



Andrei Iancu, Co-Chair
David Kappos, Co-Chair
Judge Paul Michel (Ret.), Board Member
Judge Kathleen O'Malley (Ret.), Board Member
Frank Cullen, Executive Director

March 11, 2025

Via Electronic Submission

The Honorable Sethuraman Panchanathan
Director of the United States National Science Foundation
2415 Eisenhower Avenue
Alexandria, VA 22314

**Re: Docket No. 2025-02305, Request for Information on
the Development of an Artificial Intelligence (AI) Action Plan**

Dear Director Panchanathan,

The Council for Innovation Promotion (C4IP) welcomes the opportunity to submit comments in response to the National Science Foundation's Request for Information on the Development of an Artificial Intelligence (AI) Action Plan (Docket No. 2025-02305).

C4IP is a bipartisan coalition dedicated to promoting strong and effective intellectual property rights that drive innovation, boost economic competitiveness, and improve lives everywhere. Founded and chaired by former directors of the U.S. Patent and Trademark Office (USPTO) from previous Democratic and Republican administrations — whose board also includes two retired judges from the Court of Appeals for the Federal Circuit — our nonprofit organization aims to be a valued partner to those considering policies impacting America's intellectual property system.

The strength of the IP system will play a defining role in the future of AI innovation; C4IP believes that the United States should ensure that the Patent Act clearly allows for the patenting of AI inventions and should otherwise avoid using the patent system to overregulate AI and inadvertently stifle innovation in this technology and its applications. In other areas of IP, the Administration should support policies that ensure that the IP system can perform its role to appropriately compensate creators for the use of their works or other intangible assets, thus ensuring that appropriate incentives remain to nurture future investment in creative activities.

To ensure that the patent system protects and promotes AI innovation, C4IP believes that legislation is needed, which the Administration is well-positioned to champion. A series of

recent Supreme Court decisions — including *Alice Corp. v. CLS Bank International* — has unfortunately created significant uncertainty over whether AI inventions are entitled to protection from the patent system, notwithstanding this technology’s centrality to innovation at this critical moment.¹ These Supreme Court decisions significantly expanded previous judicially-created exceptions to what types of inventions can be patented, resulting in a judicial test that is overly subjective, which has translated into restrictive and inconsistent lower court rulings.

This case law is ultimately undermining confidence in the U.S. patent system and discouraging investment in AI and other critical technologies. Meanwhile, other countries — including China — maintain more straightforward patent eligibility frameworks for AI and other computer-implemented innovations. This disparity places U.S. innovators at a competitive disadvantage.

To address these challenges, C4IP strongly supports legislative solutions like the Patent Eligibility Restoration Act (PERA).² PERA would restore clarity and predictability to patent eligibility, ensuring that AI-powered advancements — as well as other critical innovations — are not improperly excluded from protection. It is important to note that the bill does not “expand” eligibility beyond what was historically recognized; rather, it corrects the restrictions and uncertainty created by recent Supreme Court decisions.

C4IP believes that this Administration could play a critical role in advancing the AI leadership of the United States by championing meaningful legislative change in this area of patent law and endorsing PERA. The Administration’s support for PERA would help restore a stable, innovation-friendly patent system, providing the encouragement and certainty needed for continued investment in AI research and development.

Until there is further clarity from the courts or Congress, however, the Administration should take care to ensure that Supreme Court guidance is not over-interpreted to preclude the patenting of AI inventions more than is mandated. For example, the Office’s July 2024 update to its Section 101 guidance for patent examiners over-interprets binding case law in a manner that unduly restricts the eligibility of AI-based inventions.³ Given the ongoing

[1] *Alice Corp. v. CLS Bank International*, 573 U.S. 208 (2014).

[2] Patent Eligibility Restoration Act of 2023, S. 2140, 118th Cong. (2023).

[3] USPTO, 2024 Guidance Update on Patent Subject Matter Eligibility, Including on Artificial Intelligence, 89 FR 58128 (July 17, 2024), <https://www.federalregister.gov/documents/2024/07/17/2024-15377/2024-guidance-update-on-patent-subject-matter-eligibility-including-on-artificial-intelligence>; see also C4IP, *Re: Docket No. PTO-P-2024-0026, 2024 Guidance Update on Patent Subject Matter Eligibility, Including on Artificial Intelligence* (September 16, 2024), <https://c4ip.org/wp-content/uploads/2024/09/C4IP-Public-Comment-RE-PTO-P-2024-0026.pdf> (also attached to this submission, as Appendix A).

uncertainty in this area, the USPTO should avoid imposing additional limitations beyond what is clearly required by precedent, ensuring that AI-driven innovations are not excluded from patent protection any more than absolutely necessary. C4IP recommends that the Administration reconsider and revise the updates to this guidance.

C4IP also urges caution against the USPTO promulgating policy proposals that further impose unnecessary barriers on patenting AI inventions or inventions made with AI assistance. The USPTO's February 2024 guidance on AI and inventorship, for example, effectively creates additional disclosure requirements for patent applicants who used AI as a tool in the invention process — something not required for any other kind of tool.⁴ This heightened burden placed on the use of AI will unnecessarily deter its use, whereas the USPTO and the U.S. government should be taking every step to encourage the use of AI so that this country can benefit from the innovative potential that it could unleash.

Beyond eligibility and inventorship, C4IP also urges the Administration to refrain from drafting other patent examiner guidance that unduly burdens the development of AI or AI-enabled technology. For example, last April, the USPTO requested input regarding the impact of AI on other aspects of patent examination but has not yet issued any specific guidance.⁵ C4IP believes the Administration should avoid premature and potentially excessive regulation that could inadvertently stifle future AI innovation.⁶

As the Administration considers the intersection between AI and other areas of intellectual property, C4IP urges policies that support appropriate recognition and compensation to human creators. For example, C4IP supports policies and legislation that would require greater transparency into what copyrighted material is used to train AI models. This would help maintain the integrity of the copyright system while fostering responsible AI-driven innovation. Appropriate compensation structures and penalties for unlicensed use should be established, protecting creators' rights.

[4] USPTO, *Inventorship Guidance for AI-Assisted Inventions*, 89 FR 10043 (Feb. 13, 2024), <https://www.federalregister.gov/documents/2024/02/13/2024-02623/inventorship-guidance-for-ai-assisted-inventions>; see also C4IP, *Re: Docket No. PTO-P-2023-0043, Inventorship Guidance for AI-Assisted Inventions* (May 13, 2024), <https://c4ip.org/wp-content/uploads/2024/05/C4IP-Public-Comment-RE-PTO-P-2023-0043.pdf> (also attached to this submission, as Appendix B).

