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Executive Office of the President
Eisenhower Executive Office Building
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Via email: LabtoMarketRFI@ostp.eop.gov

RE: Request for Information to Make Access to the Innovation Ecosystem More Inclusive and Equitable

Dear Dr. Nelson:

The Intellectual Property Owners Association (IPO) appreciates the opportunity to respond to the request for comments on the Request for Information to Make Access to the Innovation Ecosystem More Inclusive and Equitable published in the Federal Register on June 3, 2022.

IPO is an international trade association representing a "big tent" of diverse companies, law firms, service providers and individuals in all industries and fields of technology that own, or are interested in, intellectual property (IP) rights. IPO membership includes over 125 companies and spans over 30 countries. IPO's vision is the global acceleration of innovation, creativity, and investment necessary to improve lives. The Board of Directors has adopted a strategic objective to foster diverse engagement in the innovation ecosystem and to integrate diversity, equity, and inclusion in all its work to complement IPO's mission of promoting high quality and enforceable IP rights and predictable legal systems for all industries and technologies.

IPO's mission is to promote high quality and enforceable intellectual property rights and predictable legal systems for all industries and technologies. Our vision is that this will result in the global acceleration of innovation, creativity, and investment necessary to improve lives.

IPO has an affiliated 501 (c) 3 education foundation (IPOEF) with a strategic objective to promote innovation and creation by, within, and for underrepresented communities.

Following are IPO's thoughts in response to the Request for Information.

Question 1a. In your experience, what are barriers to participation in the innovation ecosystem?

Some of the barriers to innovation inclusion specific to underrepresented groups include (1) lack of knowledge of the invention process, (2) confidence gap including perfectionist tendencies, and (3) self-awareness as an inventor. Additionally, underrepresented groups may not always be in the positions within organizations that generally create intellectual property, i.e., limitations to

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access. These barriers are discussed in greater detail in the [IPO Diversity in Innovation Toolkit](#)<sup>1</sup>, a toolkit that IPO initially released in 2019 for public use and re-released in January 2022. The toolkit is a resource for organizations to use for awareness of the issue and to move toward parity in innovation.

The lack of knowledge of the invention process could certainly be supported by government organizations simply through updating the material for the Inventors Assistance Program to ensure ease of understanding and accessibility.

The confidence gap is a theory that underrepresented inventors, particularly female inventors, are deterred from submitting their inventions for consideration because they only submit once they feel confident that their submission is perfect, or practically perfect. This confidence gap can result in underrepresented inventors not submitting their ideas for consideration for patenting as frequently in comparison to other groups.

Public and private organizations can work to remove these barriers by gaining an understanding of them and then identifying how to address them, which will be addressed in the questions below.

**Question 1b. Do barriers exist that are unique to innovators from specific underrepresented backgrounds or underserved communities? If so, what are those barriers?**

Examples of barriers unique to innovators of underrepresented backgrounds or underserved communities include affinity bias in hiring and project assignments, lack of awareness about communication style differences, cultural norms within an organization that may be unnecessary to the mission of the organization and that deter team members from showing up fully, and the threat of emotional or physical harm from micro-aggressions, harassment, and stereotyping.

Innovators of underrepresented backgrounds or underserved communities can also face barriers to participating in patenting innovations that are cultural, psychological, and/or economic in nature. Cultural barriers may be explicit or implicit and may impact how underrepresented innovators engage with colleagues and professionals in the innovation ecosystem. Psychological barriers may relate to the way underrepresented entrepreneurs see themselves and the opportunities available to them. Economic barriers are those that limit innovation opportunities available to underrepresented innovators because of lack of funding.

**Question 1c. How can the Federal government identify the specific barriers, problems, or issues faced by innovators and emerging entrepreneurs from underrepresented backgrounds or underserved communities as they seek to engage with Federal programs and services?**

Government agencies involved in the innovation ecosystem can facilitate affinity groups with inventors and individual stakeholders.

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<sup>1</sup> The IPO Diversity in Innovation Toolkit, created by IPO's Women in IP Committee, can be found at <https://ipo.org/index.php/diversity-in-innovation-toolkit/>. A Law Firm Complement was released in 2021 and can be found at [https://ipo.org/wp-content/uploads/2021/08/Law-Firm-Complement-to-Toolkit-2021\\_5August2021-compressed.pdf](https://ipo.org/wp-content/uploads/2021/08/Law-Firm-Complement-to-Toolkit-2021_5August2021-compressed.pdf). Both toolkits are crowdsourced documents that are subject to revisions and updating. Any additional comments to the material or collaboration with OSTP is welcome.

Agencies can establish mentorship or education programs for stakeholders that include mentors that have been successful or are at least familiar with the invention and/or entrepreneurial process. Government agencies can organize small group lunches or group dinners with people of different backgrounds and have them meet periodically to get to know each other and practice having courageous conversations around topics that allow the group to learn more about each person's background, their similarities, and their differences. These groups can be shuffled after several meetings to allow for more opportunities to have these conversations with other members of the team. Through these processes, government agencies can establish the specific barriers to entry experienced by underrepresented or underserved groups.

**2. How can the Federal government increase participation in the innovation ecosystem by innovators from backgrounds and communities underrepresented in the current ecosystem? In your response, please provide your definition of “underrepresented” or “underserved”.**

#### Targeting Primary Education

It is without a doubt that individuals among higher socioeconomic groups or those concentrated in certain areas of the country have more opportunity for and awareness of innovation, entrepreneurship, and intellectual property protection.

