\$3.765 billion minimum spent each year**

## Small Business Technology Transfer (STTR)

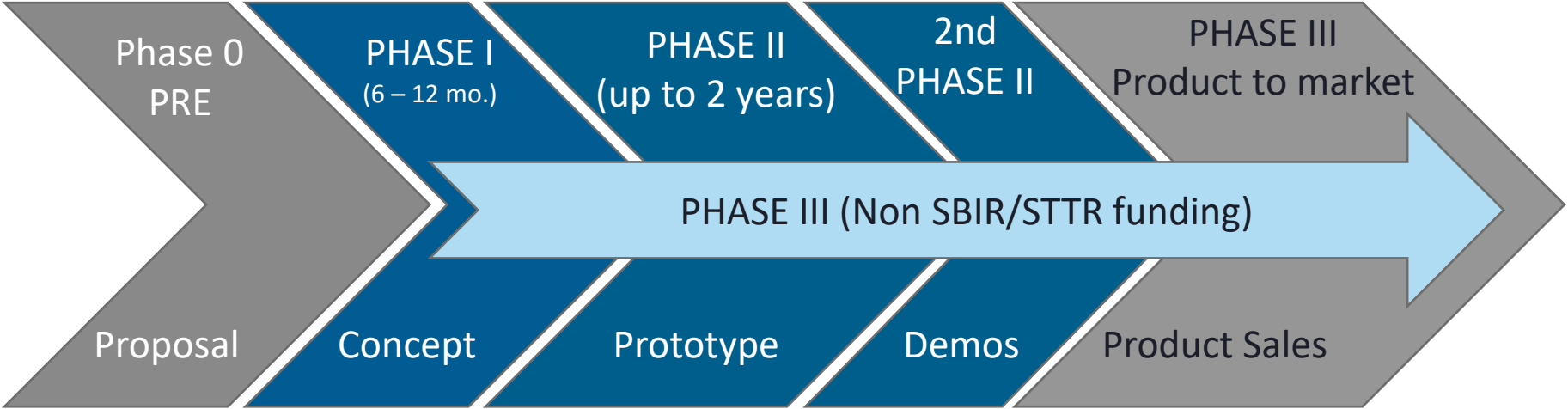
→ 0.45% of the extramural research budget for agencies with a budget greater than \$1B per year

**~\$518 million minimum spend each year**

Over 7,000 new awards every year!



# Only Phases I /II use SBIR/STTR \$\$\$\$



Phase I: Up to \$250,000    Phase II: Up to \$1,700,000

***The approval process is lengthy and highly competitive***

# Winning Proposals Must Document and Define the...

- The **significant technical R&D** needed to overcome challenging technical hurdles in the creation of a new capability, product, or service.
- A **unique and defensible technical innovation** that promises to create a durable competitive advantage for the firm.
- A company that is structured and staffed for **aggressive commercialization** of the new product/service.
- A **significant understanding of market and customer** indicating potential to meet an unmet commercial or agency need.

# FY 2021 SBIR/STTR Budgets by Agency



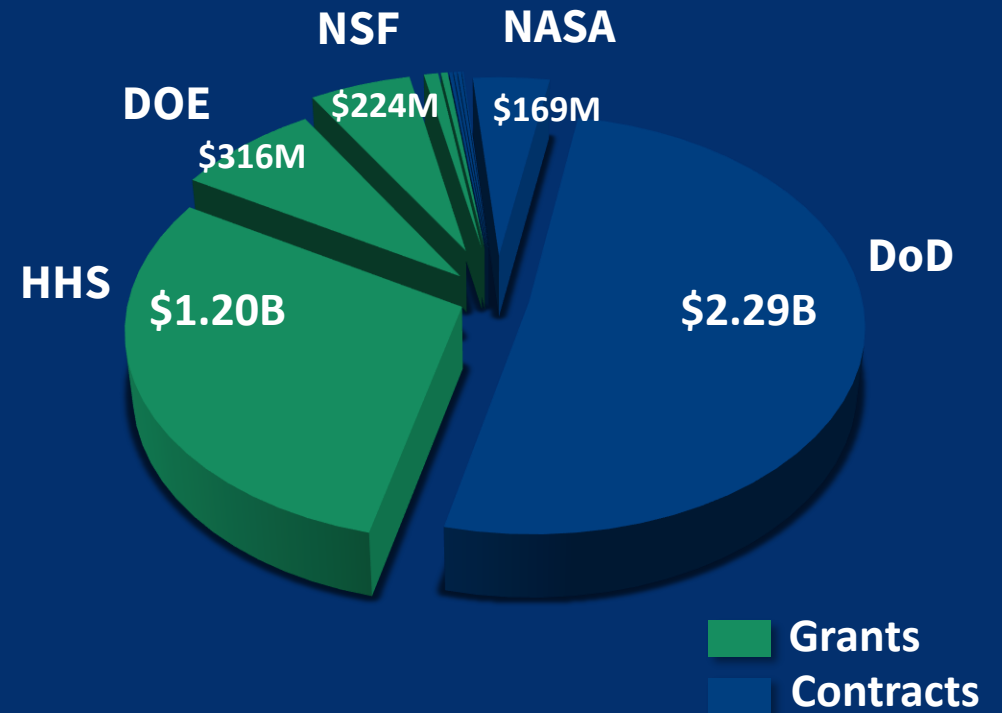
U.S. Small Business Administration

Agencies	Budget
Department of Defense (DoD)	\$2.29 B
Department of Health and Human Services (HHS)*, including the National Institutes of Health (NIH)	\$1.20 B
Department of Energy (DOE), including Advanced Research Projects Agency – Energy (ARPA-E)	\$316 M
National Science Foundation (NSF)	\$224 M
National Aeronautics and Space Administration (NASA)	\$169 M
U.S. Department of Agriculture (USDA)	\$32.2 M
Department of Homeland Security (DHS)**	\$15.0 M
Department of Education (ED)	\$11.8 M
Department of Commerce: National Oceanic and Atmospheric Administration (NOAA)	\$10.7M
Department of Transportation (DOT)	\$6.5 M
Department of Commerce: National Institute of Standards and Technology (NIST)	\$4.6 M
Environmental Protection Agency (EPA)***	\$4.1 M

