

STATEMENT OF
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AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE**
BEFORE THE
**SUBCOMMITTEE ON COURTS, INTELLECTUAL PROPERTY
AND THE INTERNET
COMMITTEE ON THE JUDICIARY
U.S. House of Representatives**
“Oversight of the U.S. Patent and Trademark Office”
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I. Introduction

Chairman Issa, Ranking Member Nadler, and Members of the Subcommittee:

Thank you for this opportunity to discuss the operations, programs and initiatives of the United States Patent and Trademark Office (USPTO).

The USPTO advises the President, through the Secretary of Commerce, on a full range of national and international intellectual property (IP) issues, including patents, trademarks, copyright, trade secrets and enforcement. Through providing intellectual property protection, issuing policy guidance across the IP landscape, and delivering IP information and education worldwide, the USPTO plays a key role in creating a system where innovation can flourish and inventors have an easier time raising capital, building their businesses, and bringing their products and services to the marketplace.

I am proud to provide the Committee with an overview of the USPTO’s recent activities and accomplishments. Since I last testified, we have not only made progress within our core mission areas, but have also made operational advancements as well and focused significant effort on enhancing patent examination quality. We have made progress reducing overall patent pendency, reducing our inventory of unexamined applications and implementing the post-grant review proceedings established by the 2011 America Invents Act (AIA) – all of which I will discuss in greater detail.

These areas of accomplishment would not have been possible without the dedication and hard work of the USPTO’s highly educated and talented workforce. The USPTO continues to build, retain and effectively manage the workforce it needs to serve its critical stakeholder

community. And, as you know, we have put a considerable amount of time and focus in recent years on further improvements to our workforce management. This is an ongoing effort, and we appreciate and have carefully studied recent reports by the Government Accountability Office (GAO), the Department of Commerce's Office of Inspector General (OIG), and the independent National Academy of Public Administration (NAPA). These reports are valuable resources, and have helped us continue to improve patent quality and better ensure time and attendance compliance. My testimony below provides further details about USPTO's efforts in these areas.

Whether for a two-person startup or a Fortune 500 company, the USPTO's work is more important than ever to U.S. innovators. As the head of the USPTO, I am committed to ensuring that the agency promotes innovation, competitiveness, and economic growth – domestically and internationally – by delivering high-quality and timely examination of patent and trademark applications, guiding domestic and international IP policy, and delivering intellectual property resources and education.

We are very pleased that the Congress continues to provide USPTO with the authority to spend all anticipated fee collections. This provides us with the resources and flexibility needed to continue reducing the patent application backlog, shortening patent pendency, improving patent quality, enhancing patent administrative appeal and post-grant processes, fine-tuning trademark operations, engaging effectively internationally, and investing in our information technology (IT) infrastructure.

Since the enactment of the AIA, USPTO's fee setting authority has allowed the agency to more efficiently set user fees to recoup its operational costs. We look forward to working with the Committee to ensure that the USPTO maintains this authority.

The following provides an overview of some of our key programs and initiatives:

II. Patent Operations and Initiatives

Patent Pendency

The timely issuance of patents provides certainty in the market and allows businesses and innovators to make informed decisions on product and service development. The longer it takes to review a patent application, the longer it takes for the benefit of the IP protection to accrue. The USPTO recognizes the importance of continually refining and defining optimal pendency to take into consideration the external environment affecting workload inputs, the commitment made to the fee-paying public, and the need to ensure that there is a balance between workload and production capacity.

In FY 2016, we expect to receive more than 600,000 new patent applications. Our current inventory of unexamined patent applications is approximately 550,000 – a backlog that is down from more than 750,000 in 2009 (a 26.7 percent decrease) even with an average annual increase

in filings of almost 4 percent. Our goal is to reduce the inventory of unexamined patent applications to a manageable level that will allow us to achieve optimal pendency by FY 2019.

In terms of processing patent applications, our first action pendency has been reduced from 25.9 months in January 2009 to 16.1 months in July 2016 and the total pendency has fallen from 33.8 months in January 2009 to 25.6 months in July 2016. Our plan is to reduce those periods to 10.9 and 20.6 months, respectively, by FY 2019.