A potential way to reach lower socioeconomic groups is a program targeting middle or high schools as a way to introduce innovation to prospective innovators from all demographic, geographic, and economic backgrounds. In particular, governments at the state or municipal level can partner with local high schools to host an intellectual property day for a series of presentations and hands-on projects.

The OSTP could support these types of initiatives by producing a video or presentation to be used in support of hosting middle or high school students. IPO Education Foundation ([www.ipoef.org](http://www.ipoef.org)) is developing programs of this type and would be pleased to partner with OSTP on complementary initiatives.

The government can leverage the USPTO field offices around the United States to collaborate with schools to host ‘virtual career day(s)’ for high school students. Students can be exposed to a variety of topics introducing intellectual property and innovation, and also hear about potential career opportunities within the intellectual property field.

It is also understood that our educational system must continue to undergo transformation to support our national ambitions for advancing innovation. Current public middle school and high school curricula lack meaningful reference and education in intellectual property. While ad hoc projects and programs can be helpful, a more substantial incorporation of the importance of intellectual property in mainstream public school STEM and art programs will enhance and elevate improved understanding of IP and its importance.

Ideally, to solve this inequity problem within the innovation field, we would target those even younger than middle school students. A simple handout for teachers with young children to go through as an in-class exercise could be a wonderful teaching opportunity as an introduction.

Outside the U.S., such initiatives are commonly part of a national strategy to inspire and engage students at all levels in science and technology education. As an example, in 2003, the Korean Industrial Property Institute (KIPO) published a report entitled Korea's Invention Promotion Activities,<sup>2</sup> which addressed strategies for cultivating young inventors, including:

- (i) ***Invention clubs*** were established in select schools across the country to provide opportunities for students (and the public) to turn their ideas into inventions. The clubs are supported with full-time IP teachers.
- (ii) ***Invention classes***, first introduced in the 1980s, are offered in elementary, middle and high schools, with activities ranging from performing practical skills for making inventions to visiting sites where inventions are developed.
- (iii) ***Annual students' invention exhibitions*** are special events aimed at promoting inventions by students from elementary schools, middle schools, high schools and universities. Prize-winning inventions are publicly recognized and displayed.

Similarly, the Government of India, in its 2020 release of the draft 5th National Science, Technology, and Innovation Policy (STIP),<sup>3</sup> recommends a National School and Higher Education Mentorship Program to focus on innovation education and nurture early talent to pursue career paths in science and technology. For example, students of all educational levels will be given opportunities for exposure to the nation's leading scientific laboratories.

Approaches to invention education range from formal to informal programs and techniques, but all aim to provide engaging and inclusive learning environments that promote discovery and innovation at all age and grade levels.

The government can also support an anti-bias curriculum and teacher training for pre-kindergarten through high school for public schools to drastically reduce the subtle, negative messages that students from underrepresented groups may hear throughout their pre-kindergarten through high school experiences.

### Encouraging Entry into the Field of Intellectual Property

This conversation typically centers around (1) how to increase the number of people from underrepresented groups<sup>4</sup> that study a science or technology field that allows them to sit for the USPTO bar exam, (2) how to encourage qualified candidates from underrepresented groups to attend law school and/or sit for the USPTO bar exam, and (3) how to create inclusive work environments for supporting the careers of IP attorneys and agents from underrepresented groups.

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<sup>2</sup> [www.kipo.go.kr/upload/en/download/KoreaInventionPromotionActivities.pdf](http://www.kipo.go.kr/upload/en/download/KoreaInventionPromotionActivities.pdf).

<sup>3</sup> <https://dst.gov.in/draft-5th-national-science-technology-and-innovation-policy-public-consultation>.

<sup>4</sup> For this answer, IPO adopts NASA's definition of "underrepresented" and "underserved" groups found at <https://www.nasa.gov/offices/education/programs/national/must/home/definitions.html>, as well as definitions used by institutes of higher education for example by Emory University found at <https://equityandinclusion.emory.edu/resources/self-guided-learning/common-terms.html>. However, our answer is not limited to these groups and are designed to address disparity with respect to all groups whose presence of invaluable resources remain undiscovered and untapped.

To encourage people in underrepresented groups to study a science or technology field that allows them to sit for the USPTO bar exam, outreach programs may be an effective way to reach potential students. Outreach programs may include career day panels/speakers, shadow programs with local practitioners, or published materials that are distributed to students. Such programs may be useful in targeting middle and high school aged student, students in their first year of college (or before they decide on a major), and students already enrolled in qualifying programs. In addition, outreach programs may be more effective if the speakers represent underrepresented groups.

Shadow programs with local practitioners and local schools to give students from underrepresented groups an opportunity to shadow a local practitioner for a week to get a taste of what being an IP attorney or agent is like and to hear more about what the path looks like. We also support the request from Senators Hirono, Coons, and Tillis to re-consider the guidelines for eligibility for taking the USPTO bar exam to remove unnecessary barriers to entry into this field.

An additional challenge and hurdle to becoming registered to practice before the USPTO is the cost of and access to adequate exam preparation. USPTO sponsored preparatory programs and basic involvement to help reduce the cost and access barrier can be helpful.