\* Provides grants and contracts

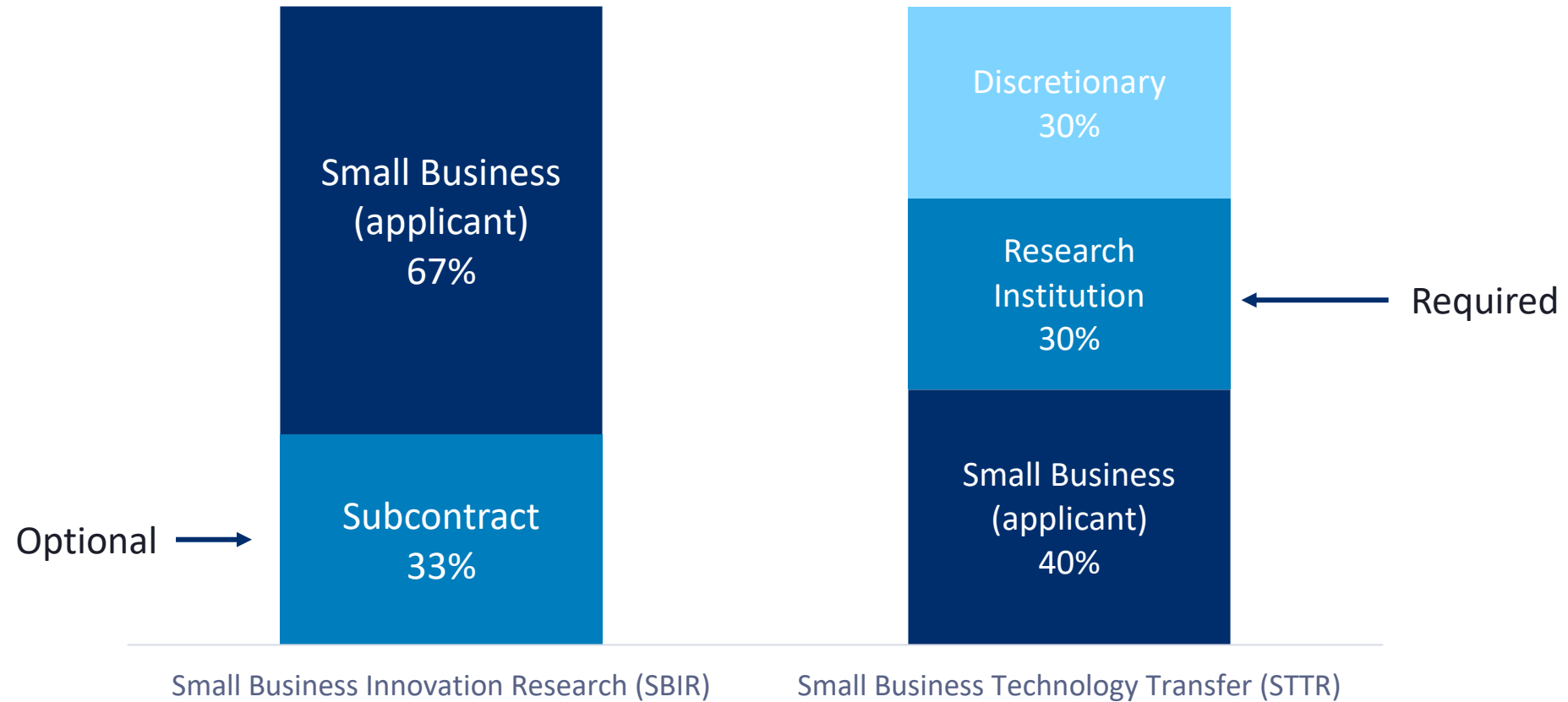
\*\* Estimated from prior years

\*\*\* Budgeted Amount; other Agencies Obligated Amount



**Total: \$4.282 Billion**  
 SBIR: \$3.765 Billion  
 STTR: \$518 Million

# What's the difference between SBIR and STTR?



**For SBIR percent changes in Phase II to minimum of >50% for Phase II**

# Which agencies fund SBIR only?

- Agriculture
- Education
- Environmental Protection Agency
- Homeland Security
- National Institute of Standards and Technology
- National Oceanic and Atmospheric Administration
- Transportation



# Which agencies fund both SBIR and STTR?

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

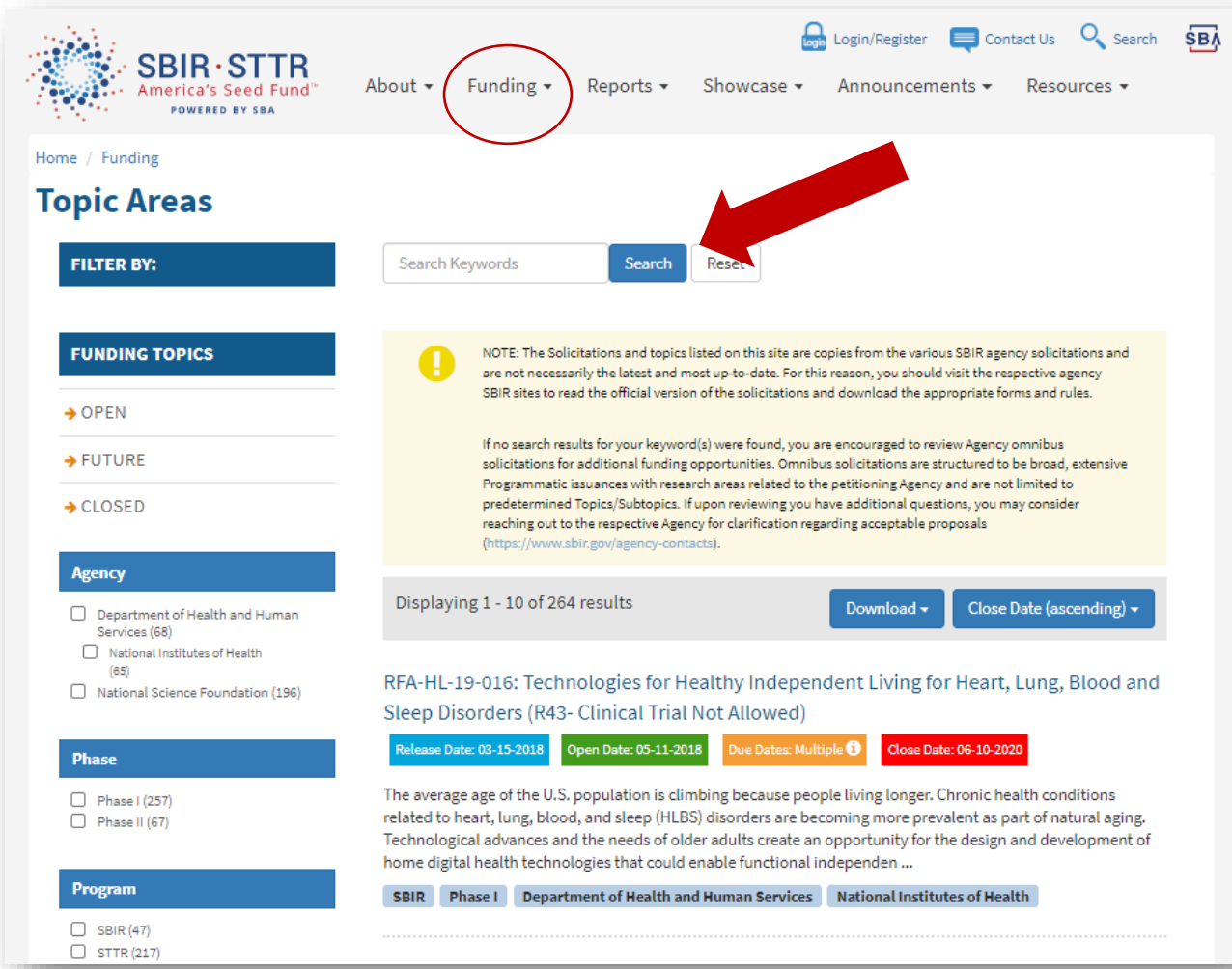


## Start by checking eligibility:

- Company must be for profit, U.S. owned and operated, and under 500 people
- Work must be done in the U.S.
- Focus is on performing R&D – Not purchasing equipment, commercializing a technology that has already been developed, or one that has very low risk and only needs capital

**The small business is ALWAYS the applicant and awardee!**

# Do some topic searches:



The screenshot shows the SBIR-STTR website interface. The top navigation bar includes 'About', 'Funding', 'Reports', 'Showcase', 'Announcements', and 'Resources'. The 'Funding' menu is circled in red. Below the navigation, there is a search bar with 'Search Keywords', a 'Search' button (pointed to by a red arrow), and a 'Reset' button. The left sidebar contains filter options for 'FUNDING TOPICS' (OPEN, FUTURE, CLOSED), 'Agency' (Department of Health and Human Services, National Institutes of Health, National Science Foundation), 'Phase' (Phase I, Phase II), and 'Program' (SBIR, STTR). The main content area displays a search result for 'RFA-HL-19-016: Technologies for Healthy Independent Living for Heart, Lung, Blood and Sleep Disorders (R43- Clinical Trial Not Allowed)'. It includes a note about the accuracy of the information, a 'Displaying 1 - 10 of 264 results' indicator, and buttons for 'Download' and 'Close Date (ascending)'. The result details include release and open dates, and a close date of 06-10-2020. The description mentions the average age of the U.S. population and the need for digital health technologies. The result is categorized by SBIR, Phase I, Department of Health and Human Services, and National Institutes of Health.