[5] USPTO, *Request for Comments Regarding the Impact of the Proliferation of Artificial Intelligence on Prior Art, the Knowledge of a Person Having Ordinary Skill in the Art, and Determinations of Patentability Made in View of the Foregoing*, 89 FR 34217 (April 30, 2024), <https://www.federalregister.gov/documents/2024/04/30/2024-08969/request-for-comments-regarding-the-impact-of-the-proliferation-of-artificial-intelligence-on-prior>.

[6] C4IP, *Re: Docket No. PTO-P-2023-0044, Request for Comments Regarding the Impact of the Proliferation of Artificial Intelligence on Prior Art, the Knowledge of a Person Having Ordinary Skill in the Art, and Determinations of Patentability Made in View of the Foregoing* (July 29, 2024), <https://c4ip.org/wp-content/uploads/2024/07/C4IP-Public-Comment-RE-PTO-P-2023-0044.pdf> (also attached to this submission, as Appendix C).

Likewise, C4IP also supports legislative efforts like the Nurture Originals, Foster Art, and Keep Entertainment Safe (NO FAKES) Act, which would establish important protections against the unauthorized use of an individual’s name, image, or likeness in AI-generated content.⁷ Ensuring that creators and public figures have clear rights in this rapidly evolving landscape is essential to preserving trust and fairness in the digital economy.

C4IP urges the Administration to champion a balanced approach to AI — one that eliminates unnecessary regulatory obstacles while supporting strong patent and other intellectual property protections that support U.S. leadership in innovation.

We appreciate the NSF’s consideration of these issues and welcome further discussion.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank Cullen', is positioned below the word 'Sincerely,'.

Frank Cullen
Executive Director
Council for Innovation Promotion (C4IP)

[7] Nurture Originals, Foster Art, and Keep Entertainment Safe Act of 2024, S. 4875, 118th Cong. (2024).

Appendix to C4IP’s response to Docket No. 2025-02305, Request for Information on the Development of an Artificial Intelligence (AI) Action Plan

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Appendix A



Frank Cullen, Executive Director
Andrei Iancu, Co-Chair
David Kappos, Co-Chair
Judge Paul Michel (Ret.), Board Member
Judge Kathleen O'Malley (Ret.), Board Member

September 16, 2024

Via Electronic Submission

The Honorable Katherine K. Vidal
Under Secretary of Commerce for Intellectual Property and Director
of the United States Patent and Trademark Office
600 Dulany Street
Alexandria, VA 22314

**Re: Docket No. PTO-P-2024-0026,
2024 Guidance Update on Patent Subject Matter Eligibility, Including
on Artificial Intelligence**

Dear Director Vidal,

The Council for Innovation Promotion (C4IP) welcomes the opportunity to submit comments in response to the U.S. Patent and Trademark Office's issuance, on July 17, 2024, of updated examiner guidance on subject matter eligibility, including new examples 47-49 (Docket No. PTO-P-2024-0026) (the "July 2024 Guidance").

C4IP is a bipartisan coalition dedicated to promoting strong and effective intellectual property rights that drive innovation, boost economic competitiveness, and improve lives everywhere. Founded and chaired by former directors of the U.S. Patent and Trademark Office (USPTO) from previous Democratic and Republican administrations, whose board also includes two retired judges from the Court of Appeals for the Federal Circuit, our nonprofit organization hopes to be a valued partner to those considering policies impacting America's intellectual property system.

C4IP welcomes the USPTO's attention to keeping its subject matter eligibility guidance for the Office current. The July 2024 Guidance helpfully makes clear that there is a path to patentability for some AI in the United States — at least from the Office's perspective. Yet, in some critical aspects, the Office's guidance discounts the revolutionary ways that artificial intelligence (AI) allows machines to accomplish tasks that only humans have been capable of performing until now.

C4IP urges the USPTO to reconsider aspects of the guidance that directs AI limitations to be ignored — essentially as nothing more than a general-purpose computer — when it

is clear from the context (the claim or the specification if it effectively limits specific claim language) that the advance in AI is what allows for the automation of tasks that previously could only be accomplished by humans. In addition, while the analysis and output of AI machines may seem like human “reasoning” (and thus susceptible to categorized as an abstract mental process), they are not. AI represents separate, machine-based processes that analyze data in new ways, producing unique, non-human outputs. The innovation and effort required to develop such automation lies at the heart of AI technology, yet it is not consistently treated as such by this guidance.

Concerns about the July 2024 Guidance and Examples. For instance, the new examples accompanying the guidance ignore limitations reciting the use of AI by characterizing the claimed step of the process-in-question as being capable of being performed in the human mind. This is the case for steps (d) and (e) of Example 47, Claim 2. Those limitations recite the use of a trained AI (an artificial neural network, or ANN) to detect anomalies, analyze them, and generate anomaly data. The direction given to examiners is that the limitation to a trained ANN “provide[s] nothing more than mere instructions to implement an abstract idea on a generic computer.” When these elements are ignored, these steps are left with only “detecting” and “analyzing,” so the guidance explains these steps could be performed by the human mind. But, this analytical approach overlooks the value of AI, which is that training AI on data will lead it to perform “detecting” and “analyzing” differently than a human would, involving pattern detection and inferences a human would not make. Moreover, the Office cites no source for the proposition that trained AI should automatically be treated like a generic computer for purposes of this analysis, and it does not seem appropriate that this inference be made.

The July 2024 Guidance’s new bullet-point examples of “mental steps” based on recent Federal Circuit case law are also problematic. (These examples are based on *Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355 (Fed. Cir. 2023), *In re Killian*, 45 F.4th 1373 (Fed. Cir. 2022), and *PersonalWeb Techs. LLC v. Google LLC*, 8 F.4th 1310 (Fed. Cir. 2021)). Given the way that the holdings of these cases are described, examiners are invited to ignore concrete claim limitations and summarily conclude that claims amount to nothing more than collecting, analyzing, and outputting data. There is no guidance given in these examples on when it is proper to ignore specific claim elements that limit the process to machines, especially when there are clear advantages to having machines perform the claimed steps. This is especially problematic coming in the context of guidance meant to help with AI inventions, where data gathering, analysis, and output are key elements of this new technology, but which turn on meaningful advances in how these functions are achieved by machines, not by humans. The

guidance, therefore, unfortunately, may serve to make obtaining patents on AI inventions unnecessarily difficult, with patents being issued according to the idiosyncrasies of how the guidance's gaps are filled in by individual examiners.

While C4IP has concerns with how the USPTO is discounting AI limitations, C4IP agrees with the Office's approach of treating AI the same as it would any other invention. As the USPTO wrote previously, "the USPTO has been examining and issuing patents claiming AI inventions for years"¹ using the same eligibility guidance that applies to all patent applications. No case law that we are aware of would dictate a different tact. C4IP continues to believe that this is also the correct approach for questions of AI and inventorship, in contrast to the Office's current approach, which we do not believe is required by case law.² Instead, AI should be treated the same as any other tool that human inventors might use in developing an invention. The Office's current approach unnecessarily elevates AI's current capabilities and threatens to make inventions developed using AI vulnerable to this side-show question during patent examination and court proceedings.

