



February 17, 2023

The Honorable Kathi Vidal  
Under Secretary of Commerce for Intellectual Property and  
Director of the United States Patent and Trademark Office  
United States Patent and Trademark Office  
600 Dulany Street Alexandria, VA 22314  
Via Email: Strategicplann@USPTO.gov

### **Comments on the Draft 2022-2026 Strategic Plan, United States Patent and Trademark Office**

Dear Under Secretary Vidal,

BSA | The Software Alliance<sup>1</sup> (“BSA”) submits the following response to the request of the United States Patent and Trademark Office (“USPTO” or “the Office”) for comments on the USPTO’s draft Strategic Plan for 2022-2026.

Intellectual property (“IP”) is the cornerstone of innovation – giving innovators and creators confidence that it is worth the risk to invest resources in developing and commercializing new ideas. For the software industry, a robust IP framework is fundamental to innovation, and the patent system is an indispensable part of this framework. Such innovation requires a predictable and well-functioning patent system that encourages investments in research and development (“R&D”) and commercialization relating to new technologies, without fostering conditions for abuse of the system.

BSA commends the USPTO’s efforts in formulating the draft Strategic Plan to identify mission-focused strategic goals that promote a healthy and productive framework for innovation in the United States while discouraging abusive conduct that threatens to undermine future investment in R&D and IP.

#### **A. About BSA**

BSA members — representing the enterprise cloud and software sector — invest heavily in innovation and IP, support US technology leadership, create and provide training for the jobs of tomorrow for US workers, and build stability and resilience into the US economy at a time of unprecedented economic uncertainty. We summarize several relevant statistics below.

- **Growing the US Economy through Innovation:** As of 2021, the US software industry (including US software exports) was responsible for \$1.9 trillion of total US value added GDP.<sup>2</sup> The US software industry supports 15.8 million jobs.<sup>3</sup> Over 12 million of these jobs are found outside of the technology sector. Software jobs are growing rapidly across all 50 states.<sup>4</sup>
- **Investing in Innovation and IP Protection:** BSA members invest heavily in US creativity, innovation, and intellectual property (“IP”) generation. Annual US software industry research and

development (“R&D”) investments exceed US\$100 billion,<sup>5</sup> and BSA members are counted among: (a) leading US patent recipients (accounting for roughly 60% of all US patents issued to US companies among the top 10 patent grantees);<sup>6</sup> (b) leading US AI-related patent owners (accounting for 70% of AI-related patents owned by top 10 US companies);<sup>7</sup> and (c) leading US copyright and trademark holders (accounting for 40% of brand value among US companies in the top 10 ranked brands).<sup>8</sup> At the same time, due to the complexity and commercial success of their products, BSA members are frequently the subject of patent infringement claims. At the same time, BSA is very concerned about irresponsible and non-transparent litigation practices, reflected in the recent increase in abusive third-party litigation financing conducted via corporate shell entities of unknown provenance. These cases also often involve the assertion of frivolous or unsupported claims of infringement. We discuss this issue in greater detail below.

- **Supporting and Upskilling Tomorrow’s IP-intensive Workforce:** BSA members invest heavily in skills development to support tomorrow’s advanced manufacturing and services jobs at home. This means upfront investments in computer programming, software coding, and other digital skills — the skills that are needed to design and build the advanced, connected goods and services demanded in today’s economy, and to compete in connected agriculture and other core industries. A four-year degree is often not necessary to acquire the coding and other skills necessary for software jobs. [Transform Your Trade](#) and similar programs connect workers with software training opportunities in the manufacturing and service sectors across [all 50 US states](#), the [private sector](#), [community colleges](#), vocational schools, and apprenticeship programs.<sup>9</sup> And there is room for further growth, as an estimated [1 to 2 million ICT- and software-related jobs](#) continue to go unfilled in America,<sup>10</sup> especially in the manufacturing sector, where [40 percent of manufacturers urge greater investment in skills for advanced manufacturing](#), including software engineering, computer-aided design and manufacturing (CAD/CAM), industrial machinery mechanics, and Computer Numerical Control (CNC) machinery operations.<sup>11</sup>

## B. Domestic IP & Innovation Policy Matters

As innovators and patent holders, BSA members have a particularly acute interest in a well-calibrated and well-functioning US framework for IP protection and enforcement. Against this background, BSA encourages the USPTO to: (1) continue its work to ensure patent quality; (2) continue investments to modernize USPTO’s IT infrastructure and its use of AI systems to improve prior art searching and other patent examination functions; (3) enhance the operation of the Patent Trial and Appeal Board (PTAB) in IPR and PGR proceedings; and (4) develop potential approaches to address the challenge of abusive third party litigation funding.