And learn which agencies fund different technology areas!



[www.sbir.gov/sbirsearch/topic/past](http://www.sbir.gov/sbirsearch/topic/past)



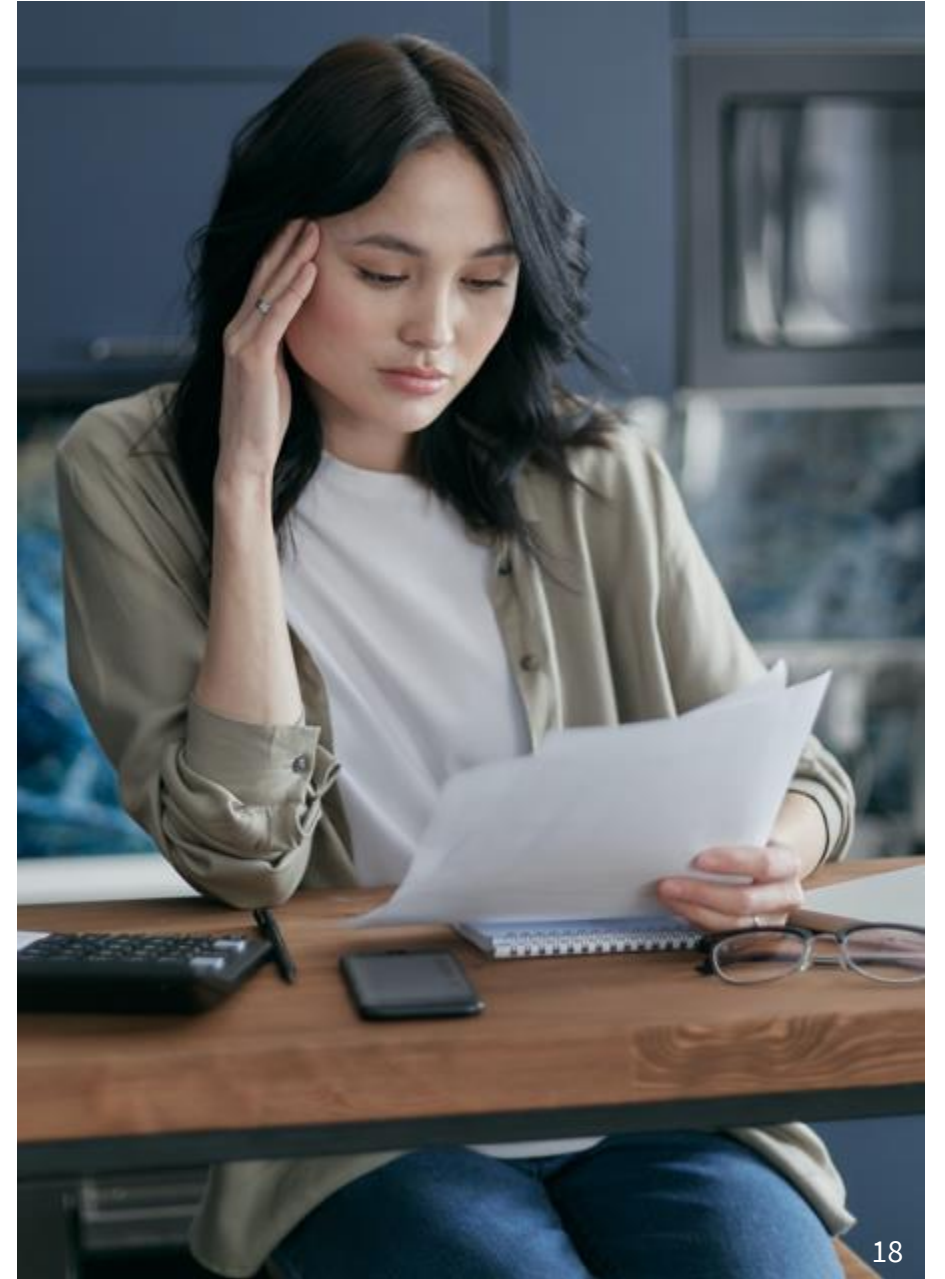
# What skills are involved with preparing a SBIR/STTR proposal?

- An innovative concept
- Understanding your agency customer's needs
- The application of the scientific method to a work plan
- Developing a business case
- Explicitly following an agencies guidelines
- Multiple registrations
- Developing a team and/or partnerships
- Financial preparation
- Time management



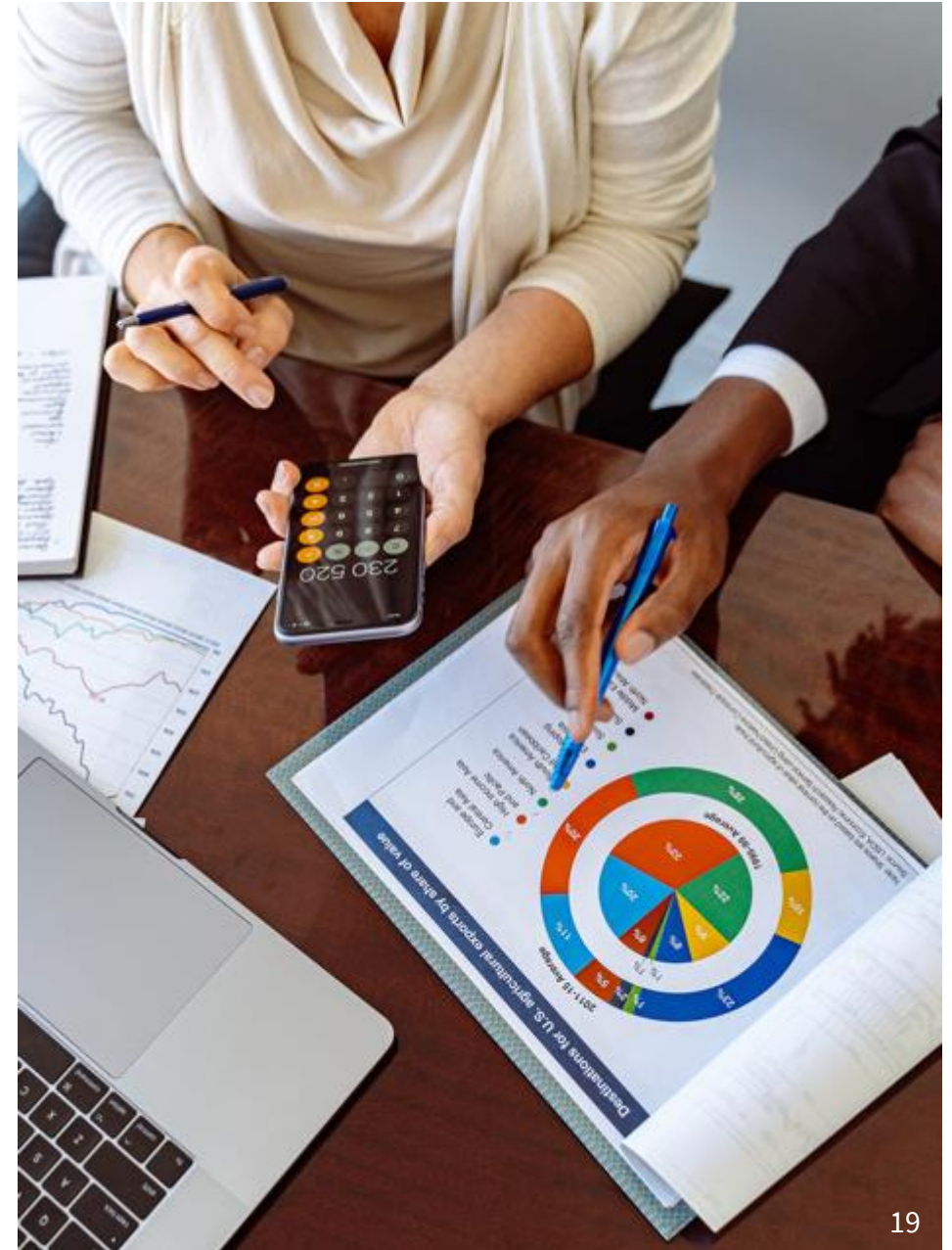
# What are the elements of an application?