Legislative Reform of Patent Eligibility Is Needed. Putting specific concerns about the July 2024 Guidance aside, there are larger systemic problems with our nation's approach to patent-eligible subject matter. For example, the Office's guidance is not binding on the courts, which have the ultimate say in how binding case law is applied to potentially invalidate AI patents when they are enforced.³ Having a legal system where there may be discrepancies between the flow-chart approach of the Office and the case law approach employed by the courts presents real harm to the innovation economy. Arguably, these discrepancies are forced on the Office, which is trying to ensure consistency among 9,000 examiners (including many without a legal degree) in light of constantly evolving and unpredictable case law.⁴ Nonetheless, the current setup gives a false sense of certainty to patent recipients, particularly those lacking access to legal expertise that can advise them on how likely a court is to enforce a *granted* patent.

[1] USPTO, *Public Views on Artificial Intelligence and Intellectual Property Policy* 8 (Oct. 2020), https://www.uspto.gov/sites/default/files/documents/USPTO_AI-Report_2020-10-07.pdf.

[2] C4IP, *Re: Docket No. PTO-P-2023-0043, Inventorship Guidance for AI-Assisted Inventions* (May 13, 2024), <https://c4ip.org/wp-content/uploads/2024/05/C4IP-Public-Comment-RE-PTO-P-2023-0043.pdf>; see also Andrei Iancu & David Kappos, *New Patent Guidance on AI Could Quash Innovation*, Wall Street Journal (July 11, 2024), <https://www.wsj.com/articles/new-patent-guidance-on-ai-could-quash-innovation-dd848ea4>.

[3] *In re Rudy*, 956 F.3d 1379, 1383 (Fed. Cir. 2020) ("We are not . . . bound by the Office Guidance, which cannot modify or supplant the Supreme Court's law regarding patent eligibility, or our interpretation and application thereof.").

[4] See *id.* (Fed. Cir. 2020) ("To the extent the Office Guidance contradicts or does not fully accord with our caselaw, it is our caselaw, and the Supreme Court precedent it is based upon, that must control.").

The same sort of whiplash affects investors, who might see their patent-backed investments evaporate, leading them to hesitate before investing in similar areas of technology in the future, as research has borne out: in a survey of 475 venture capital and private equity investors, 74% agreed that patent eligibility is an important consideration in whether to invest in companies developing technology.⁵ Other research has shown a decline in investment of \$9.3 billion in life science diagnostics in the years following the *Mayo* decision.⁶ Some of the nation’s premier research institutes have written to Congress about how this case law has forced them to abandon commercialization of promising discoveries.⁷ The impact of the change in law in this area accordingly threatens the national competitiveness of the United States in innovation, as we compete with countries whose patent systems are not similarly constrained.⁸

For these reasons and others, C4IP believes that legislative reform to § 101 is needed and urges the Office to take a more proactive role in advocating for such reform. In particular, C4IP supports the Patent Eligibility Restoration Act (PERA) — bipartisan, bicameral legislation that is the product of years of Congressionally-led discussion and negotiation.⁹ This bill would address the problems set forth in this submission by providing a single framework for courts and the Office to employ, promising the increase in predictability and certainty that the Office has seen since it adopted a more streamlined approach with its Patent Eligibility Guidance in 2019. This bill would also align our patent system with that of our major economic competitors (namely, Europe, China, South Korea and Japan) to ensure that we do not lose innovative individuals and startups to these other jurisdictions.

* * *

Ensuring that the United States remains the leader in artificial intelligence is a vital objective for our country, and the primary incentive system that drives this progress is the

[5] David Taylor, *Patent Eligibility and Investment*, 41 *Cardozo L. Rev.* 2019, 2054 (2020), <http://cardozolawreview.com/wp-content/uploads/2020/10/6.-Taylor.41.5.3.FINAL-1.pdf>.

[6] A. Sasha Hoyt, *The Impact of Uncertainty Regarding Patent Eligible Subject Matter for Investment in U.S. Medical Diagnostic Technologies*, 79 *Wash. & Lee L. Rev.* 397 (2022), <https://scholarlycommons.law.wlu.edu/wlulr/vol79/iss1/8>.

[7] Letter from D. Geoffrey Vince, Ph.D., Chair, Biomed. Engineering, Lerner Rsch. Inst., Executive Director, Innovations, Cleveland Clinic, to Sen. Chris Coons, Senate Judiciary IP Subcommittee Chairman and Sen. Thom Tillis, Senate Judiciary IP Subcommittee Ranking Member (May 3, 2024); Letter from Laurie H. Glimcher, MD, President and Chief Executive Officer of the Dana-Farber Cancer Instit., to Sen. Chris Coons, Senate Judiciary IP Subcomm. Chairman and Sen. Thom Tillis, Senate Judiciary IP Subcomm. Ranking Member.

[8] See Kevin Madigan & Adam Mossoff, *Five Years Later, the U.S. Patent System is Still Turning Gold to Lead*, IPWatchdog (Dec. 15, 2019), <https://www.ipwatchdog.com/2019/12/15/five-years-later-the-us-patent-system-is-still-turning-gold-to-lead/id=116984/>; Kevin Madigan & Adam Mossoff, *Turning Gold to Lead: How Patent Eligibility Doctrine is Undermining U.S. Leadership in Innovation*, 24 *Geo. Mason L. Rev.* 939 (2017).

[9] S. 2140, <https://www.congress.gov/bill/118th-congress/senate-bill/2140>; H.R. 9474, <https://www.congress.gov/bill/118th-congress/house-bill/9474>.

patent system administered by the USPTO. The Office's attention to developing specific guidance on this important area of technology is commendable, but the particulars of the guidance may have an unintended deterrent effect on innovation in this field and others. C4IP urges the Office to revisit the July 2024 Guidance and accompanying examples to ensure that examiners are not improperly incentivized to ignore meaningful claim limitations, which would help to guard against over-characterization of AI inventions (and others) as nothing more than mental processes, when they reflect advances being performed by machines, and claimed only as such.

Given the state of the case law in this area, C4IP continues to believe that legislation is needed to ensure a proper scope of patent protection on critical areas of technology and to ensure that the Office and federal courts do not unduly diverge in their analysis of this issue. C4IP accordingly urges the Office to publicly support the Patent Eligibility Restoration Act, legislation that would do precisely this.

C4IP thanks the USPTO for its work on this critical issue, and stands ready to provide any further input that may be requested.

Sincerely,

A handwritten signature in black ink, appearing to read "Frank Cullen", is positioned below the word "Sincerely,".

