The Software & Information Industry Association (SIIA) appreciates the opportunity to respond to the request for comments on the *Patent Eligibility Jurisprudence Study* published by the United States Patent and Trademark Office ("PTO") in the Federal Register on July 9, 2021.1

Introduction

SIIA is the principal U.S. trade association for the software and digital content industries. With over 800 member companies, SIIA is the largest association of software and content publishers in the country. Our members range from start-up firms to some of the largest and most recognizable global corporations. The innovative companies that make up SIIA's membership rely on patents to protect their inventions, but also depend on the ability to manufacture, develop, and sell their products free from improper assertions of exclusive rights. Consequently, SIIA's members are involved in patent litigation as both patentees and accused infringers; they cannot be categorized as generally plaintiffs or generally defendants.

SIIA members have benefited greatly from the patents they own. Yet they also rely on the boundaries of patent protection, as clear boundaries preserve and protect their ability to innovate. As such, SIIA's collective membership sits at the crossroads of the countervailing interests in many of the ongoing intellectual property debates in recent years. It is keenly focused on issues surrounding intellectual property (IP) protection and the effect of IP laws on the pace-setting companies of our digital age. The statutory requirement of patentable subject matter is especially important in the context of computer-implemented inventions.

The case law correctly focuses on requiring a software patent (and other computer-implemented inventions) to claim an improvement in computer technology or recite a technical solution to a technical problem supports innovation in software. Patents devoid of any technical contribution often block those who seek to make true technical advances. Rather than

---

1 86 Fed. Reg. 36257 (July 9, 2021).

spurring innovation, patents on non-technical subject matter are an impediment because they contribute nothing to the progress of technology while imposing a tax on software innovators through unnecessary litigation and licensing.

The *Alice* decision has led to both procedural and substantive benefits. Procedurally, it sometimes enabled the invalidation of non-technological patents at the motion to dismiss stage of litigation, rather than at the end of discovery, or on summary judgment, prior to an expensive trial.[2] This is possible, for instance, when the patent is clear on its face that the claimed invention involves no purported advance in technology.

Substantively, it prevented the claiming of a variety of ordinary activities "on a computer" and freed up innovation in the software industry. At the same time, however, it permitted important patents to issue on true technical innovations, rewarding material contributions to technological fields. SIIA's members view the *Alice* decision as a natural and beneficial evolution of the patent law that helpfully illuminates the bounds of patentable subject matter for computer-implemented inventions.

The benefits of the decision, however, went well beyond preventing litigation abuse. SIIA's members create world-leading technologies in e-commerce, cloud computing, content creation, and artificial intelligence (AI). Our diverse membership includes some of the largest investors in research and development in the world, and several of our members are internationally recognized leaders in those fields.

Since *Alice,* investment and innovation in the information industries have thrived. According to the Bureau of Economic Analysis, for example, the "digital economy"—which includes high-tech goods and services, technological infrastructure, e-commerce transactions, and digital media—accounts for about 9.6% of U.S. GDP, and grew at 6.5% per year on average

[2] Berkheimer v. HP Inc., 881 F.3d 1360, 1368 (Fed. Cir. 2018).

between 2005 and 2019.[3] And those numbers may actually *undercount* growth in these sectors.[4]

Evidence of the post-*Alice* health of the technology sector exists on a more granular level. In examining startup and venture capital activity, $ 70.4 billion in U.S. venture funding was raised for technology-related activity, and global investing is at record levels.[5] (China, in contrast, saw venture funding drop over the same period.)[6]

The benefits of the *Alice* decision in the more established fields of computer software have also filtered through to emerging technologies such as AI, and the United States remains the center of AI activity. The United States remains the preferred destination for investment in AI, which reached record levels in the second quarter of 2021.[7] The U.S. received approximately $23.6 billion, over double the next leading two countries (China and the UK).[8] The U.S. holds a similar advantage in AI transactions, accounting for 41 percent of such deals in the

---

[3] U.S. Bureau of Economic Analysis, Digital Economy, available at https://www.bea.gov/data/special-topics/digital-economy (visited 25 Aug. 2021).

[4] Lydia Phillips, CNN Money, Technology helped America's Economy more than we thought, available at https://money.cnn.com/2018/08/03/news/economy/gdp-economic-growth-technology/index.html (Aug. 3 2018) (visited 25 August 2021).

[5] CB Insights, State of Venture Report, at 5, available at https://www.cbinsights.com/reports/CB-Insights_Venture-Report-Q2-2021.pdf (visited 25 Aug. 2021); 22 (also noting that silicon valley has been hit by a "wall of money").

[6] *Id.* at 15.