### 1. Continuing USPTO’s Work to Ensure Patent Quality

Efforts to improve patent quality should remain a priority for the USPTO. Patent quality is essential to innovation. A patent is “a reward, an inducement, to bring forth new knowledge.”<sup>12</sup>

Patents that should not have been issued – those in which the invention claimed is obvious or not novel – or overbroad damage the public interest and chill the development of new technologies. One driver of patent litigation is the assertion of patents and claims that cannot withstand legal scrutiny, and that should not have been issued or allowed by the USPTO in the first place. Minimizing errors through a rigorous examination process will benefit all users of the patent system by increasing legal clarity regarding the scope of patent claims, reducing litigation risk and cost, and facilitating business planning and predictability. In this regard, increasing examiners’ ability to obtain relevant prior art can reduce the probability that such prior art will only be discovered after a patent has been asserted. Expanding prior art databases and adopting AI-powered searching capabilities are two ways to advance this important objective. Improving the specificity and the quality of examiner communications in office actions can also enhance the examination process, and lead to more clearly drafted claims and a more thorough prosecution history record. These types of enhancements can reduce post-issuance uncertainties regarding the scope of the patent.

## 2. Modernizing USPTO's IT Infrastructure

BSA strongly supports upgrading and improving the USPTO's IT infrastructure. Reliable and efficient IT systems are a key factor in improving both patent quality and timeliness. At the same time, USPTO can improve the experience for its users by modernizing its approach to login and identity verification, making it easier for its users to move away from paper applications and onto digital ones. BSA and its member companies look forward to working with the USPTO in this effort to update and improve the Office's IT infrastructure. As noted above, BSA also strongly supports USPTO's use of new AI- and data analytics technologies to improve patent search capabilities, especially for the benefit of patent examiners, as well as identity verification technology.

## 3. Supporting Post-Grant Review Mechanisms before the PTAB

As innovators, BSA members have a significant interest in the *inter partes* review and post-grant review mechanisms established under the Leahy-Smith America Invents Act ("AIA"). Congress established post-grant proceedings to "give third parties a quick, inexpensive, and reliable alternative to district court litigation to resolve questions of patent validity,"<sup>13</sup> and to permit cancellation "as unpatentable 1 or more claims of a patent."<sup>14</sup>

The problem of invalid patents being mistakenly issued by the USPTO is not new. "It is unrealistic to believe a patent examiner would know all of the places to look for [relevant] information" at the examination stage, "and even if the examiner knew where to look, it is unlikely he or she would have the time to search all of these nooks and crannies."<sup>15</sup>

BSA's overarching priority is for the IPR program to function as Congress intended, namely as a review system offering an efficient system to weed out invalid patent claims while preserving and strengthening valid patents, thus reducing both the number and cost of frivolous lawsuits. We offer the following perspectives on the IPR program and the PTAB.

### a. *Reversing Prior Practice of Unwarranted Denials of Meritorious Petitions*

To the extent that PTAB practice between 2017 and 2020 resulted in numerous unwarranted denials of meritorious petitions, we urge USPTO to end that practice. In this regard, BSA welcomes the Office's announcement of the *Interim Procedure for Discretionary Denials*, which reflects the decision of the USPTO not to rely on the *Fintiv* factors to discretionarily deny institution of a meritorious petition in view of parallel district court litigation. This procedural change should reduce efforts by certain entities to derive improper profit or otherwise engage in gamesmanship in post-grant proceedings. Removing the distortive effects of *Fintiv* will go a long way to eliminating recent examples of problematic conduct in these proceedings.

### b. *USPTO Should Institute an IPR When a Petitioner Has Demonstrated a Reasonable Likelihood of Successfully Challenging the Patentability of At Least one Claim*

Consistent with AIA section 314(a), the PTAB should institute a requested IPR proceeding in any case in which a petitioner is reasonably likely to prevail and meets other statutory criteria. There is no persuasive public interest in permitting invalid claims to remain protected by a patent once brought to the PTAB's attention, as outlined in BSA's Submission to the USPTO (Nov. 2020).<sup>16</sup> When USPTO makes institution determinations on grounds that contradict or amend those set forth in section 314(a), it infuses significant uncertainty into the underlying AIA statutory framework and into the circumstances surrounding institution determinations. If a claim is likely invalid, as determined by the USPTO, there is no pro-competitive justification for allowing it to remain in the system. "Patents of low quality and dubious validity . . . constitute a drag on innovation . . . [and] unjustly cast doubt on truly high-quality patents."<sup>17</sup>

### c. *USPTO Should Rely on APA-Consistent Regulatory Processes to Evaluate Systemic Changes to IPR and PGR Proceedings, Rather than by Treating Individual PTAB Proceedings as Precedential or Informative*

In deference to PTAB decisions treated as “precedential” or “informative,”<sup>18</sup> PTAB panels opted between 2017 and 2020 not to institute post-grant review proceedings in dozens of cases. In the future, we urge USPTO to follow the APA, including rulemaking procedures on systemic policy proposals of economic significance. Such an approach will support a more predictable and well-functioning patent system and enhancing legal certainty and procedural fairness for patent holders and challengers alike.