Frank Cullen
Executive Director
Council for Innovation Promotion (C4IP)

Appendix B



Andrei Iancu, Co-Chair
David Kappos, Co-Chair
Judge Paul Michel (Ret.), Board Member
Judge Kathleen O'Malley (Ret.), Board Member
Frank Cullen, Executive Director

May 13, 2024

Via Electronic Submission

The Honorable Katherine K. Vidal
Under Secretary of Commerce for Intellectual Property and Director
of the United States Patent and Trademark Office
600 Dulany Street
Alexandria, VA 22314

**Re: Docket No. PTO-P-2023-0043,
Inventorship Guidance for AI-Assisted Inventions**

Dear Director Vidal,

The Council for Innovation Promotion (C4IP) welcomes the opportunity to submit comments regarding the February 13, 2024, Inventorship Guidance for AI-Assisted Inventions (Docket No. PTO-P-2023-0043). This guidance went into effect immediately, although the Office solicited written feedback on or before May 13, 2024.

C4IP is a bipartisan coalition dedicated to promoting strong and effective intellectual property rights that drive innovation, boost economic competitiveness, and improve lives everywhere. Founded and chaired by former directors of the U.S. Patent and Trademark Office from previous Democratic and Republican administrations, our nonprofit organization aims to be a valued partner to those considering policies impacting America's IP system.

C4IP is concerned that the Office's artificial intelligence (AI) inventorship guidance will ultimately hurt humans, human creativity, and flourishing; the very opposite of what the Office set out to do. The newly-announced guidance means that inventors who use artificial intelligence to innovate and then seek patent protection will be faced with uncertainty throughout the examination process and during any validity challenges afterward, with the possibility that their "human" contribution was not enough. This is because the guidance starts from the premise that use of AI by an inventor or inventors is different than the use

of any other tool. This premise is simply incorrect.¹ To date, the possibility that AI can act as an inventor, absent *any* human involvement, remains a hypothetical, not an issue that warrants a significant overhaul of existing rules, as the Office proposes to do here — indeed, all the examples crafted by the Office describe varying degrees of human involvement.²

Yet, under the guidance’s reinterpretation of case law on conception and inventorship, no one will be entitled to a patent where no human made a “significant contribution” to the conception of the invention.³ But this test was developed to answer a different question — namely, to decide who invented something first or whether someone was improperly listed or omitted as an inventor. It is in this context that the significance (or lack thereof) of particular contributions becomes relevant.

The context of a human or humans using AI is fundamentally different. The proper analytic framework for considering use of AI should be the same as what patent law has always used to consider tools or other input used by inventors. The law here is clear, as set forth in the last line of § 103: “Patentability shall not be negated by the manner in which the invention was made.”⁴ Inventors’ use of AI merits no further consideration in the patentability analysis than the use of any other tool, such as a computer, for example, under fact patterns more analogous than those considered by the Office. This is because the Office is properly considering “how” the invention is made, not “who” the inventors are.⁵

For example, in *Life Technologies, Inc. v. Clontech Laboratories, Inc.*, two scientists were attempting to develop an altered version of an enzyme lacking one of its two biological activities. They ultimately found a published computer analysis that predicted where these two activities were located.⁶ The scientists focused on the indicated section for the

1 To this end, the Office states “the USPTO recognizes that while an AI system may not be named an inventor or joint inventor in a patent or patent application, *an AI system—like other tools—may perform acts that, if performed by a human, could constitute inventorship* under our laws.” 89 Fed. Reg. 10043, 10045 (emphasis added). The Office cites to no authority that AI is currently capable of conception (and consequently invention). Case law abounds with descriptions of conception, in particular, as a fundamentally human activity. *See, e.g.*, *Univ. of Utah v. Max-Planck-Gesellschaft zur Forderung der Wissenschaften E.V.*, 734 F.3d 1315, 1323 (Fed. Cir. 2013) (“To perform this mental act, inventors must be natural persons[.]”). An assertion that machines are already—or soon to be—capable of this functionality should receive more support and more explanation. Indeed, later in the Federal Register notice, the Office states, “Because conception is an act performed in the mind, it has to date been understood as only performed by natural persons.” 89 Fed. Reg. at 10046.

2 See USPTO, AI-related Resources, <https://www.uspto.gov/initiatives/artificial-intelligence/artificial-intelligence-resources> (providing links to two examples of application of the Office’s AI inventorship guidance all involving human activity); see also *Thaler v. Vidal*, 43 F.4th 1207, 1209 (Fed. Cir. 2022) (AI system allegedly solely responsible for invention yet a human applied for a patent application).

3 Implicitly this means that only AI made a significant contribution. This stands in contrast to the potentially distant hypothetical noted earlier of an invention made solely by a machine, without the need for human involvement in the form of prompts or anything else, for example.

4 35 U.S.C. § 103.

5 See *Thaler*, 43 F.4th at 1212 (The last sentence of § 103 describes “how” an invention is made rather than “who” is an inventor).

6 *Life Techs., Inc. v. Clontech Labs., Inc.*, 224 F.3d 1320, 1322 (Fed. Cir. 2000).

undesirable activity, eliminated it, and sought a patent on the result.⁷ They were accused of inequitable conduct for failing to disclose that the computer analysis had motivated them to investigate that location to alter the enzyme.⁸ The Federal Circuit found no inequitable conduct, explaining that “the inventors’ reliance on the [computer analysis reference] and the motivations that they derived from it have no bearing on the issue of patentability. It does not matter whether the inventors reached their invention after an exhaustive study of the prior art, or developed their [] enzymes in complete isolation.”⁹ In other words, per the last sentence of § 103, “the path that leads an inventor to the invention is expressly made irrelevant to patentability by statute.”¹⁰ The use of AI by inventors is not functionally different than the use of computer analysis in this case — the motivation or inspiration to the inventors from a non-human source is irrelevant to patentability.

Analytically separate is the question of whether invention happened at all. To this end, the line of case law identified by the Office as “accidental conception” is instructive, though not relied upon for this purpose by the guidance. This case law concerns whether a human appreciated the results of a process that produced a potentially novel and useful outcome. For example, under a frequently-occurring fact pattern in the case law, scientists created chemical compounds from a set of reactions and the operative question was whether an individual had appreciated the existence and significance of a specific chemical species resulting from that experiment.¹¹ As the Court of Customs and Patent Appeals described the test, “the critical question is whether there was *contemporaneous recognition and appreciation* of the new form.”¹² This framework, asking whether a human appreciated a potentially inventive output from the “black box” of a chemical reaction, is factually analogous to a human considering the output of AI.

Applying this logic to the fact pattern presented in Example 1 of the Office’s guidance¹³ would potentially allow the two engineers to be inventors. In that example, the engineers prompted an AI system to provide a transaxle structure, resulting in a proposed schematic. The relevant inquiry under the case law described above would be whether the engineers recognized and appreciated this proposed schematic’s significance as an invention, understanding that there was possibly something unique or especially useful — facts not provided in the scenario. Absent a dispute on inventorship between the human inventors,

⁷ *Id.* at 1323.