[7] CB Insights, AI in Numbers Q2 2021, at 7, available at https://www.cbinsights.com/reports/CB-Insights_AI-In-Numbers-Q2-2021.pdf?utm_campaign=marketing_ai-numbers_2021-07&utm_medium=email&_hsmi=140110824&_hsenc=p2ANqtz--4fR07M_z56SxnGQbI2Z7zphs8Rc8-Q0ZOUeDKlqcv6Gaj4MSBZtRpXW_DzfiloqbqBw-7iWdGm94u8iSo6NBkP6viNg&utm_content=140110824&utm_source=hs_automation (visited 25 August 2021).

[8] Stanford University, The Artificial Intelligence Index Report, at 16 (visited 25 August 2020), available at https://aiindex.stanford.edu/wp-content/uploads/2021/03/2021-AI-Index-Report-_Chapter-3.pdf (visited 25 August 2021).

second quarter of 2021—again more than doubling China.[9] U.S. AI deals are also increasing at a robust rate of 39 percent year over year.[10] To the extent that concerns exist about the negative effect of subject matter jurisprudence on investment in innovation, the data does not support such an inference. In order for this technology to flourish, SIIA believes that maintenance of the *Alice* framework is essential.[11]

Similarly, 101 rejections have not caused general uncertainty in the patent system. Looking at the PTO's data on obtaining patent protection, there does not appear to be any meaningful challenge to obtaining patent protection. For example, an empirical analysis of 4.1 million office actions revealed that only a small percentage (11%) receive 101 rejections in the first instance.[12] As might be expected, rejections initially rose in the wake of *Alice*, but have since returned to prior levels.[13]

---

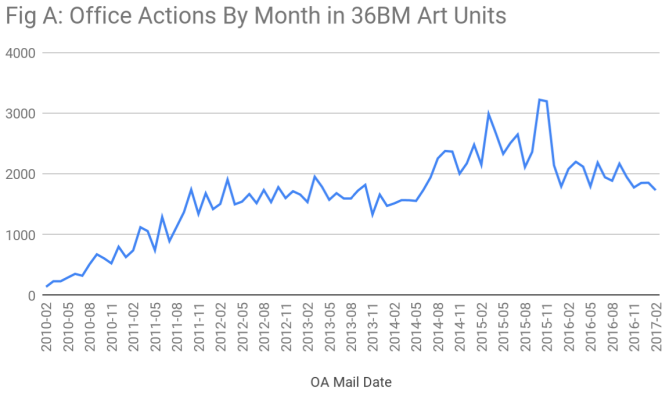
[9] CB Insights, AI in Numbers Q2 2021, at 12.

[10] *Id.*

[11] See, e.g., Joint Comments on Patenting Artificial Intelligence Inventions, available at https://www.uspto.gov/sites/default/files/documents/SIIA_RFC-84-FR-44889.pdf (noting that "Without robust examination, the democratization of AI will be hampered by patents that simply "use deep learning" or "apply artificial intelligence," resulting in the same sort of litigation abuses."); SIIA Comments on Patenting Artificial Intelligence Inventions, https://www.uspto.gov/sites/default/files/documents/Internet%20Association_RFC-84-FR-44889.pdf (noting the importance of distinguishing between AI inventions on the one hand (which should be subject to protection) and AI applications (which as a rule are not patentable subject matter).

[12] Colleen Chien & Jiun Ying Wu, Decoding Patentable Subject Matter, 2018 PATENTLY-O PAT. L.J. 1, 12 (Oct. 16, 2018); https://patentlyo.com/media/2018/10/Chien.Decoding101.2018.pdf.

[13] *Id.* (Fig. A).



A similar trend appears in the PTO's own analysis, where the probability of receiving a 101 rejection rose in the immediate aftermath of the decision, and then returned to pre-*Alice* ranges.[14] As applied to software, a regression analysis on millions of applications concluded that rejection rates for software held relatively constant both before and after the decision.[15]

Claims that section 101 is compromising investment or U.S. competitiveness are therefore belied by both marketplace and the PTO's own records. The available data confirms SIIA's members' experience: that the investment climate for technology remains extremely healthy, and that patent protection is predictably available for those who seek it. The balance of this comment addresses specific questions asked in the Request for Information; to the extent the above is relevant to those answers we incorporate it by reference..

RFI Question 2: Please explain what impacts, if any, you have experienced as a result of the current state of patent eligibility jurisprudence in the United States. Please include impacts on

---

[14] *See* U.S. Patent and Trademark Office, Adjusting to Alice, at 5 (Fig. 3) available at https://www.uspto.gov/sites/default/files/documents/OCE-DH_AdjustingtoAlice.pdf (visited 1 Sept. 2021).