- A technical proposal (called by various names)
- A qualified Principal Investigator (PI)
- Resumes of Key Personnel
- Facilities description
- Budget with cost justifications
- Other documents unique to each agency



# What are my chances of winning an award?

- The average award rate for Phase I is 15% across all agencies
- There is variability among agencies
- Both experienced and novice companies apply (40% winners are new to program)
- It takes time to learn how to prepare a winning application



# Strengthening the Pipeline: Talent Development Opportunities

- NIH Diversity Supplements ([PA-21-345](#))
- NSF Supplements for Research Experiences ([Undergraduates, Veterans](#))
- NSF Innovative Postdoctoral Entrepreneurial Research Fellowship ([I-PERF](#))
- [DOE Phase II Diversity Supplements](#)
- National Cancer Institute Small Business Transition Grant for Early Career Scientists ([RFA-CA-21-001](#))

# Building & Connecting an Inclusive Innovation Ecosystem

SBA supports local partners to counsel, mentor, and train small businesses in the innovation ecosystem.

## Find Local Assistance

### Local resources might be right around the corner

The SBA works with a number of local partners to train and support potential SBIR/STTR applicants around the country. Check now to find the help you need, from proposal assistance to SAM registration, commercialization support to industry connections.

Find a local resource near you:

Select a state ...



[www.sbir.gov/local-assistance](http://www.sbir.gov/local-assistance)

# Online Tutorials

55+ Courses including:

- Agency overviews
- Program basics
- Data rights
- IP protection

[www.sbir.gov/tutorials](http://www.sbir.gov/tutorials)

The screenshot displays the SBIR/STTR Tutorials website. At the top, a green banner reads "COURSE 4 FINDING TOPICS" and "TUTORIAL 1 HOW DO I FIND THE APPROPRIATE TOPIC?". Below this is a "Back to Tutorials" button. The main content area is divided into two columns. The left column contains a "FORMATS" section with options for "Audio/Video", "Multimedia" (highlighted), and "PDF", and a "TOOLS" section with options for "Glossary", "Links", "Quiz", and "Hide Options". The right column features a text block explaining that SBIR/STTR proposals must be submitted in response to a relevant topic, and a video player titled "SBIR/STTR TOPIC SEARCH ENGINES" with a play button. The background of the interface is a grayscale image of cherry blossoms and the Washington Monument.



### Entrepreneur

- Confirm eligibility
- Register my company
- Learn how to apply
- Edit company information
- Contact an SBIR Agency



### Support Organization

- See awards in your area
- View training opportunities
- Submit an event



### Federal Agency

- Procure cutting edge technology
- Share a success story
- Request an agency login
- Access Phase III information



Are you looking for SBIR/STTR funding?

[Find Opportunities](#)

# Stay In Touch

@SBIRgov  
#seedthefuture

[www.sbir.gov](http://www.sbir.gov)

[bit.ly/JoinSBIRList](https://bit.ly/JoinSBIRList)

[technology@sba.gov](mailto:technology@sba.gov)

**UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**uspto**



# **IP and USPTO basics for SBIR applicants and support organizations**

Miriam DeChant

Director, USPTO Global IP Academy (GIPA)

October 28, 2021

UNITED STATES  
PATENT AND TRADEMARK OFFICE



# **The United States Patent and Trademark Office (USPTO)**

# The USPTO is America's innovation agency

- Fostering innovation and economic growth
- Developing and promoting reliable, predictable, and high-quality intellectual property (IP) systems
- The USPTO is an agency of the U.S. Department of Commerce



IP Overview - Preview

# Types of Intellectual Property (IP)

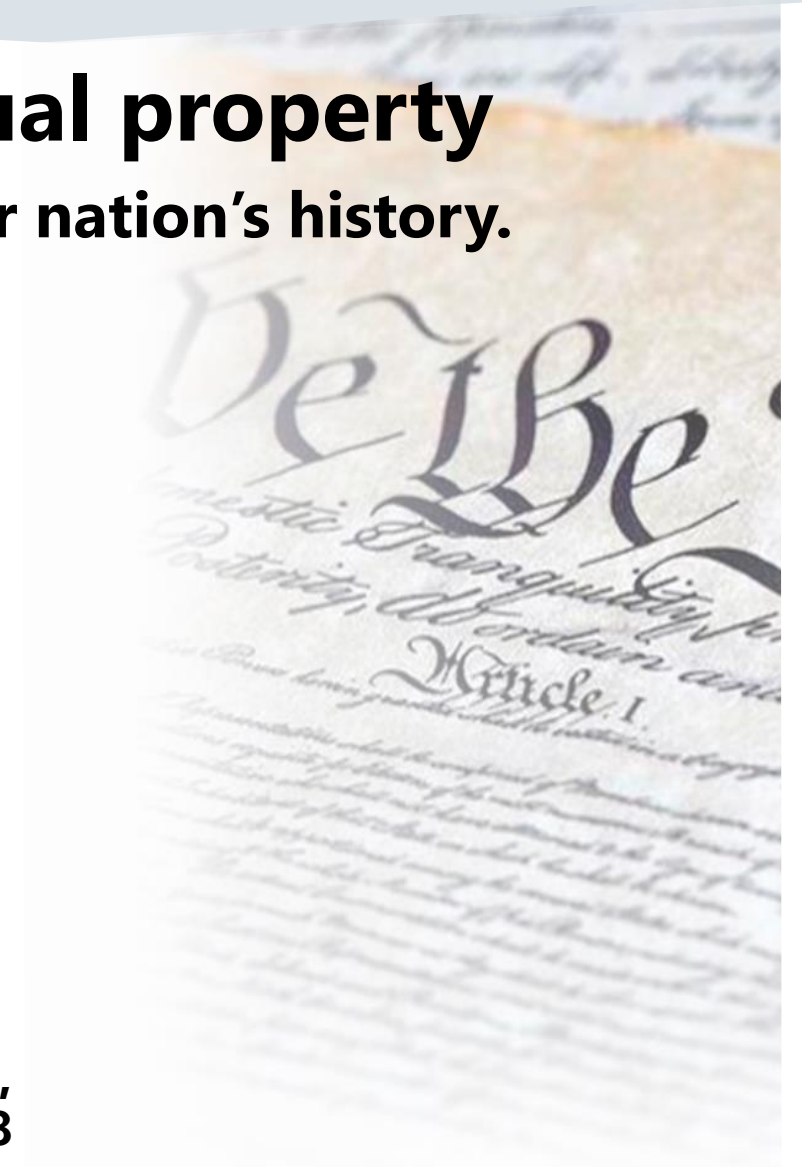
# Historical foundation of intellectual property

Intellectual property (IP) is deeply rooted in our nation's history.