*d. USPTO Should Address Procedural Abuses in IPR and PGR Proceedings in the Manner Prescribed by the AIA – Not By Widely Denying Access to these Proceedings*

Abuse of the IPR and PGR proceedings is unacceptable and should be prohibited. BSA supports the USPTO’s exercise of its statutory authority to address abuses in post-grant proceedings, but considers the undue restriction of access to these proceedings to be a misdirection and misapplication of that authority. Section 316(a)(6) authorizes USPTO to address abuses of IPR and PGR process by prescribing “sanctions for abuse of discovery, abuse of process, or any other improper use of the proceeding, such as to harass or to cause unnecessary delay or an unnecessary increase in the cost of the proceeding.”<sup>19</sup>

The purpose of this authority is to prevent abuse, not to safeguard invalid claims until they are challenged in court. Unfortunately, under the prior Administration, the USPTO improperly applied the wrong statutory provision (AIA section 314(a)) and the wrong statutory remedy (institution determinations) to address issues properly addressed under AIA section 316(a)(6).<sup>20</sup> Again, we urge the USPTO to ensure that any such sanctions are developed in conformance with APA requirements. For additional details, please see BSA’s submission in *OpenSky Industries v. VLSI Technology LLC*, IPR2021-01064 (Aug 18, 2022).

#### **4. Explore Approaches to Address Abusive Third-Party Litigation Funding**

BSA notes the increasing use of third-party litigation funding (TPLF) to misuse patents against US job creators. These funders increasingly target leading US industries and critical technologies such as 5G, advanced manufacturing, and semiconductors. TPLF funders channel funding through global hedge funds and shell corporations to ensure that their investors remain anonymous, leaving to speculation who the real parties in interest actually are and what motivates them. For example, in the United States, while it is known that sovereign wealth funds are among the investors targeting US operating companies through TPLF, it is unclear to what extent such investments (which by design undermine critical US industries and monetize the U.S justice system) are made by strategic competitor countries and whether these attacks are purely economic in nature.

#### **5. Support Licensing of Standard Essential Patents (SEP) on FRAND Terms**

Investments in an innovation ecosystem that includes a predictable and efficient framework for SEP licensing can support US technology leadership and innovation and improve the lives of citizens, workers, and consumers at home and abroad. The broad adoption – consistent with IP rights – of interoperable standards by multiple innovators can advance the creation and utilization of new technologies to address the pressing challenges of the day. Generally speaking, seeking injunctive relief in lieu of good-faith negotiation is inconsistent with the commitment to enter into a license on fair, reasonable and non-discriminatory (FRAND) terms where a potential licensee is willing to license and is able to compensate a SEP holder for past infringement and future use of SEPs subject to a voluntary FRAND commitment. Seeking injunctive relief may be justified, for example, where an implementer refuses to pay an adjudicated FRAND royalty. However, when good-faith negotiations fail and the parties cannot agree on alternative dispute resolution or to seek a FRAND determination in a mutually agreeable jurisdiction, consistent with judicially articulated considerations, monetary remedies will usually be adequate to fully compensate a SEP holder for infringement.<sup>21</sup>

### **C. International IP & Innovation Policy Matters**

BSA members – and their US workers – rely heavily on BSA member companies’ ability to protect and enjoy their innovations abroad and to access foreign markets without facing unreasonable innovation-related barriers or discrimination. Our comments on international IP and innovation priorities focus on three topics: (1) Ensuring that USPTO’s international advocacy efforts are forged around US legal standards, thus promoting predictability and certainty for US-based innovators and IPR holders; (2) addressing innovation-related data barriers; and (3) addressing IP-related challenges in third countries, including those relating to standard essential patents. We address each topic in turn.

#### **1. Ensuring that USPTO’s International Advocacy Efforts are Forged Around the Principle of Promoting Alignment with US Copyright Standards, Focusing on Core Substantive Protections as well as Exceptions and Limitations, to Promote Software Innovation**

US leadership on IP policy issues is critical to the development of global policy environment in which the technologies of tomorrow can emerge and flourish. In this regard, BSA supports the work of the Office of Policy and International Affairs (OPIA) and the Intellectual Property Attaché program in advancing patent, copyright, trademark, trade secret and other IP policy priorities. As regards copyright and related rights, BSA welcomes OPIA’s advocacy efforts to encourage the adoption of copyright policies that support US investments in the digital environment. As the Draft Strategic Plan rightly notes, the competitiveness of US innovators in the globalized economy is buoyed by policies that create “as much certainty as possible in the creation, enforcement and protection of their IP, both domestically and abroad.” The USPTO can play an important role in establishing such certainty by engaging with our trading partners to promote alignment with the US framework for IP protection. Critically, USPTO’s international engagement should promote both the core substantive protections afforded by US copyright law as well as the critical flexibilities that have been integral to the development of digital technologies. We note the importance of such flexibilities to the development of AI technology in particular – an area in which US companies are global leaders.