#### Targeting Small Businesses and Solo Inventors

The federal government can encourage agencies on the state or municipal level can create grant programs and/or allocate funding for regional cohort programs that can provide information, resources, and mentorship that may be helpful for individual inventors and small businesses within their jurisdictions. Some universities sponsor cohort programs (e.g., self-funded or using funding from the government organizations such as the NIH), and it would be helpful to have this support for non-university inventors and small businesses (e.g., through regional technology incubator programs). It may be helpful to have the SBA assist with these grant programs.

The USPTO in particular could provide a more robust, publicly available, and free prior art search engine that allows individual inventors and small businesses to consider the patentability of their inventions in the early stages of development.

Another option is to create more outreach opportunities from the OSTP, USPTO and SBA to share information on patent protection and entrepreneurship with individual inventors and small businesses. These outreach opportunities can include presentations, clinics, and publications available on the OSTP, USPTO and SBA websites.

Creating publications written by people from underrepresented groups that speak to the potential for innovation and/or highlight innovation backed by members of underrepresented groups will also help improve awareness.

The USPTO fee structure and application submission requirements and how they impact accessibility to patent and trademark protection from individual inventors and small businesses should be considered.

Tracking demographics of inventors and SBA loan applicants initially and over time will help to understand whether there has been improvement and to see trends and track and study them, leading to a better understanding of participation and success by members of underrepresented groups.

The government can consider expanding pro bono programs to assist with providing information on the patenting process and, if applicable, assistance in drafting patent applications. Second, information on who to contact (patent practitioners in the field) listed on the USPTO website would also be beneficial to ensure people have an appropriate contact in the field.

### Gathering and Releasing Metrics for Improvement

Awareness, engagement, and celebration of successes are necessary to support year-over-year performance of actions plans and initiatives in the short-term. The OSTP can consider a release of metrics (like the WIPO data) in a timely fashion to show the progress and if necessary, to adjust the program or metrics themselves. Ideally, agencies such as the OSTP and the USPTO could allow for self-reporting of metrics on all diverse aspects including gender and race and could then provide a clean data set (for privacy considerations) for analysis. While in the short term, these metrics could provide some benefit, in the long term, once an established data set has been gathered, it could prove highly beneficial for data and trend analysis.

Some specific, meaningful, and relevant measures in terms of metrics could include:

- Comparison of the nationality, age, gender of inventors as well as veteran, disability, and LGBTQ status overall as well as by technical field, region, etc.
- How many applications include at least one inventor from an underrepresented community? In other words, reports for each underrepresented community identified, including females.
- How many granted or commercial patents include at least one inventor from each underrepresented community? In other words, reports for each underrepresented community identified, including females.
- How many new female inventors were there in a given year compared to the number of new male inventors in a given year?
- Percentage of inventors from each underrepresented community listed on a patent application compared to those in non-underrepresented communities listed on a patent application, and then the same metrics per patent unit area/technology field/geography etc.
- How many inventors from each underrepresented community are repeat inventors compared to those in non-underrepresented communities?
- Inventor rates as described above within certain art units and comparison of change over time.
- Percentage of unique male versus unique female inventors listed on an application in a given year – this would allow for analysis of a caveat that potentially a small group of males are responsible for a large number of filings.
- Percentage of unique inventors from each underrepresented community listed on an application in a year versus unique inventors from non-underrepresented communities

- The number of different employer or organization applicant associated with a male versus female or underrepresented community inventor.

**Question 3. How can the Federal government meet the specific needs (e.g., training, support, other) of innovators and emerging entrepreneurs from backgrounds and communities underrepresented in the innovation ecosystem by either improving existing government programs or initiatives, or by offering new government programs or initiatives?**

Government organizations can and should continue to promote self-awareness as an inventor and spotlight underrepresented inventors so those in similar positions can see themselves as an inventor in the future. For example, the USPTO implements diverse inventor fireside chats available on webcast as well as Twitter and LinkedIn posts on this topic. The promotion of underrepresented inventors could be simply an email communication, or a social media post highlighting minority and female inventors, or through a more formal recognition process including an underrepresented inventor award. More information about and ideas to improve innovation culture can be found in IPO's Diversity in Innovation Toolkit.

Enhancing Access to Support

The federal government can help encourage underrepresented inventors by providing awareness for the intellectual property process by specifically providing information on who to contact and how to reach out within the various agencies. Some examples include IP office hours, ask an attorney email, or can provide a classroom style training given by IP staff to employees.

Increasing awareness of the disparity throughout the organization (and industry) allows people to be aware of the leaks in the patenting process that the disparities with respect to the patenting process. Some examples of affinity groups that can be implemented within government agencies include Women's Leadership Programs or Groups, African Americans Networks, Hispanic Networks, Pride Networks, Asian Americans Networks, etc. Awareness by leaders and managers is necessary to ensure success and to ensure appropriate engagement.

The federal agencies can collaborate with private industries or professional organizations, such as the IPO, to establish mentorship and coaching programs to educate stakeholders on the IP process. Together, the various organizations can work to form affinity groups for diverse inventors that could provide a relaxed atmosphere of a network of colleagues to guide underrepresented inventors through the process. Management training can also prove beneficial to help guide employees through this confidence gap and to ensure that there is no bias in the group on determining job responsibilities or potential inventors.

Encouraging Participation Through Raising Awareness

Additionally, a program that is led by or highlights underrepresented innovators is a great way to allow those in the same or a similar situation to imagine they can excel in the intellectual property field. For example, if an underrepresented inventor was to speak at a company presentation regarding her IP, it would allow other females to imagine themselves in the same position. Government agencies can highlight these inventors on their website.