“The Congress shall have Power ... to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries ... ”

- U.S. CONSTITUTION ARTICLE 1,  
SECTION 8, CLAUSE 8



# Types of intellectual property

 <b>Patent</b>	 <b>Trademark</b>	 <b>Copyright</b>	 <b>Trade secret</b>
New, inventive ideas	Identifies the origin of goods or services	Creative expression stored in a tangible form	Any information that is valuable & kept confidential
			

# Developing an IP strategy

- Assess your company's IP assets and prioritize
- Know your competition
- What's the pace of innovation and opportunities for growth?
- Determine the best way to protect your IP
- Develop a plan, set goals, and implement
- Get help!

USPTO resources for independent inventors, entrepreneurs, and small businesses

**USPTO resources**



# USPTO Assistance Centers

## Inventor Assistance Center

- Provides general information about the patent examination policy and procedure.
- 8:30 a.m. to 8 p.m. ET, Monday through Friday
- (571) 272-1000
- (800) 786-9199 (press 2)
- [www.uspto.gov/InventorAssistance](http://www.uspto.gov/InventorAssistance)

## Trademark Assistance Center

- Provides general information about the trademark registration process.
- 8:30 a.m. to 8 p.m. ET, Monday through Friday
- (571) 272-9250
- (800) 786-9199 (press 1)
- [www.uspto.gov/TrademarkAssistance](http://www.uspto.gov/TrademarkAssistance)



# Micro entity status

- 75% off most patent fees
- Low cost submission to establish filing date
  - Provisional application filing fees:
    - \$140 small entity
    - \$70 micro entity
- **Micro entity certifies that he/she:**
  - Qualifies as a small entity (less than 500 employees);
  - Has not been named as an inventor on more than four previously filed patent applications;

# Filing a patent application on your own

- Pro Se Assistance program provides outreach education to applicants (also known as "pro se" applicants) who file patent applications without the assistance of a registered patent attorney or agent.
  - [www.uspto.gov/ProSePatents](http://www.uspto.gov/ProSePatents)
  - [innovationdevelopment@uspto.gov](mailto:innovationdevelopment@uspto.gov)
  - 866-767-3848



## Patent basics

### Patent life cycle

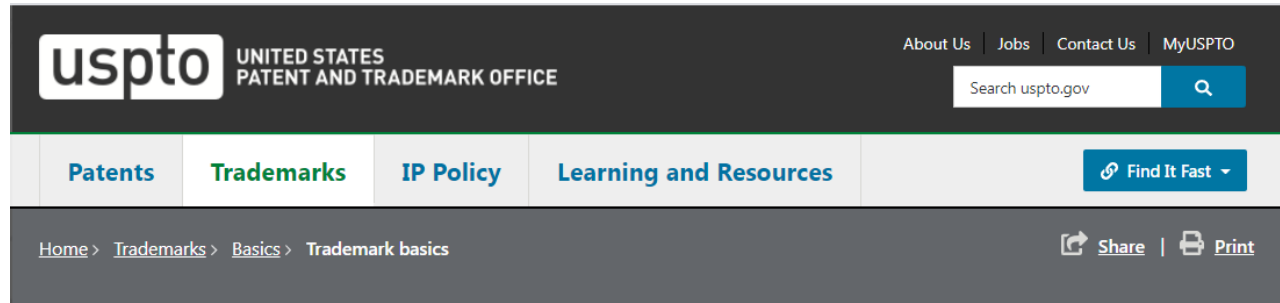


For more detailed information on the patent application process, review the [USPTO Patent Application Initiative Timeline](#).

 <p><b>The essentials</b></p> <ul style="list-style-type: none"> <li>&gt; What is a patent?</li> <li>&gt; Do I need a patent, a trademark, or a copyright?</li> <li>&gt; What kind of patent do I need?</li> <li>&gt; How long does it take?</li> <li>&gt; How much does it cost?</li> <li>&gt; Do I qualify for reduced fees?</li> </ul>	 <p><b>Understand the process</b></p> <ul style="list-style-type: none"> <li>&gt; Patent process step-by-step</li> <li>&gt; Patent system demystified</li> <li>&gt; Inventors Assistance Center</li> <li>&gt; Inventor and entrepreneur resources</li> </ul>	 <p><b>Prepare to file</b></p> <ul style="list-style-type: none"> <li>&gt; Seven step patent search strategy</li> <li>&gt; <a href="#">Application Assistance Unit</a></li> <li>&gt; In person help</li> <li>&gt; Finding a patent attorney</li> <li>&gt; Filing a patent on my own</li> <li>&gt; How to conduct a preliminary U.S. patent search [video]</li> </ul>	 <p><b>After a patent is granted</b></p> <ul style="list-style-type: none"> <li>&gt; Maintain your patent</li> <li>&gt; Licensing a patent</li> </ul>
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[www.uspto.gov/patents/basics](http://www.uspto.gov/patents/basics)





## Trademark basics



Do you have a name or logo you're using to advertise your business? You might have a trademark. Learn how to protect it through the federal registration process.



### Learning the essentials

- > What is a trademark?
- > Trademark, patent, or copyright
- > Trademark examples
- > Scope of protection
- > Strong trademarks
- > Why register your trademark?
- > Online trademark tools



### Understanding the process

- > Do I need an attorney?
- > How long does it take to register?
- > Checking status
- > Examination of your application
- > Approval for publication



### Preparing to file

- > Why search for similar trademarks?
- > Application requirements
- > How much does it cost?
- > Application filing basis
- > Goods and services
- > Drawings and specimens

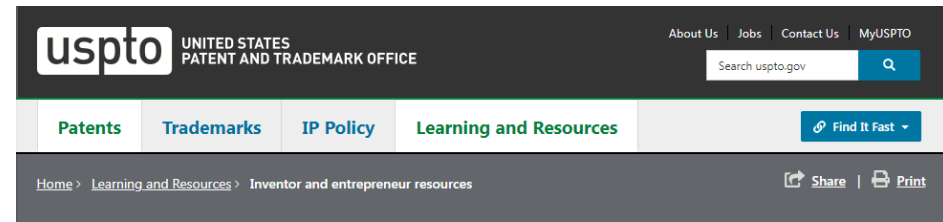
[www.uspto.gov/trademarks/basics](http://www.uspto.gov/trademarks/basics)











# Inventor and entrepreneur resources

- The USPTO's hub for resources and information for inventors, entrepreneurs, and small businesses.