The machine learning processes that power AI development depend on access to vast quantities of data. AI systems are “trained” by ingesting large data sets to identify underlying patterns, relationships, and trends that are then transformed into mathematical models that can make predictions based on new data inputs. For instance, developers have now created a “Seeing AI” app that helps people who are blind or visually impaired navigate the world by providing auditory descriptions of objects in photographs.<sup>22</sup> Users of the app can use their smartphone to take pictures, and Seeing AI describes the people and objects in the photograph. To develop the computer vision model capable of identifying the objects in a picture, the system was trained using data from millions of publicly available images depicting thousands of common objects, such as trees, street signs, landscapes, and animals.

In the United States, the “non-consumptive” reproductions that are necessary for the development of technologies such as Seeing AI are considered a fair use. But in legal systems without similar flexibilities, there can be some uncertainty about the permissibility of such activity. To help mitigate such uncertainty, USPTO engagement with foreign governments should be designed to promote harmonization of both substantive IP protections, but also the limitations and exceptions that are themselves critical drivers of innovation and creativity.

#### **2. Addressing IP and Innovation-Related Data Barriers Overseas**

BSA urges USPTO to increase its focus on IP and innovation-related data barriers that unreasonably restrict US innovators and IPR holders from engaging in R&D or protecting, enforcing, or enjoying their IP across borders.<sup>23</sup>

Many creative, technological, and scientific endeavors in today’s digitized economy are cross-border in nature. Focused attention is required not only on standards of IP protection and enforcement abroad, but also on other innovation-related barriers that impact US persons. For example, artificial intelligence (AI) involves the application of analytical techniques to data generated in various countries, transferred across borders, and consolidated into larger data sets. AI helped fast-track the COVID-19 vaccine, cutting timelines

from years to months, and researchers analyzed drug discovery data transferred from around the world to quickly identify potential candidates.<sup>24</sup> Digital barriers that impede data transfers make such AI-based analysis much more difficult as they prevent the consolidation of representative data sets necessary to conduct AI innovation. In this way, these trade barriers directly impede new innovations and creations that could advance human health and welfare.

Innovation-related data barriers also threaten other IP priorities — from engaging in cross-border R&D, to protecting brands, to investigating IP infringement, to conducting comprehensive prior art searches. Likewise, with so many patented or copyrighted innovations functionally dependent upon cross-border data communications (e.g., IoT software applications in the aerospace, automotive, and agricultural machinery sectors; music and video streaming services that disseminate licensed US film or music content), the cross-border data transfer restrictions that US trading partners impose can make it difficult for US innovators and creators to sell or provide support to their IP-protected products or in foreign markets — interfering with their ability to enjoy the benefits of their IP rights abroad. In each of the foregoing examples (and many others), data-related barriers to innovation and trade harm US IP rightsholders in respect of the availability, acquisition, scope, maintenance and enforcement, and enjoyment of IP rights.

As one concrete illustration of this challenge, we highlight the WIPO Global Innovation Index (GII), which ranks 132 countries against 81 innovation and IP-related indicators.<sup>25</sup> Missing from that list of 81 indicators is the ability of IPR holders to access their own inventions and creations across borders, and/or the knowledge and information integral to innovative and creative processes.

In short, the GII does not account for countries' efforts to deploy IP-related discrimination and trade barriers in the form of IP-intensive cross-border data restrictions and data localization mandates. This is unfortunate, as these types of trade barriers tend to discriminate against non-national inventors, brand owners, and creators, as well as the IP-intensive products, services, and technologies that they offer. More importantly, these types of barriers impede innovation through the cross-border exchange of knowledge, ideas, and information and cross-border access to technology (on the one hand) and R&D, scientific endeavor, innovation, creativity, and intellectual property generation (IP) (on the other). As a result,

- China's GII ranking, which is superior to that of Canada, Israel, Japan, or many EU member states, does not take account of the numerous cross-border data restrictive measures, including strict data localization mandates and prohibitions on transfers of "important," "sensitive," or "critical" information (whether "personal" or "non-personal") that impede cross-border innovation and the enjoyment of IP rights in China by non-nationals.
- Likewise, the EU has developed the proposed Data Act and the European Health Data Space Proposal, which propose additional restrictions on the ability of foreign innovators and IPR holders to transfer data across borders. These new cross-border restrictions will likely exacerbate the already challenging EU environment for US innovators that are often prevented from access research data from the EU or otherwise collaborating in R&D projects.
- The negative impact on innovation and IP protection for US enterprises in these two countries, as well as Vietnam, India, and Saudi Arabia (which have adopted similar innovation-focused data restrictions) is also not being accurately reflected in the GII.