As a basic matter for supporting and encouraging underrepresented inventors in an organization, there is little substitute for organizations focusing on attracting, developing and retaining diverse talent. For intellectual property practitioners to support and encourage underrepresented inventors in their organizations, this talent must exist in their organization. Intellectual property practitioners may be positioned to help raise awareness through patent-related data they may uniquely have access to or navigate. Governments can help raise awareness and access of this data to intellectual property practitioners.

### Provide Teacher Training

The federal government can collaborate with the patent bar and other bar associations and organizations (e.g., Intellectual Property Owners Association (IPO), the American Bar Association (ABA), the American Intellectual Property Law Association (AIPLA), state bar associations, etc.) to provide training and resources to teachers and schools on innovation. Thereafter, teachers could also work with organizations, such as the Boys & Girls Clubs of America and other like organizations, to incorporate programs into after school and summer offerings. Established programs, such as Camp Invention, by the National Inventors Hall of Fame<sup>5</sup>, can be incorporated into the regular school curriculum to introduce intellectual property concepts, including innovation, at early ages to all students, not just those taking advantage of Camp Invention programs which have limited availability geographically (and sometimes pose a financial barrier to many students). For example, the IP Patch program sponsored by IPO<sup>6</sup> could be expanded or updated to help provide an introduction and awareness of intellectual property in schools. Further, after school programs with a focus on innovation, e.g., the robotics clubs or FIRST<sup>7</sup> Robotics Competition<sup>7</sup> could be added to encourage students to get involved early and allows more flexibility for fun activities and programs, without taking anything away from the already required curriculum. Through partnerships with these organizations, teachers could develop a “What is Intellectual Property” curriculum that can be used in the school system to introduce students to the concepts early, using examples appropriate for the age level. These already established programs and materials provide a starting point for teachers to build upon and do not require the teachers to start from ground zero.

### Implementing Award Programs

Incorporating education on IP should go hand-in-hand with national student creativity and innovation awards across all economic groups. Long-standing awards programs like Scholastic’s Annual Art & Writing Awards<sup>8</sup>—in existence since the 1920s with notable winners including Stephen King and Andy Warhol—provide only limited reference to intellectual property and the crucial role it plays in protecting and elevating the very submissions these programs are collecting. Awards programs like these reach many students and educators across the nation, extending beyond privileged environments to the rural and economically advantaged thanks to the efforts of these program managers and leaders. Nevertheless, IP awareness opportunities can quickly be lost at crucial moments like the applications process if the importance,

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<sup>5</sup> <https://www.invent.org/programs/camp-invention>.

<sup>6</sup> <https://www.ipof.org/ip-patch/>.

<sup>7</sup> <https://www.firstinspires.org/about/history>.

<sup>8</sup> <http://mediaroom.scholastic.com/press-release/98th-annual-scholastic-art-writing-awards-now-welcoming-submissions>

encouragement and support of IP is not featured as part of the value and protection in the considerations for young inventors, writers and artists.

In order to support innovation programs within schools, corporate and law firm donations and other grants could be leveraged to provide the resources and materials necessary to provide the programs, and the patent bar could be available to assist or be 'guest speakers.' Support from sponsors will increase engagement as well as provide financial support for program scaling.

#### Establishing Grants or Other Forms of Financial Support

Recently, there has been an increase in organizations and programs that help promote access to capital to an expanded group of inventors and entrepreneurs. These can be largely divided into the following sectors: Government; Academic; Corporate; and Non-profit. Some of the programs focus on specific diverse groups, such as [Golden Seeds](#), which is a group of investors seeking and funding women-led businesses. Some of the programs focus on establishing scalable ecosystems, such as [Accelerating Women And Under-Represented Entrepreneurs \(AWARE\)](#), which is a National Science Foundation (NSF) funded project that promotes a new approach to encourage participation of female entrepreneurs and entrepreneurs from other under-represented groups. Some programs offer financial support directly, such as [Small Business Innovation Research \(SBIR\) and Small Business Technology Transfer \(STTR\)](#), that support innovation through investments from Federal research funds to foster and encourage participation in innovation and entrepreneurship by women and socially or economically disadvantaged persons, while others provide financial support indirectly, for example, [Cardozo/Google Patent Diversity Project](#), that indirectly offers financial assistance by providing free legal Intellectual Property services with the mission of increasing the number of U.S. patents issued to women and inventors of color.

Furthermore, there are a few ways the federal government can indirectly provide financial support in order to build an inclusive innovation ecosystem. The federal government can provide a one-stop portal to a database of resources that allow entrepreneurs easy access to information regarding financial support focused on promoting access to capital to an expanded group - similar to the database shown in the article, [Essential Venture Capital Database for Women Entrepreneurs](#), and the [portal](#) provided by the National Science Foundation. Moreover, the federal government may provide financial support indirectly by providing accelerated examinations for minority applicants in the form of a pilot program, reduced fees for minority applicants, or a certificate (similar to the awards under the [Patents for Humanity](#) program). Additionally, the USPTO may provide a hotline for minority applicants, similar to what is offered by the [Pro Se Assistance Program](#), thereby making the matters before the USPTO more affordable. However, a screening process may be required to certify qualification for such service.