Patent Quality

The quality of application review is critical to ensure the value of an issued patent. Without well-defined claims, for example, the value of a patent is uncertain. Uncertainty means that there is a risk that a patent is invalid, does not cover the patentee's product, or that a competitor infringes the patent because they cannot determine its scope.

In June of this year, the GAO issued a report examining issues and making recommendations related to improving patent quality. The USPTO concurred with all of the recommendations and I am pleased to report that, as the GAO has acknowledged, we had already taken a number of steps to address the issues identified by their study, through our Enhanced Patent Quality Initiative.

Improving patent quality both in terms of ensuring that every patent issued comports with all statutory requirements and has a clear record, is a top priority for the USPTO. Through issuing high-quality patents, we enable certainty and clarity of rights which fuels investment in innovation and reduces needless litigation.

To ensure that we issue high-quality patents now and well into the future, in late 2014, we established the Enhanced Patent Quality Initiative (EPQI). EPQI seeks to institutionalize best practices and strengthen our work products, processes, services and the measurement of patent quality at all stages of the patent process

In another important step to improve our commitment to patent quality, we established a specific division within the Patents Operation to focus exclusively on patent quality. That division is led by the agency's first Deputy Commissioner for Patent Quality. The Deputy Commissioner for Patent Quality is responsible for sustaining the high quality of the USPTO's patent examination processes and products by implementing and maintaining a comprehensive quality management system.

Through an active and long-term partnership with the public, the USPTO seeks to ensure the issuance of high quality patents and provide the best customer service possible. Based on the feedback we received from internal and external stakeholders, we have established the following quality-focused programs:

- ***Pre-examination and Search Enhancement Programs*** – including a pilot to provide an early, automated pre-examination search of relevant prior art in advance of the examiners own review and raising examiner awareness of available search tools.

- ***Prosecution Enhancement Programs*** – including developing best practices for examiners to enhance the clarity of the prosecution record, establishing points of contact to facilitate applicant-examiner interviews and improving existing after-final programs to reduce the number of issues that might be raised in an appeal.
- ***Post-examination Enhancement Programs*** – improving the quality of images in published design patents and identifying prior art raised in post grant proceedings relevant to related pending applications and making these references accessible to those examiners.
- ***Evaluation Enhancement Programs*** – developing consistent and transparent process and form to capture minable data about the correctness and clarity of examiners’ work products, developing enhanced metrics to measure, understand and evaluate examiners’ work products, and engaging stakeholders to identify new topics for case studies (in May 2016, we selected six topics for the pilot from 135 qualified submissions from our stakeholders).

In March 2015, the USPTO held the first-ever two-day Patent Quality Summit that gave the public the opportunity to provide their thoughts about patent quality and the most efficient prosecution and processes to ensure the issuance of the highest quality patents. In April 2016, the USPTO engaged in a productive exchange of ideas with the public on patent quality by convening an all-day Patent Quality Community Symposium. More than 2,200 participants attended in person and participated online. We will continue our outreach efforts and welcome stakeholders’ input and comments on these initiatives and any other patent quality-related issues.

Examination Guidance and Training

The USPTO is committed to providing the most current and effective training for our patent examiners. Two key initiatives that support the patent quality programs include examination guidance and training on: (1) *claim clarity*, particularly in the context of 35 U.S.C. § 112, and clarity of the prosecution record; and (2) *subject matter eligibility* under 35 U.S.C. § 101.

In response to input from our stakeholders, especially through the EPQI programs, and as mandated by the Administration’s Executive Actions on High Tech Patent Issues, we developed and delivered targeted training to assist examiners in ensuring that patent claims have clearly defined boundaries. The training has been delivered through hands-on workshops that provide opportunities for interactive discussions and have additionally focused on ensuring that the prosecution record clearly reflects the critical reasoning that led to the issuance of a patent.