⁸ *Id.* at 1323-25 (notably, the computer analysis reference itself was disclosed).

⁹ *Life Techs., Inc. v. Clontech Labs., Inc.*, 224 F.3d 1320, 1325.

¹⁰ *Id.*

¹¹ *Silvestri v. Grant*, 496 F.2d 593, 600 (C.C.P.A.1974); *Heard v. Burton*, 51 C.C.P.A. 1502, 1506 (1964); *see also* *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1064 (Fed. Cir. 2005) (“[T]he court must identify when, during an emerging recognition that a particular invention includes something new, the inventor’s understanding reaches the level needed for appreciation. In the appreciation analysis, the relevant uncertainty relates to the emerging recognition of something new.”).

¹² *Silvestri*, 496 F.2d at 600.

¹³ USPTO, *Example 1: Transaxle for a Remote Control Car*, <https://www.uspto.gov/sites/default/files/documents/ai-inventorship-guidance-mechanical.pdf>.

however, there would be no reason to inquire into the appreciation of the inventors at the time they learned of the AI's proposed structure.¹⁴ For examination purposes, the regular patent law inquiries of whether the proposed schematic was new and non-obvious (details also not provided in the example) would be relevant to the transaxle's patentability, as would compliance with § 112. But the "contribution" of AI, as compared to the engineers, would not be.

On these facts, however, the Office's guidance points to the opposite conclusion. The guidance states that "a natural person who merely recognizes and appreciates the output of an AI system as an invention, particularly when the properties and utility of the output are apparent to those of ordinary skill, is not necessarily an inventor."¹⁵ This is affirmed by Scenario 1 of Example 1, where the Office concludes that the AI's output is not patentable because the engineers have merely asked AI to solve a problem.¹⁶ The Office's reasoning, however, is precisely an inquiry into the manner of invention that is prohibited by § 103. The Office's guidance, moreover, borrows the concept of the level of ordinary skill in the art, an element of the obviousness analysis, and makes it part of the question of inventorship. This even more explicitly illustrates what the Office's guidance is doing in this passage: conflating inventorship and obviousness.

The Office devotes no consideration to the inevitable policy implications of its approach and conclusion, which will leave new potential inventions, such as in Example 1, without inventors. Lack of patent protection will mean that no one has an incentive to turn a potentially new schematic into a viable new commercial product — building prototypes, factories, developing marketing, or any of the other steps involved in taking patentable innovation to market. No investment of resources, time, or money can rationally be spent to develop an idea when the final product can be readily copied.

The guidance also provides no definition of what constitutes "AI," which leads to this heightened machine-versus-human-contribution analysis. When is an innovator using an advanced computer program and when is he or she using AI? As this inventorship disclosure requirement for AI is effectively a new one on top of the disclosures required by § 112, the lack of definition is troubling. No such disclosures are required for use of computers as a tool in general (unless necessary for compliance with § 112).

¹⁴ See *Invitrogen*, 429 F.3d at 1064 (explaining that analysis of appreciation "requires objective corroboration of the inventor's subjective beliefs.").

¹⁵ 89 Fed. Reg. at 10047.

¹⁶ *Example 1*, supra note 10.

The concerns about disclosure are compounded by the Office’s clear warning that inequitable conduct may result from a failure to adequately investigate inventorship when AI is used as well as from a failure to disclose such information if it is material to patentability.¹⁷ Moreover, even where innovators and their counsel have attempted to carefully follow the Office’s guidance, they are likely to be challenged on their reasoning and conclusions if they ever have to enforce a resulting patent. Whether AI was used and whether the inventors have contributed “enough” as a result is likely to be a new flavor of invalidity challenge in most lawsuits going forward. Regardless of success, it will add more complication and expense to lawsuits, burdening innovators and providing an unwarranted boon to infringers.

In sum, the inquiries that the Office’s guidance may now make routine for AI-assisted inventions add a troubling layer of unnecessary complexity to the patentability inquiry. Just as asking if a computer analysis motivated an inventor too much or if too much unknown happened in a chemical reaction to claim the result, asking if too much AI was used is not an appropriate patentability inquiry. Trying to discern the significance of human versus non-human contributions during examination, as this guidance does, will lead to the rejection of claims and patents that are properly patentable under the law and will lead to needless additional validity challenges to issued patents.

Without definitive guidance from either the courts or Congress that this is the path the USPTO must follow, the USPTO is doing a disservice to would-be inventors and innovation more generally by chilling incentives for use of AI by anyone who does not want to bear the uncertainty that it could be used to reject their patent application or invalidate their patent.¹⁸ Or, such entities may be incentivized to turn to trade secret protection where they can, to the detriment of the storehouse of common knowledge. As a result, this guidance is likely to harm human innovators and discourage use of AI as a new and promising tool. This will put American inventors and American innovation leadership at a distinct disadvantage to our economic competitors, such as China, who are not hampering their intellectual property system with these limitations.

* * *

Ensuring a robust and reliable patent system in the face of ongoing technological advancement is a crucial component of the USPTO’s mission. Yet, missteps in accommodating such development can have unintended but substantial chilling effects on further progress. C4IP believes this guidance on AI and inventorship, by effectively assuming too much about AI and too little about humans, has the potential to do just that. The solution is fortunately

¹⁷ See 89 Fed. Reg. at 10050 (“Given the ubiquitous nature of AI, this inventorship inquiry could include questions about whether and how AI is being used in the invention creation process.”).

¹⁸ For these reasons, it is also concerning that the USPTO made this guidance effective immediately without the benefit of a round of public comment. It has the potential to prejudice current and future patent applicants and would have benefited from a thorough review before be widely relied upon by patent examiners.

simple: treat AI just as patent law has treated other new tools and allow relevant case law to be developed by the courts or for Congress to act. Until then, C4IP respectfully suggests that the USPTO consider rescinding or substantially revising this guidance.

C4IP thanks the USPTO for their work on this important issue and stands ready to provide any further input that may be requested.

Sincerely,

A handwritten signature in black ink, which appears to read 'Frank Cullen', is positioned below the word 'Sincerely,'.