#### Encourage Partnership and Mentorship Programs

Effective commercialization partnership and mentorship programs should provide training in myriad diverse areas including funding, patenting, trademarking, commercialization terminology, business model options, regulatory considerations, ethics considerations, marketing, prototyping, and product development. There exist several programs that provide varying combinations of the listed competency areas at academic institutions, corporations, non-profit organizations, and

governmental initiatives. Examples of such initiatives at academic institutions include the [Mentor in Residence](#) program at Johns Hopkins Technology Ventures, [Cornell Tech Runway Startup Postdocs](#), [MyStartupXX](#), [AWARE: Accelerating Women And underRepresented Entrepreneurs](#) at University of Illinois Research Park, [REACH for Commercialization](#) at Ohio State University, and [Collaboratory](#) mentorship and sponsorship through the University of Florida's [UF Innovate](#) program. Similar corporate and non-profit initiatives include [STEM to Market](#), [New York Fashion Tech Lab](#), [SCORE](#), [EWITS](#), [Anita B](#), and [iNvictus](#). Some examples of governmental entities that provide access to similar initiatives include New York City's Department of Small Business Services [BE NYC Mentors](#) program, the U.S. Department of Commerce office focuses on the development of minority business through its [Minority Business Development Agency](#), and the [Small Business Administration Mentor-Protégé program](#). Additional resources include support provided by institutional technology transfers departments, minority-focused incubator and accelerator initiatives, scholarships dedicated to inclusive innovation, and entrepreneurial law clinics to assist minority entrepreneurs and inventor with their navigation of legal documents and processes.

There appears to be several opportunities for the USPTO to collaborate with some of these programs. This increased outreach may serve as avenues to introduce minority and underrepresented inventors to the advocacy work of the federal government to enhance the diversity landscape in innovation.

Another opportunity where the federal government can assist with successful commercialization is the provision of a readily accessible repository of easily understandable web-based content and tools that include step-by-step guidance to minority and underrepresented inventors throughout the patenting and product commercialization lifecycle. These approachable web-based tools should include ([simplified example](#)) video content generated by various sources including the federal government and/or corporations, documentation that a layperson can easily review and understand, live webinars during which applicants can ask clarifying questions, downloadable content, and resource links (e.g., to the websites of potential collaborators listed).

### Engage in Inclusive Studies

There is a need for the federal government to pointedly address the historical challenges that minority inventors have historically faced in the patenting process. Live webinars may prove to be a suitable forum for this open discussion. This would assist with fostering a sense of partnership between the USPTO and minority inventors. This candid approach can potentially engender a greater sense of trust of the patenting process by highlighting the enhancements to the overall patenting process and the positive impact on minority patent applicants' ability to receive fair and unbiased examination of their patent applications.

Also, the federal government could potentially seek to explore the patent gap data provided by [Invent Together](#), which, as described on their website, is a coalition of organizations, universities, companies, and other stakeholders dedicated to understanding the diversity gaps in invention and patenting and supporting public policy and private initiatives to close them. The goal of Invent Together is to close the patent gaps for women, people of color, and low-income individuals to help close wage and wealth gaps, strengthen the U.S. economy, and develop new and different inventions. They believe that everyone should have the opportunity to invent and

patent. Their goal is to increase the availability of data and research on the patent gaps and break down barriers based on race, gender, income, and other characteristics.

**Question 4. Are there examples of programs that have seen success in supporting innovators from underrepresented backgrounds and underserved communities in the innovation ecosystem? What are the critical success factors of these programs?**

Below are some examples of organizations, programs, and resources that currently focus on building an inclusive innovation ecosystem.

Sector	Programs	Details
Government programs	<a href="#">Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)</a> programs	The SBIR/STTR programs support innovation through investments from Federal research funds and one of the goals is to foster and encourage participation in innovation and entrepreneurship by women and socially or economically disadvantaged persons.
	<a href="#">National Institutes of Health SBIR/STTR</a> programs	Invests over 1 billion dollars into health and life science companies that align with NIH’s mission to improve health and save lives.
	<a href="#">National Science Foundation (NSF)</a>	The NSF provides a <a href="#">portal</a> to find various funding opportunities.
	NSF <a href="#">ADVANCE: Organizational Change for Gender Equity in STEM Academic Professions</a> grant	The NSF ADVANCE program provides grants to enhance the systemic factors that support equity and inclusion and to mitigate the systemic factors that create inequities in the academic profession and workplaces.
	NSF <a href="#">AWARE: Accelerating Women And under-Represented Entrepreneurs</a> program	NSF-funded project that promotes a new approach to encourage participation of female entrepreneurs and entrepreneurs from other under-represented groups.
	<a href="#">Small Business Administration (SBA)</a>	SBA offers free business counseling, business loans, and opportunities to win small business government contracts.
	USPTO <a href="#">Patent Pro Bono Program</a>	Nationwide network of regional programs that match volunteer patent professionals with financially under-resourced inventors and small businesses for the purpose of securing a patent.
	<a href="#">Law School Clinic Certification Program</a>	Certification program for Intellectual Property (IP) Clinics at law schools to allow law students to practice Intellectual Property Law before the USPTO under guidance of a faculty supervisor. This allows entrepreneurs access to free legal IP advice, which otherwise could be unaffordable.
	<a href="#">Patents for Humanity</a>	Patents for Humanity is an awards competition recognizing innovators who use game-changing