[15] Kesan and Wang, Eligible Subject Matter at the Patent Office: An Empirical Study of the Influence of Alice on Patent Examiners and Patent Applicants, 105 Minn. L. Rev. 526, 589 (2020).

as many of the following areas as you can, identifying concrete examples and supporting facts when possible:

a. *Patent prosecution strategy and portfolio management;*

SIIA members believe that current 101 jurisprudence has resulted in a healthier patent system. *Alice* and subsequent cases have required more detail in the claims and description, but that specificity has resulted in higher-quality patents and better disclosure to the public. It has also made prosecution more efficient, as after *Alice* the U.S. subject matter requirements better align with those of the European Union. Our members have not suffered increased difficulty in obtaining patent protection when they need it, nor, consistent with the PTO's own analysis, have they seen 101-based rejections problematically rise.

b. *patent enforcement and litigation;*

Our members have had no significant problems enforcing their patents since the *Alice* decision. In litigation more generally, the ability of SIIA members to have the quality of a patent tested early in litigation (usually at the motion to dismiss stage) has stopped meritless claims from being the subject of undeserved settlements. In contrast, patents that meet the statutory requirements are reliably enforced.

d. *research and development;*

As discussed above, our membership invests heavily in the creation and deployment of AI in a variety of fields. Section 101's current jurisprudence has experienced tremendous increases in research and development.

h. *ability to obtain financing from investors or financial institutions;*

SIIA members have not had trouble in acquiring investment due to the *Alice* decision.

i. *investment strategy*;

Some SIIA members are involved in investing in AI and other new kinds of technology either through development or corporate acquisition. *Alice* has not resulted in a change in

investment strategy, and in their view the general investment climate remains favorable.

k. product development;

As the PTO is aware, patent litigation routinely costs seven-figure sums to bring through trial. For SIIA members involved in technology development, such litigation leads to an enormous drag on time and expense resources. Time spent by technical personnel preparing for deposition and trial pulls our members' personnel away from what they would otherwise be doing: making new products.[16] The early procedural posture of *Alice*-related motions often cost far less than even inter partes proceedings. On balance, therefore, *Alice* has helped move product development.

l. sales, including downstream and upstream sales;

The software and information industries have grown since the *Alice* decision, as has the entire technology industry. It is our view that the entire technology ecosystem has benefitted from *Alice*, which has largely prevented using patents on software to claim business methods and instead focused them on actual technological innovation. Empirical analysis associated the *Alice* decision with improved sales as well as incentivizing of open-source development.[17]

k. Innovation;

We do not know precisely what "innovation" means as asked in the RFI. To the extent that R & D is a reasonable substitute,

---

[16] *E.g.,* Filippo Mezzanotti, Roadblock to Innovation: The Role of Patent Litigation in Corporate R&D at 2-4 (July 22, 2020), https://www.kellogg.northwestern.edu/faculty/mezzanotti/documents/innovation.pdf (discussing empirical evidence demonstrating harm to investment from the way that patent litigation increases financing constraints).

[17] *See* Lin, Yu-Kai and Rai, Arun, Patent Protection and Software Innovation: Evidence from Alice at 16-17 (noting increased sales); 24 (suggesting encouragement of open source development); 25 (noting that their insight likely applicable to big data, AI and other emerging digital innovations), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3703055.

the evidence cited above suggests that the technology sector is thriving in *Alice*'s wake.[18] And we would note that by focusing the question of patentability on technical improvements, *Alice* actually provides strong incentives to solve technological problems so that the inventor can claim the technical solution, and incentivizes more detailed patent disclosures, which results in more information being available for follow-on development by other researchers.

> **RFI Question 6. Please explain whether the state of patent eligibility jurisprudence in the United States has caused you to modify or shift investment, research and development activities, or jobs from the United States to other jurisdictions, or to the United States from other jurisdiction. If so, please identify the relevant modifications and their associated impacts.**
>
> **RFI Section 10. Please identify how the current state of patent eligibility jurisprudence in the United States impacts the global strength of U.S. intellectual property.**

Although these questions appear in different portions of the RFI, SIIA answers them together. Our members have not shifted their investment, R & D, or jobs either into our out of the Unite States based on patent eligibility jurisprudence. There are two principles undergirding these conclusions: internationally recognized principles of national treatment, and the territoriality of intellectual property rights.