Frank Cullen
Executive Director
Council for Innovation Promotion (C4IP)

Appendix C



Frank Cullen, Executive Director
Andrei Iancu, Co-Chair
David Kappos, Co-Chair
Judge Paul Michel (Ret.), Board Member
Judge Kathleen O'Malley (Ret.), Board Member

July 29, 2024

Via Electronic Submission

The Honorable Katherine K. Vidal
Under Secretary of Commerce for Intellectual Property and Director
of the United States Patent and Trademark Office
600 Dulany Street
Alexandria, VA 22314

**Re: Docket No. PTO-P-2023-0044,
Request for Comments Regarding the Impact of the Proliferation of
Artificial Intelligence on Prior Art, the Knowledge of a Person Having
Ordinary Skill in the Art, and Determinations of Patentability Made in
View of the Foregoing**

Dear Director Vidal,

The Council for Innovation Promotion (C4IP) welcomes the opportunity to submit comments in response to the U.S. Patent and Trademark Office's request of April 30, 2024, on how the emergence of artificial intelligence (AI) technology might impact the Office's determination of whether a patent application is patentable, with particular attention to issues relating to prior art and the person of ordinary skill in the art (PHOSITA) (Docket No. PTO-P-2023-0044).

C4IP is a bipartisan coalition dedicated to promoting strong and effective intellectual property rights that drive innovation, boost economic competitiveness, and improve lives everywhere. Founded and chaired by former directors of the U.S. Patent and Trademark Office from previous Democratic and Republican administrations whose board also includes two retired judges from the Court of Appeals for the Federal Circuit, our nonprofit organization hopes to be a valued partner to those considering policies impacting America's intellectual property system.

Artificial intelligence (AI) is a promising new technology with the potential to accelerate human innovation and prosperity. But whatever AI might be able to do in the future, right now, we confront it as a powerful new tool. Even one of the leading providers of generative AI has characterized AI's abilities as being several steps away from being capable of

inventiveness,¹ and to put this in context, these statements were viewed as overambitious “hype” by others.² Looking at AI from this perspective, it is not a unique challenge to the patent system, which has had to regularly accommodate the emergence of new technological tools in the past.

Accordingly, C4IP is concerned that too much regulation of AI could be counterproductive and result in stifling this emergent technology, as well as the development of other technologies that will benefit from it. We believe that it is largely premature for the Office to have AI-specific guidance at this time.

For that reason, we believe that if the USPTO issues guidance, it should adopt policies that increase innovation in the AI space, including innovation in all areas generated with AI tools. In doing so, the Office should consider, if anything, setting forth explicit procedures for examiners to seek guidance in difficult or novel cases. Identifying and focusing on such cases will allow for the Office to take positions in light of concrete facts and will help to crystallize key disputes for the courts. Any additional examiner guidance should be limited to what is strictly necessary for routine examination rather than addressing the most extreme hypothetical cases.

Focusing on process is also appropriate given that the legal issues posed by the Office’s request can only be answered definitively by case law or legislation. By issuing guidance that is too prescriptive prior to such legal developments, the USPTO risks denying patents that it should have granted, potentially directly harming innovation dependent on AI. By imposing unnecessary new “duties” related to AI, the USPTO risks creating routine bases for inequitable conduct allegations for patents relating to AI (or even patents unrelated to AI, which could face challenges that they might have used AI). This will weaken the value of all patents, especially AI-related patents, hurting incentives to invest in these promising areas.

While the ongoing development of the AI field may present many sweeping changes, such as the accelerated proliferation of art and greater synthesizing abilities, these developments are not without precedent in the patenting space. Moreover, such developments have the potential not to crowd out human invention but rather aid in its effectiveness in improving the human condition. Accordingly, AI — like any new technological tool — should be encouraged rather than stifled for fear of what it will bring.

[1] Rachel Metz, *OpenAI Scale Ranks Progress Toward ‘Human-Level’ Problem Solving*, Bloomberg (July 11, 2024), <https://www.bloomberg.com/news/articles/2024-07-11/openai-sets-levels-to-track-progress-toward-superintelligent-ai>.

[2] Benj Edwards, *OpenAI Reportedly Nears Breakthrough With “Reasoning” AI, Reveals Progress Framework*, Ars Technica (July 12, 2024), <https://arstechnica.com/information-technology/2024/07/openai-reportedly-nears-breakthrough-with-reasoning-ai-reveals-progress-framework/>.

In light of these general points, we offer the following more specific responses to the questions provided in the USPTO’s RFC:

A. The Impact of AI on Prior Art

- 1. In what manner, if any, does 35 U.S.C. 102 presume or require that a prior art disclosure be authored and/or published by humans? In what manner, if any, does non-human authorship of a disclosure affect its availability as prior art under 35 U.S.C. 102?**

The relevant part of the statute appears silent on this issue. Section 102(a)(1), which provides the requirements for non-patent prior art, does not say anything about authorship, having instead a timing requirement (before the filing date of the application) and a public availability requirement for any printed publication, prior use, or sale. Whatever clarification courts may add to the statutory text in the future, there seems to be no current basis for the Office to assume that there is an implicit exception for AI-generated prior art.

Treating all prior art the same would also ensure that if an invention were already publicly available, it would not be improperly removed from the public domain, aligning with the core functions of the novelty and non-obviousness inquiries. It also may not be knowable whether a given reference was partially or completely AI-generated, and accordingly, trying to formulate a test based on this distinction may be unworkable.

- 2. What types of AI-generated disclosures, if any, would be pertinent to patentability determinations made by the USPTO? How are such disclosures currently being made available to the public? In what other ways, if any, should such disclosures be made available to the public?**

Governing law should apply here: an AI-generated disclosure should be considered for “for all that it teaches” if it qualifies as prior art under § 102.³ Thus, it could form the basis of an obviousness rejection even if its examples are inoperable,⁴ though this would prevent the disclosure from being anticipating.⁵

[3] *Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551 (Fed. Cir. 1989).

[4] *Geo M. Martin Co. v. Alliance Mach. Sys. Int’l LLC*, 618 F.3d 1294, 1302-1303 (Fed. Cir. 2010).

[5] *In re Borst*, 52 C.C.P.A. 1398, 1403 (1965) (“[T]he criterion should be whether the disclosure is sufficient to enable one skilled in the art to reduce the disclosed invention to practice. In other words, the disclosure must be such as will give possession of the invention to the person of ordinary skill. Even the act of publication or the fiction of constructive reduction to practice will not suffice if the disclosure does not meet this standard.”).

C4IP does not have firsthand knowledge about how AI-generated disclosures are being made public but believes that the USPTO should ensure that examiners have access to the same sources of prior art that would be readily available to people working in that field. These efforts are especially important for non-patent literature before there is a larger storehouse of AI-related patents.

- 3. If a party submits to the Office a printed publication or other evidence that the party knows was AI-generated, should that party notify the USPTO of this fact, and if so, how? What duty, if any, should the party have to determine whether a disclosure was AI-generated?**

The Office should create no new duty on applicants to make affirmative representations about prior art references beyond simply disclosing them to the Office under the existing duty of candor. Applicants currently do not provide supplemental information about such disclosures unless they are material, and they should not now have to disclose anything new about AI authorship. It is unclear what benefit such a duty would provide since this information, as discussed above, would not affect a reference's status as prior art.