		technology to meet global humanitarian challenges. Awardees receive a certificate to accelerate various matters before the USPTO, which can be a cost-saving mechanism for entrepreneurs.
	U.S. Department of Commerce - <a href="#">Minority Business Development Agency (MBDA)</a>	MBDA promotes growth of minority-led businesses through access to capital, access to contracts, and access to markets.
<b>Academic Programs</b>	<a href="#">Cardozo/Google Patent Diversity Project</a>	Cardozo/Google Patent Diversity Project is a Google-funded project at Cardozo Law School that focuses on increasing the number of U.S. patents issued to women and inventors of color. This program indirectly offers financial assistance by providing free legal IP services.
	<a href="#">Columbia Startup lab (CSL)</a>	Co-working space to recent alumni, thereby providing financial support.
	<a href="#">FastForward (JHU)</a>	FastForward helps entrepreneurs navigate funding sources. In FY20, FastForward created 11 new startups, and their portfolio companies raised \$278 million in venture funding.
	<a href="#">Fordham Entrepreneurial Law Clinic (ELC)</a>	Free transactional legal services to startups in New York, provided by Fordham Law School.
	<a href="#">Penn Law Entrepreneurship Legal Clinic</a>	Free transactional legal services to entrepreneurs, provided by University of Pennsylvania Carey Law School.
<b>Corporate Programs</b>	<a href="#">Golden Seeds</a>	Golden Seeds is a group of investors seeking and funding women-led businesses.
	<a href="#">Silicon Harlem</a>	Silicon Harlem promotes an innovation ecosystem to under-represented communities in the Harlem neighborhood of New York.
	<a href="#">International Business Innovation Association (INBIA)</a>	INBIA is a global non-profit organization that provides industry resources, education, events, and global programming to entrepreneurial organizations worldwide.
	<a href="#">The Lemelson Foundation</a>	The Lemelson Foundation funds programs and projects in invention education and entrepreneurship.
	<a href="#">Diversity VC</a>	Diversity VC aims to increase diversity in the startup space via venture funding.
<b>Miscellaneous Resources</b>	<a href="#">Essential Funding Guide for Entrepreneurs of Color</a>	An article that provides a list of grants and funds focusing on entrepreneurs of color.
	<a href="#">Essential Venture Capital Database for Women Entrepreneurs</a>	An article that provides a database of VCs looking to invest in women entrepreneurs and diverse founding teams. The database can be filtered to show results in specific industries, regional areas, and funding stages.

Below is a description of some examples of organizations, programs, and resources that provide commercialization-focused mentorship programs that seek to help experienced entrepreneurs impart this specialized knowledge to diverse and novice inventors.

Sector	Programs	Description
<b>Government Programs</b>	<a href="#">Minority Business Development Agency</a>	The U.S. Department of Commerce, Minority Business Development Agency (MBDA) is the only federal agency solely dedicated to the growth and global competitiveness of minority business enterprises.
	<a href="#">BE NYC Mentors</a>	Black Entrepreneurs NYC (BE NYC), an initiative of the NYC Department of Small Business Services (SBS), is a groundbreaking model for a major American city to help create equity of opportunity by advancing Black entrepreneurship.
	<a href="#">Small Business Administration Mentor-Protégé program</a>	Protégés can get valuable business development help from their mentors in several areas, including: <ul style="list-style-type: none"> <li>○ Guidance on internal business management systems, accounting, marketing, manufacturing, and strategic planning</li> <li>○ Financial assistance in the form of equity investments, loans, and bonding</li> <li>○ Assistance navigating federal contract bidding, acquisition, and performance process</li> <li>○ Education about international trade, strategic planning, and finding markets</li> <li>○ Business development, including strategy and identifying contracting and partnership opportunities</li> <li>○ General and administrative assistance, like human resource sharing or security clearance support</li> </ul>
<b>Academic Programs</b>	<a href="#">Mentor in Residence FastForward</a>	Developing a startup into a sustainable business presents unfamiliar challenges. FastForward accelerates the growth of early-stage ventures by providing basic legal and accounting support, access to information resources, networking opportunities and more.
	<a href="#">Cornell Tech Runway Startup Postdocs</a>	The Runway Startup Postdoc Program is part business school, part research institution, and part startup incubator. The program lasts 12–24 months and incorporates academic and business mentorship.
	<a href="#">MyStartupXX</a>	The mystartupXX program is a unique accelerator that was created to increase and encourage diversity in entrepreneurship, particularly women.
	<a href="#">AWARE: Accelerating Women And</a>	The program exists to support entrepreneurship training, counseling, and networking. The AWARE

	<a href="#">underRepresented Entrepreneurs</a>	program seeks to aid women and underrepresented entrepreneurs through a proof-of-concept award. The AWARE proof-of-concept award provides funding to potential SBIR/STTR applicants to enable prototype development and accelerate the path toward commercialization. The program includes targeted mentorship, training, and networking opportunities.
	<a href="#">REACH for Commercialization</a>	This segment introduces the commercialization process and features successful women entrepreneurs at Ohio State. Participants explore their own research programs, discuss potential ideas for commercialization and reflect upon the benefits and challenges of taking ideas to market.
	<a href="#">Collaboratory</a>	The Collaboratory for Women Innovators seeks to inspire, educate, and empower women to attain leadership in all phases of the innovation lifecycle. Mentorship is an important component of Collaboratory programming. With the help of a mentor, our participants can grow professionally, overcoming barriers and taking part in new innovative endeavors.
<b>Corporate &amp; Non-Profit Programs</b>	<a href="#">STEM to Market</a>	STEM to Market advances STEM women entrepreneurs, cultivates intentional and inclusive investors, and develops connections across STEM entrepreneurship ecosystems.
	<a href="#">New York Fashion Tech Lab</a>	The New York Fashion Tech Lab was co-founded and is produced by nonprofit venture catalyst: Springboard Enterprises. The Lab connects a select cohort of women-led, b2b, fashion & retail focused technology companies who are fostering iteration, validation, and acceleration of technologies to advance the industry.
	<a href="#">SCORE</a>	Our network of resources, seminars, and classes will guide you in setting up your own minority run and operated business effectively.
	<a href="#">iNvictus</a>	As the HUB of Minority Entrepreneurship iNvictus was launched to foster the entrepreneurial talent already growing in the community. We differentiate ourselves from all other coworking spaces by focusing predominantly on the issues minority entrepreneurs face in business and we address them through our iNvictus EMERGE (Entrepreneurship, Mentorship, Economic Development, Research, Growth & Education) program.
	<a href="#">Invent Together</a>	Invent Together is a coalition of organizations, universities, companies, and other stakeholders dedicated to understanding the diversity gaps in invention and patenting and supporting public policy