We attach to this submission an Annex outlining the important role that cross-border data policies in supporting an enabling environment for innovation and IP protection and enforcement.

In an era of data-driven innovation and IP generation, it would be a mistake to disregard the connection between a country's innovation environment and that country's adoption of discriminatory trade barriers that are intended to undermine the ability of IPR holders to transfer and access their own inventions and creations, or the information or knowledge used in generating those inventions or creations. We urge USPTO — through OPIA, its WIPO engagement, and the IP Attaché program — to bring greater focus and awareness to the emerging challenge of innovation-related data barriers.

#### **D. Conclusion**

We thank USPTO for the opportunity to provide comments on the 2022-2026 Strategic Plan, and look forward to working with you as you execute on USPTO's priorities in the coming four years. If you have any questions, please do not hesitate to reach out to Aaron Cooper, Vice President, Global Policy, or Joseph Whitlock, Director, Policy.

## Annex

### Innovation-Related Data Barriers and the Innovation Lifecycle

Data-related market access barriers impact every stage of the innovation life cycle for US innovators and IPR holders. This includes: (1) early stages of innovative and creative processes, including basic R&D, initial conception, and design; (2) the acquisition and maintenance of IP rights; (3) the enforcement of IP rights and brand protection activities; and (4) the ongoing enjoyment and commercialization of those IP rights. These data-related market access barriers — particularly in the form of data localization mandates and cross-border data transfer restrictions — have increased by over 800%, and the rate of increase has further accelerated in recent years.

Below we describe four ways in which such data-related barriers harm US innovators and IPR holders.

#### **1. Barriers to Core Innovation and R&D**

Data-related market access barriers undermine basic research and scientific activity conducted by US innovators and IPR holders. In every sector, cross border communication and data transfers play an integral role in basic R&D, and other core innovative and creative functions. For example, in semiconductor design and biopharmaceutical research, basic R&D depends upon access to globally sourced research materials from laboratories and research institutions from across the world, as well as collaboration, joint research, and the exchange of ideas and knowledge among teams of inventors, designers, authors, and other creators and innovators in different countries.

This collaborative approach to technological and creative endeavor integrates and binds together the international IP legal framework as well as scientific and artistic communities. R&D teams across universities, commercial labs, and enterprises in different countries collaborate across borders to develop new products, cures, and other advances protected by patents, trade secrets, copyrights, and trademarks. Typically, such R&D also often requires the use of copyrighted software solutions and research data accessible across cloud-enabled and networked environments, as well as the application of AI-based analytical techniques to data transferred across borders and consolidated into larger data sets.<sup>26</sup>

As explained by the World Intellectual Property Organization (WIPO),<sup>27</sup> the US Patent & Trademark Office (USPTO),<sup>28</sup> and other IP authorities,<sup>29</sup> such R&D depends upon the application of AI-related tools to globally sourced data sets. Data sets consolidated across IT networks and borders can be analyzed (e.g., through machine learning or data analytical techniques) to identify meaningful insights, patterns, and connections that can aid R&D teams in the discovery and development of novel solutions to scientific and technical challenges.

Market access barriers that impede data transfers make such AI-based analysis much more difficult for US innovators and IPR holders. Such barriers prevent the consolidation of representative data sets necessary to conduct AI innovation. In this way, these trade barriers directly impede new innovations and creations by US creators, inventors, and IP holders that otherwise could advance scientific and technological progress.

#### **2. Barriers to IP Acquisition, Registration, and Maintenance**

Data-related market access barriers threaten the ability of US persons to acquire, register, and maintain IP rights. Applicants must be able to transfer information across borders to apply for patents, copyrights, trademarks, or other rights in a coordinated manner with IP office authorities in different countries. Access to data from multiple countries — such as prior art references — is also an integral part of the patent application examination process. They must also be able to transfer data across borders to avail themselves of WIPO-administered international registration and examination frameworks for IP rights, such as the Patent Cooperation Treaty, the Madrid Registry for trademarks, or the Hague System for the International Registration of Industrial Designs.



USPTO has studied the distortive impact of non-commercial considerations on patent and trademark application rates abroad.<sup>30</sup> It would be also relevant to review the impact of data-related market access barriers on the ability of US persons to apply for IP rights abroad or at home — particularly where research activities occur in part outside the United States. Indeed, data localization mandates and data transfer restrictions that prohibit the transfer of large and undefined data sets deemed to be “important,” “critical,” or “sensitive” (as in China’s pre-transfer security assessment mandates in its Personal Information Protection Law<sup>31</sup>) create significant uncertainty regarding the ability to transfer information and data necessary to these procedures for the acquisition, registration, and maintenance of IP rights.