[www.uspto.gov/inventors](http://www.uspto.gov/inventors)



## Inventor and entrepreneur resources

 <b>Get started</b> Learn about types of intellectual property (IP) and how to protect your idea or product. <ul style="list-style-type: none"><li>&gt; Types of IP protection</li><li>&gt; Attend a free training</li><li>&gt; Patents basics</li><li>&gt; Trademark basics</li></ul>	 <b>Before you apply</b> Search existing patents and trademarks to find out if your idea is unique. If it is, create an account. <ul style="list-style-type: none"><li>&gt; Search patents</li><li>&gt; Search trademarks</li><li>&gt; Create an account to apply</li></ul>	 <b>Get help to apply</b> Set yourself up for success by learning via USPTO's free resources and find expert help. <ul style="list-style-type: none"><li>&gt; Find resources near you</li><li>&gt; Watch our videos</li><li>&gt; Find a patent attorney</li><li>&gt; Do I need a trademark attorney?</li></ul>	 <b>Apply for IP rights</b> Submit your application for a patent or trademark. See if you qualify for reduced patent fees. <ul style="list-style-type: none"><li>&gt; Apply for a patent</li><li>&gt; Apply for a trademark</li><li>&gt; Costs to file</li><li>&gt; Reduced patent fees</li></ul>
 <b>After you apply</b> As your patent or trademark is examined you may need to take additional steps. <ul style="list-style-type: none"><li>&gt; Check application status</li><li>&gt; Respond to a Patent decision</li><li>&gt; Prepare for a patent interview</li><li>&gt; Respond to a Trademark decision</li></ul>	 <b>Appeal or fix an issue</b> An applicant may petition a procedural rule or issue, or appeal a patent rejection or trademark refusal. <ul style="list-style-type: none"><li>&gt; Learn about patent petitions</li><li>&gt; Learn about patent appeals</li><li>&gt; Learn about trademark petitions</li><li>&gt; Learn about trademark appeals</li></ul>	 <b>Entrepreneur resources</b> Learn about small business resources at the USPTO and other federal agencies. <ul style="list-style-type: none"><li>&gt; Startup resources</li><li>&gt; License or sell your IP</li><li>&gt; Change patent owner</li><li>&gt; Change trademark owner</li><li>&gt; Other federal resources</li></ul>	 <b>Protect yourself</b> Don't be misled by false claims, scams, or companies saying you need their services. <ul style="list-style-type: none"><li>&gt; Known patent scams</li><li>&gt; Known trademark scams</li><li>&gt; Register a complaint</li></ul>



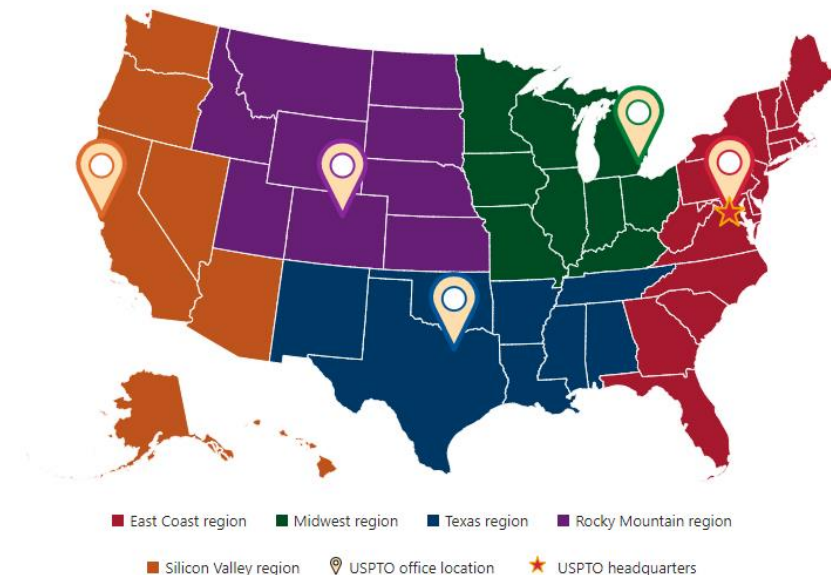
# Find help in your area

- Resources and assistance in your state for filing for a patent or registering a trademark
- Free patent and trademark legal assistance
- Learn to search inventions and trademarks
- Attend events in your region
- Network with inventor and entrepreneur organizations in your state
- Accessible via [uspto.gov](https://uspto.gov) homepage
  - New to IP? Find help in your [area](#)

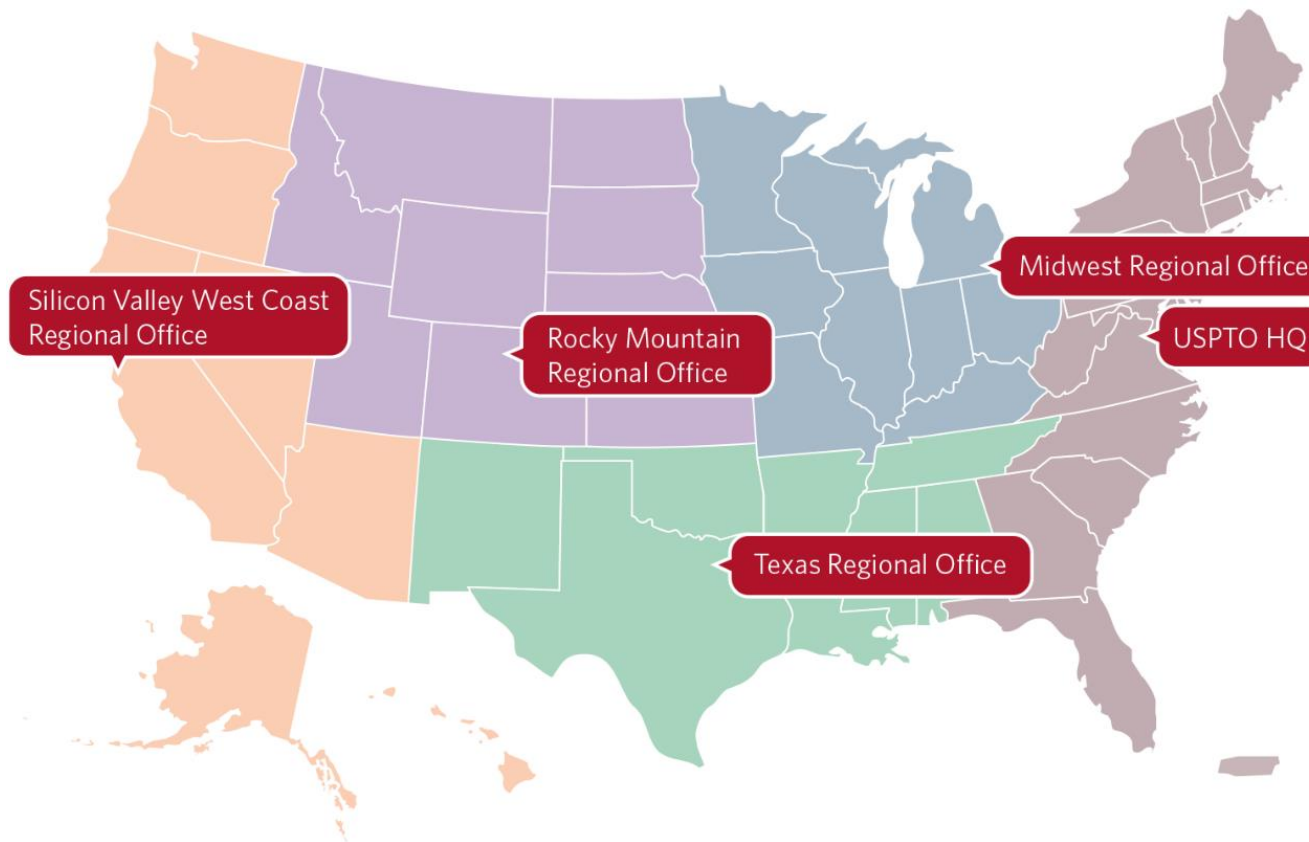
## Inventor and entrepreneur resources by state

There are lots of resources and assistance to make filing for a patent or registering a trademark easier, more affordable, and ultimately result in strong legal protection for your invention or brand. For example, if you can't afford an attorney, there are several programs that provide free legal representation. Use the map below to find out what is available in your state or at your regional office.