		and private initiatives to close them. We want to close the patent gaps for women, people of color, and low-income individuals to help close wage and wealth gaps, strengthen the U.S. economy, and develop new and different inventions. Invent Together believes that everyone should have the opportunity to invent and patent. We can do this by increasing the availability of data and research on the patent gaps and by breaking down barriers based on race, gender, income, and other characteristics.
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Currently, there are several resources available to inventors and entrepreneurs. These resources include aid with product development, licensing, and distribution. Some of these resources are listed below.

Sector	Programs	Description
<b>Government Programs</b>	<a href="#">National Science Foundation</a> (Product Development)	The National Science Foundation’s Innovation Corps (I-Corps™) program uses experiential education to help researchers gain valuable insight into entrepreneurship, starting a business or industry requirements and challenges. I-Corps enables the transformation of invention to impact. The curriculum integrates scientific inquiry and industrial discovery in an inclusive, data-driven culture driven by rigor, relevance, and evidence. Through I-Corps training, researchers can reduce the time to translate a promising idea from the laboratory to the marketplace. NSF is developing and nurturing a national innovation network to guide scientific research toward the development of solutions to benefit society.
	<a href="#">National Inventors Hall of Fame®</a> (Product Development, Licensing, and Distribution)	The mission of the National Inventors Hall of Fame® (NIHF) is recognizing inventors and invention, promoting creativity and advancing the spirit of innovation and entrepreneurship.

	<p><a href="#">Small Business Innovation Research (SBIR) &amp; Small Business Technology Transfer (STTR)</a> (Product Development, Licensing, and Distribution)</p>	<p>The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are highly competitive programs that encourage domestic small businesses to engage in Federal Research/Research and Development (R/R&amp;D) with the potential for commercialization. Through a competitive awards-based program, SBIR and STTR enable small businesses to explore their technological potential and provide the incentive to profit from its commercialization. By including qualified small businesses in the nation's R&amp;D arena, high-tech innovation is stimulated, and the United States gains entrepreneurial spirit as it meets its specific research and development needs.</p> <p>Central to the STTR program is the partnership between small businesses and nonprofit research institutions. The STTR program requires the small business to formally collaborate with a research institution in Phase I and Phase II. STTR's most important role is to bridge the gap between performance of basic science and commercialization of resulting innovations.</p>
	<p><a href="#">The White House Initiative on Asian Americans and Pacific Islanders (WHIAAPI)</a></p>	<ul style="list-style-type: none"> <li>• Implement pipeline-building programs that identify and cultivate AAPI leaders;</li> <li>• Incentivize AAPIs to pursue new skills for the digital/virtual economy that enhance their ability to serve the broader U.S. community;</li> <li>• Ensure equal opportunities for AAPIs to pursue their dreams through higher education;</li> </ul>

		<ul style="list-style-type: none"> <li>• Increase AAPI representation in federal service, particularly in senior management, as well as in federal internships and in federal pipeline and mentorship programs;</li> <li>• Include AAPIs in diversity initiatives, particularly in workforce development programs and initiatives for entrepreneurs and businesses;</li> <li>• Encourage top 500 U.S. companies to embrace AAPI advancement as a corporate responsibility or priority;</li> <li>• Establish innovative mentorship programs for AAPI entrepreneurs and professionals;</li> <li>• Continue to recognize and celebrate the many positive contributions of AAPIs; and</li> <li>• Recognize the extraordinary challenges currently being faced by AAPI health care workers due to the COVID-19 pandemic, including from anti-AAPI biases and hate crimes.</li> </ul>
	<p><a href="#">Invent Together</a> (Product Development)</p>	<p>Invent Together is a coalition of organizations, universities, companies, and other stakeholders dedicated to understanding the diversity gaps in invention and patenting and supporting public policy and private initiatives to close them.</p> <p>Educating policymakers, practitioners, and the public about the patent gaps and the benefits of patent diversity.</p> <p>Supporting new research on the reasons for the patent gaps and how to close them.</p> <p>Promoting public and private sector initiatives to develop and institute best practices for patent diversity.</p>