In May 2016 we released our latest iteration of examiner guidance on patent subject matter eligibility.¹ This is an update to the guidance we issued in 2014 after the U.S. Supreme Court’s decisions in *Alice Corp.*, *Myriad*, and *Mayo* and assists examiners in evaluating claims under 35 U.S.C. § 101. This latest examiner guidance includes a new set of life science examples designed to show various ways that patent claims can be drafted, and thus assist patent applicants and patent examiners in resolving subject matter eligibility issues.

¹ See: <https://www.federalregister.gov/articles/2016/05/06/2016-10724/may-2016-subject-matter-eligibility-update>

The guidance in the memorandum and subsequent training, similar to that provided on claim clarity, will lead to greater consistency throughout the patent examining corps in evaluating whether the claimed subject matter is eligible for patenting.

All training materials are available to the public on the Examination Guidance and Training Materials² page of the USPTO website. We welcome and will consider all viewpoints as we continue to refine our examination procedures.

Patents End-to-End

We continue investments in and development of our Patents End-to-End (PE2E) system which is improving the tools that support patent application examination and is replacing legacy systems currently used at USPTO. A number of examiners are already using the new tools and work continues to transition and deploy additional components to our examiners.

III. Post-Grant Review Proceedings

The AIA significantly affected the operations of the USPTO's Patent Trial and Appeal Board (PTAB). The PTAB has done admirable work in developing, implementing and administering the post-grant review proceedings intended by Congress to provide faster, lower-cost alternatives to district court litigation in challenging the validity of issued patents. Success in implementing the patent dispute resolution portions of the AIA has made the PTAB a preferred and popular tribunal for some business.

To date, more than 5,300 AIA petitions have been filed and that number is more than three times what was anticipated. Despite this higher than expected number, the PTAB has complied with all of the strict statutory deadlines. Further, the vast majority of PTAB final rulings have been affirmed by the Court of Appeals for the Federal Circuit.

We are committed to working with our stakeholders through rule-making to ensure that the PTAB proceedings are as effective and fair as possible. And, we will improve and refine these proceedings as many times as needed where there is consensus and provided it is within our Congressional mandate.

In August 2015, we published a proposed set of rule changes for our PTAB proceedings and sought public comment. After extensive public outreach, USPTO issued new final rules in March 2016 to make targeted modifications for trial practice before the PTAB, proactively addressing the concerns of its users and improving proceedings.

² See: <http://www.uspto.gov/patent/laws-and-regulations/examination-policy/examination-guidance-and-training-materials>

Specifically, the new rules:

- allow patent owners to include, with their opposition to a petition to institute a proceeding, any relevant testimonial evidence, addressing concerns that patent owners are disadvantaged by previous rules that limited the evidence that could be presented with their preliminary response to the petition;
- add a Rule 11-type certification for papers filed in a proceeding;
- clarify that the PTAB will use the claim construction standard used by district courts for patents that will expire during a proceeding and therefore, cannot be amended, while confirming the use of broadest reasonable interpretation (BRI) for all other patents; and
- replace the current page limit with a word count limit for major briefings.

PTAB End-to-End

On July 11, 2016, we launched the PTAB End-to End system (PTABE2E), which replaced certain legacy IT systems supporting AIA post-grant review proceedings (IPRs, PGRs, and CBMs). This is a significant initial milestone in a multi-year effort to invest in and develop improved IT systems to better serve external stakeholders and to facilitate internal IT support of PTAB judge core. Future expansion of PTABE2E to include AIA Derivation proceedings and to include ex parte appeals is planned for future years.

Ex Parte Appeals

The PTAB has continued to reduce the pending inventory of ex parte appeals from a high of over 26,000 in FY2012 to under 17,000 to date. This is a significant accomplishment on the part of the PTAB, providing substantial value to patent applicants seeking timely resolution of their appeal of an Examiner's final rejection.

IV. Trademark Operations & Initiatives

Trademark Pendency

The USPTO's Trademark Organization is guided by the strategic goal to optimize trademark quality and timeliness. The USPTO consistently delivers strong performance with record-low trademark pendency and high-quality results. Trademark application filings continue an upward trend and are expected to increase by approximately 5 percent by the end of this fiscal year to 300,000 trademark applications. First action pendency —the time from filing to the initial examination — has been consistently maintained within the target range to issue a first action between 2.5 and 3.5 months from filing. Disposal pendency — the time from when an application is filed until a trademark is registered or abandoned or a notice of allowance is issued for applications that are not in use—averages 9.8 months, under the 12-month target as of the end of July, and remains at historically low levels.