The Office also should not create a new duty to investigate whether a reference was AI-generated. As noted above, it may not even be possible to know if a reference is solely or partially AI-generated, even after a diligent inquiry. Imposing such a duty is likely to lead to a raft of inequitable conduct charges should a patent ever be asserted, even if applicants made a good-faith basis to comply with the requirement.

- 4. Should an AI-generated disclosure be treated differently than a non-AI-generated disclosure for prior art purposes? For example:**
 - a. Should the treatment of an AI-generated disclosure as prior art depend on the extent of human contribution to the AI-generated disclosure?**
 - b. How should the fact that an AI-generated disclosure could include incorrect information (e.g., hallucinations) affect its consideration as a prior art disclosure?**
 - c. How does the fact that a disclosure is AI-generated impact other prior art considerations, such as operability, enablement, and public accessibility?**

As discussed above, AI-generated prior art should not automatically be treated differently than any other prior art.

That some or all of the reference was AI-generated might be introduced in prosecution, if at all, if an applicant believes it is relevant in responding to an examiner’s objection, consistent with current practice. This approach would allow appropriate consideration of the relevance of AI-generation on a case-by-case basis as it relates to the factual issues underpinning the relevant legal doctrine. For example, an applicant could argue that a reference is not truly public because it is functionally inaccessible due to being unindexed.⁶ References relied upon by the examiner that have apparent defects would not necessarily require more than an argument for rebuttal, though evidence may be necessary in other cases.⁷

This approach would also allow applicants to challenge legal doctrines if an applicant believes that the doctrine should be refined to account for whether some or all of the prior art is AI-generated. For example, if an applicant wishes to challenge the legal presumption that a prior art reference should be deemed enabled if it was generated by AI, then the AI-generated status of the prior art reference would be relevant and need to be identified.⁸

5. **At what point, if ever, could the volume of AI-generated prior art be sufficient to create an undue barrier to the patentability of inventions? At what point, if ever, could the volume of AI-generated prior art be sufficient to detract from the public accessibility of prior art (i.e., if a PHOSITA exercising reasonable diligence may not be able to locate relevant disclosures)?**

C4IP does not believe there is any need at this time to be concerned with the volume of AI-generated materials that will be produced. There is already a tremendous volume of prior art that can only be fully surveyed with machine-assisted searches. AI seems likely to increase both the volume of prior art and search capabilities, but regardless, this is a problem that patent law already confronts and is able to address with its current doctrines,

[6] *See In re Cronyn*, 890 F.2d 1158, 1161 (Fed. Cir. 1989) (“[T]he three student theses were not accessible to the public because they had not been either cataloged or indexed in a meaningful way.”).

[7] *In re Morsa*, 713 F.3d 104, 110 (Fed. Cir. 2013) (“When a reference appears to not be enabling on its face, a challenge may be lodged without resort to expert assistance. Here, Morsa identified specific, concrete reasons why he believed the short press release at issue was not enabling, and the Board and the examiner failed to address these arguments.”).

[8] *See In re Antor Media Corp.*, 689 F.3d 1282, 1289 (Fed. Cir. 2012) (“[A]n examiner is entitled to reject claims as anticipated by a prior art publication or patent without conducting an inquiry into whether or not that prior art reference is enabling.”).

including whether the art was available to the public, enabled or operable, or from an analogous field.⁹

B. The Impact of AI on a PHOSITA

- 6. Does the term “person” in the PHOSITA assessment presume or require that the “person” is a natural person, i.e., a human? How, if at all, does the availability of AI as a tool affect the level of skill of a PHOSITA as AI becomes more prevalent? For example, how does the availability of AI affect the analysis of the PHOSITA factors, such as the rapidity with which innovations are made and the sophistication of the technology?**

Answering whether a PHOSITA is a natural person seems unnecessary given that the PHOSITA has already been deemed to have many features no real human could have, such as knowledge of all relevant prior art in the field, combined with limitations that a human faces, such as only having access to a universe of prior art subject to reasonable limits, based on the doctrines of analogous art and public accessibility.¹⁰

Given that the PHOSITA is an existing legal framework that the Office cannot unilaterally change, yet a framework that is sensitive to evolving facts, the critical question set forth in the RFC is the impact that AI as a tool will have on a PHOSITA. AI, as a tool, is likely to help a PHOSITA in many ways that will effectively increase a PHOSITA’s level of skill. For example, AI may make it more practical for a PHOSITA to consider prior art from a wider range of fields. The way in which AI will impact a PHOSITA is likely to vary significantly by technology area, at least at the moment.¹¹ The ways in which AI will evolve and be used in different fields are currently unclear and rapidly changing.

[9] *See, e.g.*, *In re Wiggins*, 488 F.2d 538, 543 (C.C.P.A. 1973) (discussing enablement for purposes of whether a reference was anticipating) (“The mere naming of a compound in a reference, without more, cannot constitute a description of the compound, particularly when, as in this case, the evidence of record suggests that a method suitable for its preparation was not developed until a date later than that of the reference. / If we were to hold otherwise, lists of thousands of theoretically possible compounds could be generated and published which, assuming it would be within the level of skill in the art to make them, would bar a patent to the actual discoverer of a named compound no matter how beneficial to mankind it might be. In view of the fact that the purpose sought to be effectuated by the patent law is the encouragement of innovation, such a result would be repugnant to the statute.”); *cf. In re Baird*, 16 F.3d 380, 383 (Fed. Cir. 1994) (“A disclosure of millions of compounds does not render obvious a claim to three compounds, particularly when that disclosure indicates a preference leading away from the claimed compounds.”); *see also LKQ Corp. v. GM Glob. Tech. Operations LLC*, 102 F.4th 1280, 1296 (Fed. Cir. 2024) (en banc) (“The analogous art requirement reins in the scope of prior art and serves to guard against hindsight.”) (holding that the analogous art test applies to design patents).

[10] *See In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

[11] Sam Altman, *Who Will Control the Future of AI?* *Washington Post* (July 25, 2024) (“Systems such as ChatGPT, Copilot and others are functioning as limited assistants – for instance, by writing up patient visits so nurses and doctors can spend more time with the sick, *or serving as more advanced assistants in certain domains*, such as code generation for software engineering.”) (emphasis added), <https://www.washingtonpost.com/opinions/2024/07/25/sam-altman-ai-democracy-authoritarianism-future/>.

The current ways in which examiners infer a PHOSITA’s level of skill — from prior art references and from an examiner’s own expertise in the technology area — are likely to be the best way to ensure that assumptions about a PHOSITA remain current and account for changing advances in AI.¹² These sources can be reinforced by educational seminars on how AI is currently being used in different technology areas through programs like the USPTO’s Patent Examiner Technical Training Program (PETTP), as it appears the Office is already doing.¹³

To the extent guidance is issued, the USPTO could encourage examiners to set forth their understanding of a PHOSITA with particular attention to what is being attributed to AI, especially if such an assumption is critical to the rejection, for example, to establish why a reference from a seemingly unrelated field of technology is appropriate as part of the examiner’s rejection. Stating these assumptions explicitly will also allow the applicant to respond with its own assessment of a PHOSITA and for the prosecution history record to be developed on this issue.