		<p>Sharing stories of diverse inventors.</p> <p>Advocating for the Inventor Diversity for Economic Advancement (IDEA) Act, which would direct the USPTO to collect demographic data from patent applicants and owners on a voluntary basis and make this information available to the public.</p>
<b>Academic Programs</b>	<p><a href="#"><u>Association of University Technology Managers (AUTM)</u></a> (Product Development, Licensing, and Distribution)</p>	<p>AUTM is a non-profit leader in efforts to educate, promote and inspire professionals to support the development of academic research that changes the world and drives innovation forward. Their members work closely with commercial partners to transform ideas into opportunities, resulting in the creation each year of thousands of products, services and start-ups, and millions of dollars in economic development.</p>
	<p><a href="#"><u>Collaboratory (for women Inventors)</u></a> (Product Development, Licensing, and Distribution)</p>	<p>Diversity is critical to the success of innovation in the U.S., and research shows that there is still a significant disparity in the numbers of women entrepreneurs and innovators. The Collaboratory seeks to bridge that gap by supporting participants at various stages of personal and professional development.</p>
	<p><a href="#"><u>Federal Laboratory Consortium for Technology Transfer (FLC)</u></a> (Product Development and Licensing)</p>	<p>The FLC was organized in 1974 and formally chartered by the Federal Technology Transfer Act of 1986 to promote and strengthen technology transfer nationwide. Today, more than 300 federal laboratories, facilities and research centers and their parent agencies make up the FLC community. Members of the FLC community</p>

		<p>include world–renowned scientists, engineers, inventors, entrepreneurs, academia, laboratory personnel, and T2 professionals.</p> <p>Over the years, the FLC has made great strides in providing the tools, services, and educational resources that reflect the latest science and technology legislation through the most current technological platforms of the time. Whether it be through improved communications like social media, or by offering T2 strategy training sessions through regional grass–roots efforts, the organization has always sought to create an environment that adds value to and supports the T2 efforts of its members and potential partners.</p> <p>Since its charter, the organization has grown to offer myriad resources and cutting–edge tools and services aimed at making the T2 process as accessible as possible for commercialization successes.</p>
<p><b>Corporate &amp; Non-Profit Programs</b></p>	<p><a href="#"><u>AllStar Innovations™</u></a> (Product Development, Licensing, and Distribution)</p>	<p>Allstar Innovations is a leading consumer products company supporting retail brands with an integrated performance-based marketing approach that includes direct response television, digital marketing and social media campaigns. Allstar Innovations takes products and brands from Concept to Consumer™ and solves problems for consumers by bringing only the best products to market. From product testing, engineering, product branding, performance-based advertising and product</p>

		<p>development, they have a world-class supply chain function that is unmatched anywhere in the world. Allstar Innovations has longstanding relationships with retailers, wholesalers, e-commerce sites and prides themselves on being nimble, aggressive, fast moving and most importantly, innovative.</p> <p>About Allstar Innovations          Founded in 1999, Allstar Innovations has been directly responsible for some of the most successful consumer products in history. Allstar Innovations employs experts in direct response marketing, product development and manufacturing, and retail distribution to simultaneously build brands and drive sales.</p>
	<p><a href="#"><u>United Inventors Association (UIA)</u></a>          (Product Development, Licensing, and Distribution)</p>	<p>The UIA is a 501c3 nonprofit organization dedicated to providing educational resources and opportunities to the independent inventing community, while encouraging honest and ethical business practices among industry service providers.</p>
	<p><a href="#"><u>Edison Nation</u></a>          (Product Development, Licensing, and Distribution)</p>	<p>Edison Nation, Inc. (EDNT), is a multifaceted ecosystem which fosters innovation and drives IP, media and consumer products. Edison offers innovation sourcing, product design, sales, manufacturing, and fulfillment services. Edison Nation’s model is to source innovative ideas to launch internally or license to brand partners. Edison Nation hopes to leverage its television property, Everyday Edisons, to become the recognized leader in the innovator community.</p>

	<a href="#">Quirky</a> (Product Development, Licensing, and Distribution)	Quirky makes inventing and selling products possible by pairing inventors with product designers and big manufacturing companies that can bring their ideas to life.
	<a href="#">Telebrands.com</a> (Distribution)	Launch new consumer products on Telebrands.com that are a demonstrable solution to a clear problem and have good potential for sale in retail stores. Telebrands.com offer fair compensation to inventors on successful new products.

**Closing Remarks**

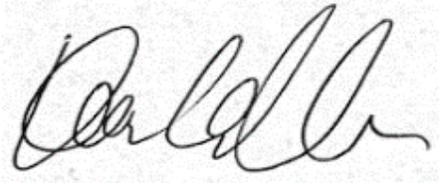
An important aspect for moving the needle in innovation with respect to under-represented groups is to understand the extent of the issue, and then track improvements with regard to innovation and commercialization.

It is imperative that the federal agencies develop systems for tracking diversity in innovation. For example, the SUCCESS Act report to Congress in October 31, 2019 includes a section on data collection. As indicated in the report, over 60% of the written responses suggest that the USPTO collect this data. Other responses suggest that a third party collect this data. For example, the USPTO may consider partnering with universities on more detailed studies on diversity issues and innovation, or with the non-profit Invent Together. Either way, this information is important, and needs to be collected so that improvement in this area can be tracked.

This response includes comments prepared by the following members of IPO’s Women in IP Committee: Sarah Hooson, Michelle Bugbee, Tina Dorr, Cass Dottridge, Krista Kostiew, Ahsan Shaikh, Julie Akhter, Wen Xie and Sandra Nowak.

Thank you for considering our comments. We welcome the opportunity to provide additional information and express our continued interest in working with OSTP on our mutual strategic objectives to foster a diverse and inclusive innovation ecosystem.

Sincerely,



Karen Cochran  
President