Patent rights are not "global" in scope: they are territorial and do not extend beyond the borders of the United States. Nor is

---

[18] See PwC, The 2015 Global Innovation 1000: Innovation's New World Order 13, available at https://www.pwc.com/gr/en/publications/2015-global-innovation-1000.pdf (noting that software grew by 27 percent and healthcare also grew at a rate of six percent); See also PwC, The 2017 Global 1000, available at https://www.pwc.com.au/digitalpulse/report-2017-global-innovation-1000.html (noting that technology "led the charge").

there any empirical measure of "global" strength of the American patent system. Similarly, the current state of patent eligibility has no effect on the "global strength" of U.S. intellectual property. Of course, some well-known trade groups rank the strength of intellectual property systems on criteria they select, and have ranked the U.S.'s first overall, and patents second.[19] Certainly, from SIIA's point of view, the IP system in the United States is a model for the rest of the world. But discussions of "global" strength of patent rights is a non sequitur.

Strength discussions aside, suggestions that changes to patent subject matter eligibility would drive innovation offshore are at odds with legal and factual reality. The United States has signed the Trade-Related Agreement on Intellectual Property Rights (TRIPs), which requires that its signatories afford each other national treatment and make patents available to foreign nationals on the same terms as its own citizens.[20] With respect to patents specifically, TRIPs further requires that patent rights issue to all inventors in the signatory country so long as they are "new, involve an inventive step, and are capable of industrial application."[21]

TRIPs, therefore, is intentionally designed to *prevent* the enactment of patent legislation that imposes origin requirements on research and development. Thus, for example, a French national whose invention meets U.S. statutory requirements is legally entitled to receive a U.S. patent no matter where her research occurred. And we note that the European standard (among others) functionally mirrors *Alice*.[22]

---

[19] U.S. Chamber of Commerce, The Global IP Center, U.S. Chamber IP International Index Executive Summary at 5, available at https://www.theglobalipcenter.com/wp-content/uploads/2020/02/GIPC_IP_Index_2020_ExecutiveSummary.pdf.

[20] *See* TRIPS, art. 4. *See also generally* The World Trade Association, Overview, The TRIPS Agreement, available at https://www.wto.org/english/tratop_e/trips_e/intel2_e.htm#patents.

[21] TRIPS, art. 27(1).

[22] See generally *Alice and 'something more': the drift towards European patent jurisprudence, 3 J.L. Law and the Biosciences*, 691 (2016), available at https://doi.org/10.1093/jlb/lsw038 ("

Given current statistics, if the United States were to expand subject matter eligibility, foreign companies would benefit more than U.S. ones, availing themselves of protection they could not receive in their home country. Indeed, over half of the patents granted by the PTO are to foreign entities.[23] To be sure, countries may flout their TRIPs obligations, but that invites a remedy through laws governing trade, not substantive changes to intellectual property doctrines. Assuming, however, that countries are not violating TRIPs when they enact their patent laws, *it is illegal for countries to provide advantages to local research by conditioning patent eligibility on where that research takes place.*

On the other hand, there is evidence suggesting that the overprotection can drive research, development and jobs out of a particular jurisdiction. For example, German law on standard-essential FRAND patents allows an injunction against any infringer unless the licensing demand constitutes an antitrust violation. When Microsoft and Motorola could not come to an agreement over a standards-essential patent, Microsoft relocated a distribution center (and the jobs associated with it) out of Germany.[24] On a micro scale, similar activity has occurred in the Eastern District of Texas, where Apple has closed its stores over being subject to venue in that jurisdiction.[25] These examples suggest that the burdens of overprotection will create exactly the wrong incentive in the United States: to locate activities in jurisdictions without the innovation-chilling effect of overbroad patent protection.

---

[23] *See* U.S. Patent Statistics Chart, available at https://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm,.

[24] *See* Reuters, Microsoft Shuts German Distribution Center in Patent Dispute, (April 2, 2012) available at https://www.reuters.com/article/us-microsoft-germany/microsoft-shuts-german-distribution-center-in-patent-dispute-idINBRE8310IN20120402.

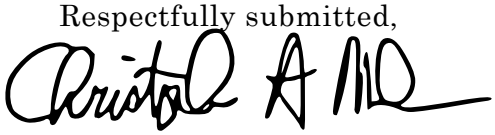
[25] Joe Rossignol, Apple Plans to Close Stores in Eastern District of Texas in Fight Against Patent Trolls [Updated], Macrumors (Feb. 22 2019) (updated with confirmation from Apple to different outlet), available at https://www.macrumors.com/2019/02/22/apple-closing-stores-in-eastern-district-texas/?utm_source=feedly&utm_medium=webfeeds.

Conclusion

American leadership in the information industries depends on a healthy patent system. Empirical evidence demonstrates that *Alice* has improved the health of that system for those industries. Its effects should be celebrated.

Thank you for considering our views.

Respectfully submitted,



Christopher A. Mohr
SVP for IP and General Counsel

October 15, 2021