And remember, our [Inventor and entrepreneur resources page](#) is the USPTO hub for resources and information for inventors, entrepreneurs, and small businesses.



# USPTO offices



**USPTO headquarters**  
**Alexandria, VA**

**Eastern Regional Outreach Office**  
**Alexandria, VA**

– [www.uspto.gov/EastCoast](http://www.uspto.gov/EastCoast)

**Midwest Regional Office**  
**Detroit, MI**

– [www.uspto.gov/Detroit](http://www.uspto.gov/Detroit)

**Rocky Mountain Regional Office**  
**Denver, CO**

– [www.uspto.gov/Denver](http://www.uspto.gov/Denver)

**Silicon Valley Regional Office**  
**San Jose, CA**

– [www.uspto.gov/SiliconValley](http://www.uspto.gov/SiliconValley)

**Texas Regional Office**  
**Dallas, TX**

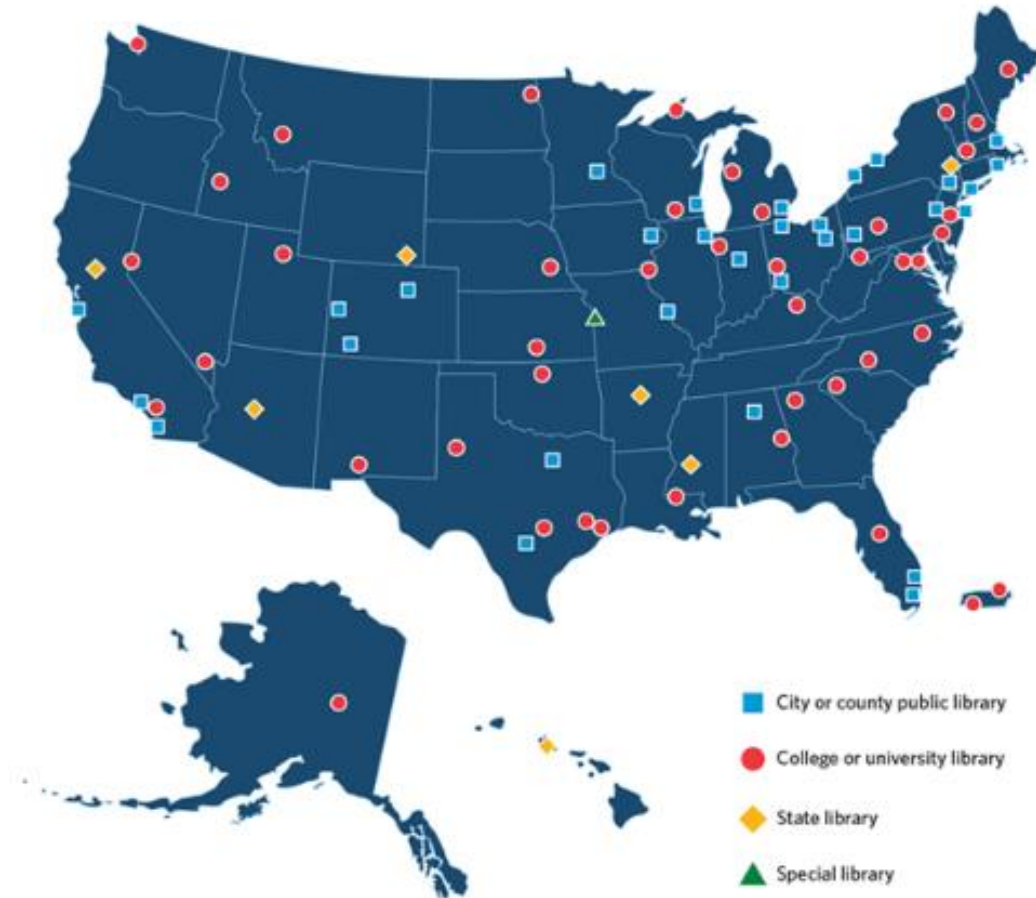
– [www.uspto.gov/Dallas](http://www.uspto.gov/Dallas)



# Patent and Trademark Resource Centers (PTRCs)

[www.uspto.gov/PTRC](http://www.uspto.gov/PTRC)

Nationwide network of public, state, and academic libraries that are designated by the USPTO to disseminate patent and trademark information and to support intellectual property needs of the public.

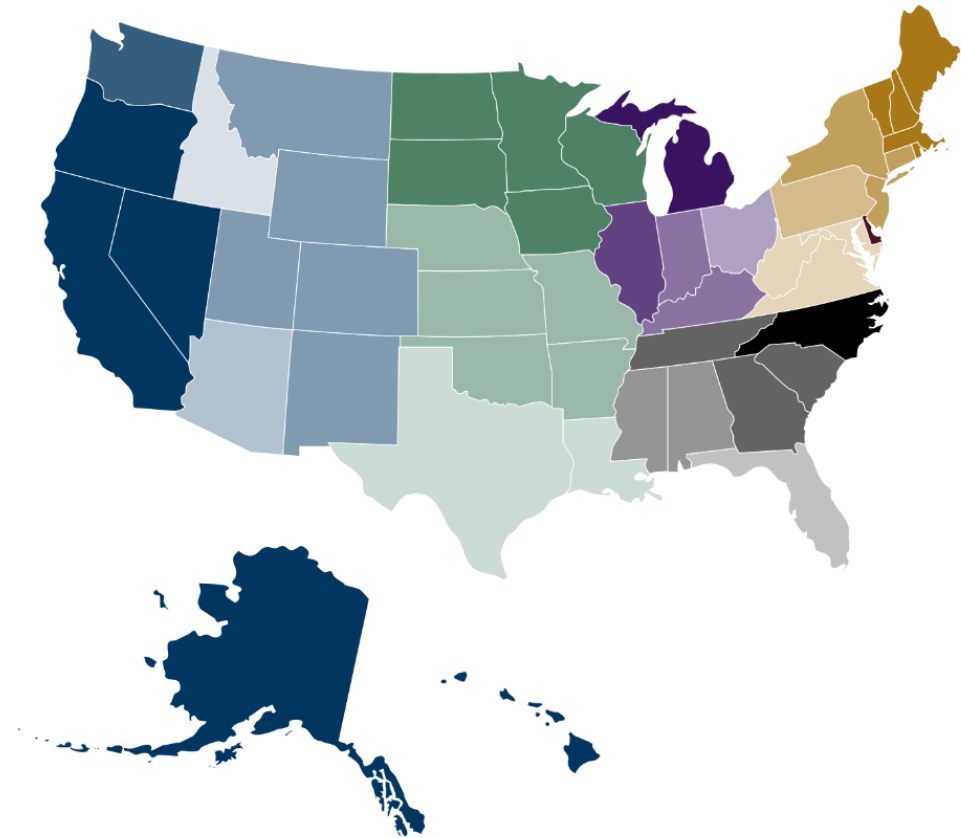


# Patent Pro Bono Program

This program matches financially underresourced inventors and small businesses with registered patent attorneys.

Learn more about how to apply for patent pro bono assistance:

[www.uspto.gov/ProBonoPatents](http://www.uspto.gov/ProBonoPatents)



# Law school clinics

- The USPTO's Law School Clinic Certification Program allows law students enrolled in a participating law school's clinic program to practice before the USPTO under the guidance of a law school faculty clinic supervisor.