### **3. Barriers to IP Enforcement and Brand Protection**

In today's global marketplace, IP infringement is increasingly complex and globalized, requiring sophisticated investigatory tools. No IP enforcement program can be effective without the ability to trace — on a cross-border basis — counterfeiting, commercial scale piracy, and other illicit activities with insights and information derived from foreign source countries, distribution hubs and networks, and end-user markets. Data localization measures and unnecessary data transfer restrictions directly interfere with the ability to investigate and counteract transnational IP infringing activities.

Data-related market access barriers can impede IP enforcement by interfering with efforts to monitor marketplaces, gather evidence of infringement in multiple locations, research details of illicit networks, and use administrative or judicial tools in multiple jurisdictions to preserve evidence and secure recourse. The ability to track and trace infringing activities across IT networks and borders is particularly important as many infringing acts involve an online element, whether via the offer and sale of infringing articles online; the cross-border exfiltration of source code, trade secrets, or other proprietary data; the circumvention of technological protection measures; or the unauthorized and unlicensed use of copyrighted software in an online environment.

### **4. Barriers to IP Commercialization**

Data-related market access barriers directly undermine the ability of enterprises to commercialize and enjoy the benefits of their IP rights. When a country mandates data localization or restricts data transfers, it can easily frustrate the ability to enjoy the benefits of any IP right granted. With so many patented or copyrighted innovations functionally dependent upon cross-border data communications, cross-border data transfer restrictions make it difficult, if not impossible, for innovators and creators to sell or provide support to their IP-protected products or in foreign markets — interfering with their ability to secure a commercial return on, or otherwise enjoy the benefits of, their IP rights abroad.

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<sup>1</sup> BSA's members include: Adobe, Alteryx, Atlassian, Autodesk, Bentley Systems, Box, Cisco, CNC/Mastercam, CrowdStrike, Databricks, DocuSign, Dropbox, Graphisoft, IBM, Informatica, Juniper Networks, Kyndryl, MathWorks, Microsoft, Okta, Oracle, Prokon, PTC, Salesforce, SAP, ServiceNow, Shopify Inc., Siemens Industry Software Inc., Splunk, Trend Micro, Trimble Solutions Corporation, TriNet, Twilio, Unity Technologies, Inc., Workday, Zendesk, and Zoom Video Communications, Inc.

<sup>2</sup> Software.org, Software – Supporting US Through COVID (2021), available at: <https://software.org/wp-content/uploads/2021SoftwareJobs.pdf>

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> IFI Claims Patent Services, 2022 Top 50 US Patent Assignees (accessed Jan. 10, 2022) (“2022 Top 50 US Patent Assignees”), available at: <https://www.ificlaims.com/rankings-top-50-2022.htm>

<sup>7</sup> USPTO, *Inventing AI - Tracing the Diffusion of Artificial Intelligence with US Patents*, p. 8 (“Figure 6: Top 30 U.S. AI patent owners-at-grant, 1976–2018”) (Oct. 2020), <https://www.uspto.gov/sites/default/files/documents/OCE-DH-AI.pdf>

<sup>8</sup> See Interbrand, *Best Global Brands Report* (2020), [learn.interbrand.com/hubfs/INTERBRAND/Interbrand\\_Best\\_Global\\_Brands%202020\\_Desktop-Print.pdf](https://www.interbrand.com/hubfs/INTERBRAND/Interbrand_Best_Global_Brands%202020_Desktop-Print.pdf)

<sup>9</sup> <https://transformyourtrade.org/>; <https://blogs.microsoft.com/blog/2021/10/28/america-faces-a-cybersecurity-skills-crisis-microsoft-launches-national-campaign-to-help-community-colleges-expand-the-cybersecurity-workforce/>

<sup>10</sup> BSA | The Software Alliance, *A Policy Agenda to Build Tomorrow's Workforce* (2018), <https://www.bsa.org/files/policy-filings/05022018BSAWorkforceDevelopmentAgenda.pdf>.

<sup>11</sup> [https://software.org/wp-content/uploads/Every\\_Sector\\_Software\\_Manufacturing.pdf](https://software.org/wp-content/uploads/Every_Sector_Software_Manufacturing.pdf)

<sup>12</sup> *Graham v. John Deere Co.*, 383 US 1, 9 (1966).

<sup>13</sup> H.R. Rep. No. 112–98, pt. 1, at 48 (2011); see also S. Rep. No. 110–259, at 20 (2011).

<sup>14</sup> 35 U.S.C. § 311(b).