These results are due in part to increased electronic filing by applicants. Electronic filing and communications promote more efficient and cost-effective processing by the USPTO. In fact, more than 99 percent of applications are now filed electronically and more than 84 percent of all applications are processed electronically from filing to disposal.

Trademark Quality

Our Trademark Organization continues its success in setting and achieving high-quality standards. Trademark quality targets are consistently achieved, and the USPTO continues to sustain these high performance levels by improving training and feedback, promoting electronic filing and processing, making greater use of online tools and enhanced processes, and adopting more rigorous customer-centric measures.

Trademarks Fee Proposal

The USPTO is dedicated to serving the public in the most efficient and cost-effective manner possible. In May 2016, the USPTO proposed a new trademark fee system. This Trademark fee proposal will further USPTO strategic objectives by better aligning fees with the full cost of products and services, protecting the integrity of the register by incentivizing more timely filing or examination of applications and other filings, and more efficient resolution of appeals and trials, and promotes the efficiency of the process by incentivizing electronic filing. The Trademark Public Advisory Committee held a hearing in November 2015 on the fee proposal. A notice of proposed rulemaking (NPRM) was published in the Federal Register on May 27, 2016, with a comment period through July 11, 2016. Implementation is planned for January 2017.

Improving IT Systems

The Trademark Organization is also engaged in a multi-year effort to update its IT systems and recently established the Office of the Deputy Commissioner for Trademark Administration to support IT, finance, and strategic planning. The primary responsibilities of the Deputy are to manage the completion and transformation of the next generation of Trademark electronic systems, lead the financial management of the Trademark Organization, and guide the strategic vision of the Trademark Organization. The Deputy Commissioner for Trademark Administration is supported by two newly created senior level positions: the Information Technology Administrator and the Information Technology Legal Administrator.

Expanding Outreach

Our Trademark Organization has also significantly expanded its public outreach in the last few years by updating and expanding its basic educational materials – including translating materials into Spanish, appointing a Managing Attorney specifically for outreach to entrepreneurs, small businesses, universities and students among others, and conducting a series of events throughout the country to educate the public on trademarks. We have delivered programs in 49 states since the inception of the public outreach program.

We continue to solicit input from our stakeholder groups as well. Our executives hold regular roundtables with trademark users groups throughout the country. In fact this month, a roundtable will be held at the USPTO's Regional Office in Denver with the American Intellectual Property Lawyers Association and another one will be held at the USPTO's Regional Office in San Jose with the International Trademark Association.

As part of its outreach, the Trademark Organization team has also developed explanatory videos targeted to potential applicants who are not represented by legal counsel. These videos explaining the trademark application process and pitfalls to avoid (available on USPTO.gov) have been viewed by hundreds of thousands of Trademark owners and advocates. For example, our "basic facts" video surpassed 500,000 total views this year. We will continue to develop new videos based on input from the public.

V. Workforce Management and Telework

The USPTO takes any allegation of abuse in our workplace seriously. In recent years, we made workforce management a critical focus and have invested significant time and effort on improving our overall management – for teleworking employees and those stationed at one of our physical facilities. Our own investigation in 2012 into whistleblower allegations helped shine a light on areas where our workforce management could be improved.

Since that time, we have moved forward with a number of concrete steps – including requiring new training for employees and supervisors, updating policies, adding controls and building tools for supervisors – to enable our supervisors to engage and manage their employees more effectively. The recommendations made by NAPA and the OIG's work will help us to continue strengthening oversight while leading the way in a telework program that is a crucial piece of our organizational and workforce strategy.

We appreciate the work of the OIG in its research and preparation of its August 2016 report on patent examiners' time and attendance. The report serves as a valuable resource to further enhance the extensive measures we have taken focusing on time and attendance compliance among USPTO employees.