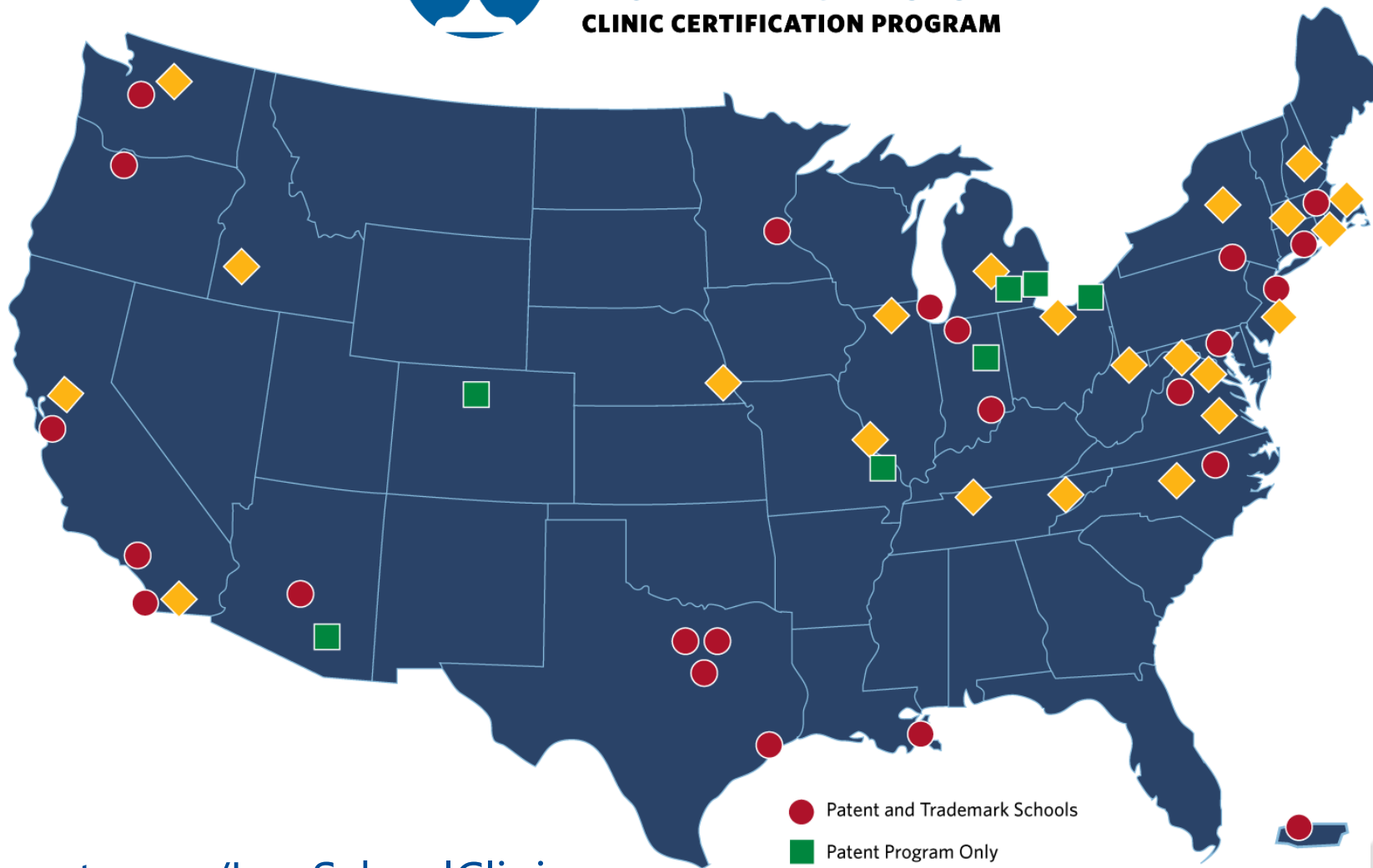
For more information, visit [www.uspto.gov/LawSchoolClinic](http://www.uspto.gov/LawSchoolClinic).



USPTO

# Law School

CLINIC CERTIFICATION PROGRAM

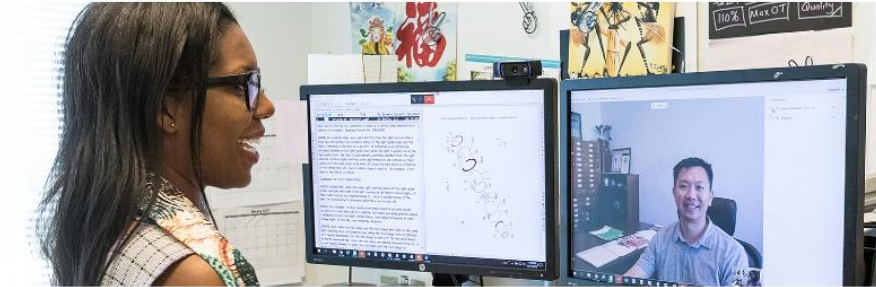


[www.uspto.gov/LawSchoolClinic](http://www.uspto.gov/LawSchoolClinic)

- Patent and Trademark Schools
- Patent Program Only
- ◆ Trademark Program Only



## Startup resources



The USPTO's hub for startup resources provides links you can use to find help as you address the intellectual property (IP) challenges specific to startups, including assessing your IP portfolio, securing funding, and guarding against costly infringement litigation.

You will find practical information and useful tools, available from a wide variety of government agencies, which can assist you at every stage of growing your business, from your initial idea to entering the global marketplace.



### Assess and protect your IP

**Guard your valuable work**  
 You need to know the value of your IP, and how to protect it, if you want to succeed and attract investors. You may even have IP assets you haven't considered.

- > Take your IP awareness assessment and get customized training materials
- > Protect your IP in the U.S.
- > Protect your IP abroad
- > Fight costly counterfeits



### Develop your business plan

**Do your homework**  
 As the saying goes, "If you fail to plan, you are planning to fail." Make sure to explore the wide variety of resources that can help you do your research and set your goals. The [Small Business Administration \(SBA\)](#), the [Minority Business Development Administration \(MBDA\)](#), and [Small Business Development Centers \(SBDCs\)](#) are there to help you.

- > Review the SBA's 10 steps to start your business
- > Get strategic consultation via the MBDA
- > Get advice and training through SBDCs



### Find funding

**Secure the investment**  
 There are many sources of startup funding, including grants, loans, and different kinds of investors. [Read the Small Business Administration \(SBA\) introduction to types of funding](#), then follow the links below for more details.

- > Search thousands of federal funding opportunities on Grants.gov
- > Find R&D seed funds from the SBA's SBIR/STTR
- > See if you qualify for a SBA loan



### Engage experts

**Get advice and assistance**  
 Find mentors, partnerships, and technological assistance in your industry. Learn to navigate the domestic and international IP markets.

- > Find USPTO resources for all types of innovators
- > Get NIST's help as you develop new technologies
- > Learn about international filing tools
- > Work with USPTO IP attachés to understand the global market
- > Explore IP in five languages

[www.uspto.gov/startups](http://www.uspto.gov/startups)



USPTO events for independent inventors, entrepreneurs, and small businesses

# Events

# IP events for small businesses

- The USPTO provides IP training and outreach to small businesses on a regular basis.
- Join us at an upcoming event or access materials from recent events for free to gain more in-depth knowledge about patents, trademarks, trade secrets, copyrights, commercialization of IP and enforcement of intellectual property rights.

[www.uspto.gov/about-us/events](http://www.uspto.gov/about-us/events)





# Thank you!



[uspto.gov](https://www.uspto.gov)



[usptovideo](https://www.uspto.gov/video)



[@uspto](https://twitter.com/uspto)



[@uspto](https://www.instagram.com/uspto)

[www.uspto.gov](https://www.uspto.gov)





**Thank You**

**Questions?**