<sup>15</sup> 157 Cong. Rec. 2,843 (2011) (remarks of Sen. Klobuchar); see also 157 Cong. Rec. 3,401 (2011) (remarks of Sen. Leahy) (“Patent examiners are facing a difficult task” in weeding out low-quality patents “given the explosion in the number of applications and the increasing complexity of those applications.”). Prior to the AIA, there was abusive behavior, often involving overly broad or invalid patents asserted against commercially successful companies at an alarming rate and a significant cost. In part, this is because there was not a cost-effective method for accused infringers to challenge the validity of these patents. The only effective option for accused infringers had was to litigate in district court. District court actions are extremely expensive and oftentimes more costly than the potential damages arising from an ultimate finding of infringement. Moreover, district court actions can take several years to adjudicate, leaving a cloud of uncertainty over the company for an extended period of time. This environment created fertile ground for bad actors to bring district court actions asserting arguably invalid patents with the knowledge that the accused infringer would likely settle the lawsuit to avoid the cost of litigation.

<sup>16</sup> BSA Submission to USPTO re Discretion to Institute PTAB Proceedings (Nov. 2020), at: <https://www.bsa.org/files/policy-filings/11172020usptoTAB.pdf>

<sup>17</sup> 157 Cong. Rec., S.131 (2011).

<sup>18</sup> For example, in cases in which there was parallel district court litigation, the *NHK v. Fintiv* rule specified examination of whether institution of PTAB proceedings should be denied on the basis of the following factors:

- Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
- Proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
- Investment in the parallel proceeding by the court and the parties;
- Overlap between issues raised in the petition and in the parallel proceeding;
- Whether the petitioner and the defendant in the parallel proceeding are the same party; and
- Other circumstances that impact the Board's exercise of discretion, including the merits.

<sup>19</sup> 35 USC 316(a)(6). See also, 35 USC 326(a)(6) (analogous provision for PGR proceedings).

<sup>20</sup> As AIA section 314(a) and other provisions outlined in Section I make clear, Congress directed USPTO to focus its substantive legal evaluation in institution determinations on the petitioner's likelihood of prevailing on at least one patent claim – not on other procedural issues, such as the circumstances surrounding the discovery of prior art, periods of time between petitioner filings, the timing of patent owner responses to petitioner filings and subsequent acts by the petitioner, the nature of petitioner explanations on the aforementioned matters, petitions previously filed by unrelated parties to which a subsequent petitioner was joined, or the number of claims in which a petitioner is unlikely to prevail on the merits (where the petitioner is nevertheless likely to prevail on at least one patent claim). See e.g., *General Plastic Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016–01357, slip op, at \*7 (PTAB Sept. 6, 2017); *Valve Corp. v. Elec. Scripting Prods., Inc.*, IPR2019–00064, –00065, –00085 (PTAB May 1, 2019); *Deeper, UAB v. Vexilar, Inc.*, IPR2018–01310, 2019 WL 328753 (PTAB Jan. 24, 2019); *Chevron Oronite Co. v. Infineum USA L.P.*, IPR2018–00923, 2018 WL 5862245 (PTAB Nov. 7, 2018).

<sup>21</sup> BSA members are increasingly facing an emerging trend involving certain foreign courts issuing overbroad injunctions relating to the practice of SEPs. Recently, courts in the United Kingdom and Germany have shown willingness to impose injunctions for SEP infringement. One aspect of this judicial practice has been courts' practice of determining FRAND royalty rates based on a global license, not one restricted to patents and infringing activities within the proper jurisdiction of the national court. This practice essentially allows SEP holders to ask British or German courts to make extraterritorial (global) determinations of infringement and impose a corresponding remedy, even with respect to US patents and the price of practicing those patents in the United States.

<sup>22</sup> <https://www.microsoft.com/en-us/seeing-ai/>

<sup>23</sup> Global Data Alliance, Cross-Border Data Transfers & Innovation (2021), at: <https://globaldataalliance.org/wp-content/uploads/2021/07/04012021cbdtinnovation.pdf>; Global Data Alliance, Cross-Border Data Transfers & Biopharmaceutical R&D (2021), at: <https://globaldataalliance.org/wp-content/uploads/2021/09/09092021cbdtbiopharma.pdf>; Global Data Alliance, Cross-Border Data Transfers & Economic Development (2021), at: <https://globaldataalliance.org/wp-content/uploads/2021/07/05062021econdevelopments1.pdf>

<sup>24</sup> See e.g., Ganes Kesari, *Why Covid Will Make AI Go Mainstream In 2021*, Forbes (Dec. 2020), <https://www.forbes.com/sites/ganeskesari/2020/12/21/why-covid-will-make-ai-go-mainstream-in-2021-top-3-trends-for-enterprises/?sh=1d83a3f6797a>; Arshadi et al., *Artificial Intelligence for COVID-19 Drug Discovery and Vaccine Development*, Front. Artif. Intell. (Aug. 2020), <https://www.frontiersin.org/articles/10.3389/frai.2020.00065/full> ; Ungaro, et al., *Accelerating vaccine research for COVID-19 with high-performance computing and artificial intelligence*, HP Enterprise (2020), <https://www.hpe.com/us/en/newsroom/blog-post/2020/04/accelerating-vaccine-research-for-covid-19-with-high-performance-computing-and-artificial-intelligence.html>; IEEE, *Can AI and Automation Deliver a COVID-19 Antiviral While It Still Matters?* IEEE Spectrum (2020), <https://spectrum.ieee.org/artificial-intelligence/medical-ai/can-ai-and-automation-deliver-a-covid-19-antiviral-while-it-still-matters>