The Agency has also benefited from engaging NAPA, and we are pleased to note that we have already implemented a number of the recommendations on proper and accurate time and attendance accounting in the NAPA report.

Today at USPTO, supervisors receive extensive training and have a variety of tools in place to help monitor employees' work levels, regardless of where the employees are working. Consistent with recommendations made by the OIG, some of our recent efforts include:

- Focused training for all supervisors and employees on USPTO time and attendance policies;
- Implementation of a policy requiring all USPTO supervisors and full-time teleworkers to remain logged on to the USPTO's IT system during working hours; to use collaboration

tools including instant messaging and presence indicator; and to provide advance notice of intended work schedules to supervisors;

- Guidance to all supervisors to regularly utilize their IT dashboard tool to review employee-specific data to monitor their examiners' production and timeliness performance which can show early signs of changes in performance and potential time and attendance issues;
- Guidance to all supervisors to specifically monitor indicators of potential time and attendance issues, such as responsiveness to supervisory communications; inconsistent workload activity (*e.g.*, claiming 80 hours of examining time in a bi-week, but not claiming any work credits); and customer complaints;
- Issuance of a policy requiring poor performing employees and employees with time and attendance related misconduct to provide their supervisors with more specific work schedule information;
- Issuance of a policy statements on time and attendance obligations and expanded use of networking and collaboration tools;
- Launch of a program to improve supervisory mentoring of patent examiners with low or inconsistent production levels; and
- Recent Recertification of agreements with virtually all our teleworking employees.³

While the USPTO is certainly unique among Federal agencies in its ability to quantify the productivity of a majority of its employees, we continue to work toward ensuring proper and accurate accounting of all time and attendance.

To effectively manage our workload, while maintaining high-quality standards, the USPTO has grown and invested in our workforce to enable them to perform their mission to the best of their ability.

Our pioneering telework program is a critical part of these efforts. Our telework program has increased the USPTO's ability to recruit and retain highly-skilled employees with technical backgrounds throughout the country while producing substantial operational cost savings. The NAPA report clearly affirmed the strong business value and efficient operation of the agency's telework programs.

Telework has allowed us to more than double the number of patent examiners since 2005 without significantly increasing our real estate footprint. In FY2016, based on nearly 6,000 full-time teleworkers, the USPTO avoided more than \$38 million in rent as a result of its full-time telework programs. The USPTO's telework program has allowed many of our employees to continue to produce during government shutdowns, such as snow closures, or during other

³ For all teleworking employees, 99.9% have completed the recertification, the remaining .1% will do so once they return from leave.

disruptions like the recent SAFE TRACK program limiting access to the Washington Metro System. The NAPA report found that USPTO's telework programs saved the agency an average of \$7 million per year based on work conducted during closures.

VI. Domestic and International Intellectual Property Policy

The USPTO plays a leadership role in promoting strong and balanced protection and effective enforcement of IP at home and abroad. We advise Executive Branch agencies on national and international IP policy matters, negotiate global IP norms and understandings, and conduct technical assistance and capacity-building programs for foreign governments and U.S. stakeholders. An overview of key developments and activities are as follows:

Copyright Policy

The USPTO also advises the Administration and the President on Copyright policy issues. The "White Paper on Remixes, First Sale, and Statutory Damages," was released in January 2016 by the Commerce Department's Internet Policy Task Force, through the USPTO and the National Telecommunications and Information Administration (NTIA).

The White Paper makes recommendations on three important copyright topics for the Internet economy: (1) the legal framework for the creation of remixes, (2) the relevance and scope of the first sale doctrine in the digital environment, and (3) the appropriate calibration of statutory damages in the contexts of individual file sharers and secondary liability for large-scale infringement.

Only with respect to statutory damages does the report make legislative recommendations. It recommends amending the Copyright Act to provide both more guidance and greater flexibility to courts in awarding statutory damages by incorporating a list of factors to consider when determining the amount of a statutory damages award. In addition, it advises changes to remove a bar to eligibility for the Act's "innocent infringer" provision, and to lessen the risk of excessive statutory damages in the context of non-willful secondary liability for online service providers. The report also notes that some concerns raised about damages levels in cases against individuals could be alleviated if Congress were to establish a small claims tribunal with caps on damages awards.