<sup>25</sup> World Intellectual Property Organization, WIPO Global Innovation Index (Sept. 2021), at: [https://www.wipo.int/global\\_innovation\\_index/en/2021/index.html](https://www.wipo.int/global_innovation_index/en/2021/index.html)

<sup>26</sup> See Joshua Meltzer, *The impact of artificial intelligence on international trade*, Brookings Institution (2018), at: <https://www.brookings.edu/research/the-impact-of-artificial-intelligence-on-international-trade/>

<sup>27</sup> See e.g., WIPO, *WIPO Technology Trends 2019, Artificial Intelligence* (2019), [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_1055.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf); WIPO, *Frequently Asked Questions: AI and IP Policy* (2021), [https://www.wipo.int/about-ip/en/artificial\\_intelligence/faq.html](https://www.wipo.int/about-ip/en/artificial_intelligence/faq.html); WIPO, *Artificial Intelligence and Intellectual Property Policy* (2020), [https://www.wipo.int/about-ip/en/artificial\\_intelligence/policy.html](https://www.wipo.int/about-ip/en/artificial_intelligence/policy.html)

<sup>28</sup> USPTO, *Artificial Intelligence Webpage* (2021), <https://www.uspto.gov/initiatives/artificial-intelligence>; USPTO, *Public Views on Artificial Intelligence and Intellectual Property Policy* (2020), [https://www.uspto.gov/sites/default/files/documents/USPTO\\_AI-Report\\_2020-10-07.pdf](https://www.uspto.gov/sites/default/files/documents/USPTO_AI-Report_2020-10-07.pdf); USPTO, *Inventing AI - Tracing the Diffusion of Artificial Intelligence with US Patents* (Oct. 2020), <https://www.uspto.gov/sites/default/files/documents/OCE-DH-AI.pdf>.

<sup>29</sup> See e.g., Canadian Intellectual Property Office, *Processing Artificial Intelligence: Highlighting the Canadian Patent Landscape* (2020), [https://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/vwapj/AI\\_Report\\_ENG.pdf/\\$FILE/AI\\_Report\\_ENG.pdf](https://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/vwapj/AI_Report_ENG.pdf/$FILE/AI_Report_ENG.pdf); Japan Patent Office, *Recent Trends in AI-Related Inventions* (2019), [https://www.jpo.go.jp/e/system/patent/gaiyo/ai/document/ai\\_shutsugan\\_chosa/report-2019.pdf](https://www.jpo.go.jp/e/system/patent/gaiyo/ai/document/ai_shutsugan_chosa/report-2019.pdf); IP Australia, *Machine Learning Innovation – A Patent Analytics Report* (2019), [https://www.ipaustralia.gov.au/sites/default/files/reports\\_publications/patent\\_analytics\\_report\\_on\\_machine\\_learning\\_innovation.pdf](https://www.ipaustralia.gov.au/sites/default/files/reports_publications/patent_analytics_report_on_machine_learning_innovation.pdf); UKIPO, *Artificial Intelligence - A worldwide overview of AI patents and patenting by the UK AI sector* (2019), at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/817610/Artificial\\_Intelligence\\_-\\_A\\_worldwide\\_overview\\_of\\_AI\\_patents.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/817610/Artificial_Intelligence_-_A_worldwide_overview_of_AI_patents.pdf); European Patent Office, *Patents and the Fourth Industrial Revolution* (2017), [documents.epo.org/projects/babylon/eponet.nsf/0/17FDB5538E87B4B9C12581EF0045762F/%24File/fourth\\_industrial\\_revolution\\_2017\\_en.pdf](https://www.epo.org/projects/babylon/eponet.nsf/0/17FDB5538E87B4B9C12581EF0045762F/%24File/fourth_industrial_revolution_2017_en.pdf).

<sup>30</sup> See USPTO, *Trademarks and Patents in China: The impact of non-market factors on filing trends and IP systems* (Jan. 2021), <https://www.uspto.gov/sites/default/files/documents/USPTO-TrademarkPatentsInChina.pdf>

<sup>31</sup> Personal Information Protection Law of the People's Republic of China, at <http://www.npc.gov.cn/npc/c30834/202108/a8c4e3672c74491a80b53a172bb753fe.shtml>. See Articles 38 and 40, English translation available at: <https://digichina.stanford.edu/work/translation-personal-information-protection-law-of-the-peoples-republic-of-china-effective-nov-1-2021/>.