With respect to remixes and the first sale doctrine in the digital environment, the report concludes that the evidence has not established a need for changes to the Copyright Act at this time, but it does make recommendations for the development of stakeholders best practices and guidelines to add clarity about what remixes qualify as fair use and to improve consumers' understanding of the terms of online transactions involving creative works.

Second, USPTO's copyright policy experts were instrumental in crafting the Administration's proposals for implementing legislation for two World Intellectual Property Organization treaties that were transmitted to the Senate in February 2016: the Beijing Treaty on Audiovisual

Performances and the Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled.

The Beijing Treaty provides a modern, international framework for the rights of performers in motion pictures, television programs, and other audiovisual performances. It fills a gap in the international copyright system by extending to such performers the types of protections previously accorded to authors and to performers and producers of sound recordings. Once the Treaty is in force, if the United States joins, it will ensure that U.S. performers are appropriately protected when their audiovisual performances are enjoyed in other countries.

The purpose of the Marrakesh Treaty is to reduce the global shortage of print materials in special accessible formats for the many millions of Americans and others throughout the world who are blind, visually impaired or have other print disabilities (such as physical limitations that prevent holding a book). If the United States joins the Treaty, more English and foreign language works will become available in Braille form and comparable digital formats this population both here and abroad.

IP Attaché Program

The IP Attaché Program is an important asset that supports the USPTO's efforts to promote strong and balanced protection and effective enforcement of IP rights abroad. The attachés' fundamental role is to advocate for U.S. government IP policy positions for the benefit of U.S. stakeholders through direct advocacy with host governments; educating host government officials on IP matters, including training of judges, prosecutors, patent and trademark examiners, customs officials, police and policy makers; assisting U.S. stakeholders with IP concerns in the host country or region; and building grass roots support for U.S. policy objectives by conducting public awareness programs on intellectual property.

USPTO currently has thirteen IP attaché positions in ten countries around the world: in Rio de Janeiro, Moscow, New Delhi, Beijing, Guangzhou, Shanghai, Bangkok, Mexico City, Kuwait City, Brussels, Lima, and two attachés in Geneva.

Global IP Academy

Since 2005, the USPTO Global Intellectual Property Academy (GIPA) has provided high-level IP training, capacity building programs and technical assistance to foreign judges, prosecutors, customs officials and enforcement personnel, as well as officials from copyright, trademark and patent offices from around the world. Those individuals come to the United States to learn, discuss and strategize about global IP protection and enforcement. The program's goals include fostering a better understanding of international intellectual property obligations and norms, explaining the U.S. model of protecting and enforcing intellectual property rights, and promoting discussion of intellectual property issues in a friendly and supportive environment.

GIPA provides both multilateral programs and country-specific programs as needed. GIPA also delivers training to U.S. small business owners, Government officials, and the general public.

VII. USPTO Regional Offices

The USPTO is actively working to better serve the local innovation economies through our new regional offices. All four of the USPTO's regional offices in Detroit, Dallas, Denver and San Jose are up and running. As envisioned by the America Invents Act, the offices help us recruit and retain a highly qualified workforce of patent examiners and administrative patent judges who serve on our Patent Trial and Appeal Board. These offices have made our services more easily accessible to those working outside our nation's capital. The offices also serve as hubs for our IP outreach and education efforts and provide inventors and entrepreneurs easier access to USPTO personnel and resources.

Our recruiting efforts to date have resulted in the hiring of a total of approximately 300 patent examiners and 73 administrative patent judges in the regional offices.

Regional office benefits to the public include walk-in services to obtain general IP information; work stations for searching patents and trademarks; a hearing room to host PTAB proceedings; and interview rooms to connect applicants to examiners working in the region, at headquarters or across the country.

Regional office outreach efforts have included broad-based and issue-specific IP seminars for startups, small business and independent inventors; tech-specific partnership meetings; participation in STEM education events; and working relationships with regional stakeholders including business interests and federal, state and local government officials.

As a former director of a regional office, I know the tremendous difference these offices can make in providing a range of USPTO services to innovators and entrepreneurs across the country who want firsthand engagement with our IP system.

VIII. Education and Outreach

At the highest level, the mission of the USPTO is to promote American innovation through intellectual property, across all geographic regions of our country and across all demographics. To that end, the USPTO provides educational and outreach programming for students, educators and young innovators. The USPTO's activities support Federal government-wide efforts to attract and retain K-12 students in STEM-based education to increase STEM competence and to support an internal and external stakeholder base for the USPTO. STEM is vital to innovation and economic development in the United States and the development of a future USPTO workforce.

Last September, I formally launched an “ALLinSTEM” initiative to encourage women of all ages – from girls to entrepreneurs – to pursue STEM degrees and advance in STEM careers for the benefit of our economy and society. As part of this initiative, the USPTO has engaged in a partnership with Invent Now, with whom we run an annual summer program called Camp Invention that reaches more than 100,000 kids each year including those from underprivileged backgrounds. Taught by an elite group of STEM instructors, Camp Invention programs feature lessons on STEM skills and provide an introduction to the patents and trademark systems.

The USPTO has successfully worked to build and expand strategic partnerships with other Federal agencies, non-profit organizations and school districts in order to reach the most diverse groups of students and educators. In July, the office hosted its Third Annual National Summer Teacher Institute on Innovation, STEM, and IP (NSTI). More than 50 K-12 teachers from 33 states participated in the weeklong conference offered in collaboration with Michigan State University. This program was designed to help elementary, middle and high school teachers incorporate concepts of making, inventing and IP creation and protection into classroom instruction. Since the inception of the NSTI, educators from 45 states, as well as Washington, DC and Puerto Rico, have participated in this program.

Additionally, this past spring, the USPTO was proud to announce the second installment of our Science of Innovation video series, in collaboration with the National Science Foundation and NBC Learn, the educational arm of NBC News. These short videos and corresponding lesson plans highlight women in STEM and have been integrated into middle and high school curricula. Finally, in partnership with the YMCA of the USA, the USPTO expanded its national training efforts to ten new host cities around the country to expand “Thingamajig”, a program developed by the YMCA of Metropolitan DC. These cities will create programs, seminars, and tools that connect 100,000 youth in 48 states and DC with STEM education by using with real-world problem solving.

IX. Big Data and the Cancer Moonshot

As part of the Department of Commerce’s “Open for Business” strategy, the U.S. Patent and Trademark Office developed ways to use the vast reserves of data to help solve some of the agency’s age old challenges. We built a platform to access our repository of data on innovation and research and development technology trends. We are now providing vast data sets, interactive visualizations, and a community platform for sharing and discussing this data, making it easier for innovators—from researchers to entrepreneurs to well-established companies—to mine this data, help inform them where to allocate research and development resources, and provide them with a much more detailed view of the competitive landscape than previously available. This access to extensive patent data also provides current information on the competitive landscape. This data will not only bring more intelligence to technology trends, but when government data silos are broken down with easily digested, open data, it also has the opportunity to bring powerful advancements that could greatly improve people’s health and quality of lives across the globe.

The USPTO is also collaborating with the Cancer Moonshot Task Force, a coalition of government agencies, to advance efforts to use data to spur advances in the treatment of cancer. The Moonshot Task Force's goal is to use the data to inform public policy, and to make that data available to other interested groups so they can use it to best invest in the areas that are showing the most promise. By streamlining the patent process for technologies that show promise, government and research entities can make more precise investments in the areas the data illuminates. These ideas are just scratching the surface of the prospects of how this data can change the world.

X. Conclusion

We are proud of our accomplishments in reducing patent pendency and backlog, focusing on improved patent quality, maintaining excellent trademark operations, expanding STEM and inventor educational outreach and otherwise promoting intellectual property protection on the domestic and international levels.

We appreciate the Committee's continued support of the goals, priorities, operations and employees of the USPTO. We look forward to working with you to promote the strong and balanced protection of intellectual property rights both home and abroad for our country's innovators.

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