7. How, if at all, should the USPTO determine which AI tools are in common use and whether these tools are presumed to be known and used by a PHOSITA in a particular art?

The rapidly changing nature of AI and the varied ways it is used in different fields counsel against Office-wide guidance on a PHOSITA’s presumed use of AI. Too prescriptive of a formulation will result in examiners assessing a PHOSITA of too high a skill in some patent applications and too low in others. C4IP reincorporates its answer to Question 6, explaining why current doctrines account for AI’s use and how corps-wide education on AI could help set a relevant shared understanding for examiners that is appropriately technology-specific.

- 8. How, if at all, does the availability to a PHOSITA of AI as a tool impact:**
- a. Whether something is well-known or common knowledge in the art?**
 - b. How a PHOSITA would understand the meaning of claim terms?**

[12] USPTO, Manual of Patent Examining Procedure (MPEP) (Ninth Edition, Revision 07.2022) [hereinafter “MPEP”] § 2141.03.

[13] USPTO, *Patent Examiner Technical Training Program*, (last visited July 24, 2024), <https://www.uspto.gov/patents/initiatives/patent-examiner-technical-training-program>; Kathi Vidal, *Latest Updates on Artificial Intelligence and Intellectual Property*, Director’s Blog (Sept. 29, 2023) (“In fiscal year 2023, through PETTP, we held over 200 AI training courses, which were viewed over 8,000 times by our examiners. These programs keep patent examiners up to date on the latest technological developments, emerging trends, and recent innovations, including in AI.”), <https://www.uspto.gov/blog/latest-updates-on-artificial-intelligence>.

AI may expand the common base of knowledge available to a PHOSITA, but this impact will be best assessed on a case-by-case basis with examiners using already-established methods to define a PHOSITA. The caution urged by current case law on when an examiner may properly rely on well-known knowledge in the art as part of a rejection, without citation to any source, should apply here.¹⁴

AI may also have an impact on how a PHOSITA understands a claim term.¹⁵ AI might accordingly be informative to the examiner when construing claims, but caution should be used if and when referring to these sources. For example, a dictionary that is published after the filing date of a patent application would not automatically be a relevant source of information about a term’s likely meaning, and neither should a publicly available source of generative AI, whose output may be informed by materials created after the filing date of the application being examined.

- 9. In view of the availability to a PHOSITA of AI as a tool, how, if at all, is an obviousness determination affected, including when:**
 - a. Determining whether art is analogous to the claimed invention, given AI’s ability to search across art fields? Does the “analogous” art standard still make sense in view of AI’s capabilities?**
 - b. Determining whether there is a rationale to modify the prior art, including the example rationales suggested by KSR (MPEP 2143, subsection I) (e.g., “obvious to try”) or the scientific principle or legal precedent rationales (MPEP 2144)?**
 - c. Determining whether the modification yields predictable results with a reasonable expectation of success (e.g., how to evaluate the predictability of results in view of the stochasticity (or lack of predictability) of an AI system)?**
 - d. Evaluating objective indicia of obviousness or nonobviousness (e.g., commercial success, long felt but unsolved needs, failure of others, simultaneous invention, unexpected results, copying, etc.)?**

[14] See *K/S HIMPP v. Hear-Wear Techs., LLC*, 751 F.3d 1362, 1366 (Fed. Cir. 2014) (“Although a patent examiner may rely on common knowledge to support a rejection, that is appropriate only in narrow circumstances.”).

[15] See *In re Sneed*, 710 F.2d 1544, 1548 (Fed. Cir. 1983) (“[C]laims in an application are to be given their broadest reasonable interpretation consistent with the specification, and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.”) (internal citation omitted).

AI, as a tool, is likely to have some degree of impact on each of the legal doctrines set forth in this question, but exactly how it will do so will be fact-specific and should be determined on a case-by-case basis, as it is for all other tools and technologies that are also changing all the time.

As AI may be expected to increase the number of suggestions in the prior art to combine existing elements, to combine prior art from disparate fields, or to suggest sometimes random “results,” to the extent that the Office issues guidance, it might be helpful to reiterate the role of the various legal doctrines that provide limits to obviousness, including whether prior art is enabled, whether it is from an analogous field, and how to weigh objective indicia of non-obviousness.

10. How, if at all, does the recency of the information used to train an AI model or that ingested by an AI model impact the PHOSITA assessment when that assessment may focus on an earlier point in time (e.g., the effective filing date of the claimed invention for an application examined under the First-Inventor-to-File provisions of the America Invents Act)?

Examiners must constantly be wary of hindsight bias infecting their analysis when they are using any technology to assist in the examination process. This is why it is appropriate for examiners to base their rejections on art that is readily identifiable as prior art — publicly available references having some indication that they were available before the priority date of the patent application, as the Office currently encourages for certain internet sources.¹⁶ Ongoing development of AI models likewise counsels against their use directly by examiners to suggest that claims in a patent application must have been obvious (for example, by entering prompts into a publicly available AI model).

11. How, if at all, does the availability to a PHOSITA of AI as a tool impact the enablement determination under 35 U.S.C. 112(a)? Specifically, how does it impact the consideration of the *In re Wands* factors (MPEP 2164.01(a)) in ascertaining whether the experimentation required to enable the full scope of the claimed invention is reasonable or undue?

[16] See MPEP § 2128(E), (F) (discussing how the examiner should document time stamps associated with references obtained from the Wayback Machine or social media, and how applicants can rebut the accuracy of whether the reference was publicly available at the relevant time).

The capabilities of a PHOSITA inform the enablement inquiry.¹⁷ Because AI likely will effectively increase the capabilities of a PHOSITA, use of AI should factor into the enablement analysis in appropriate cases. But given the wide disparities in where AI is most developed, in conjunction with its varied usage across different fields of technology, it is not possible or advisable to try to make blanket statements about AI. The relevance of AI to a PHOSITA, and in turn, analysis of enablement, should be done on a case-by-case basis following existing law.

C. The Implications of AI That Could Require Updated Examination Guidance and/or Legislative Change

12. What guidance from the USPTO on the impact of AI on prior art and on the knowledge of a PHOSITA, in connection with patentability determinations made by the Office, would be helpful?

C4IP believes that AI-specific guidance would largely be premature at this time. If guidance is issued, C4IP urges it to explain how existing legal doctrines are capable of handling AI-related changes, to avoid creating new, unneeded duties on patent applicants that may lead to spurious future inequitable conduct allegations, and to provide guidance on how examiners can seek assistance in difficult or novel cases. While not strictly necessary, C4IP also believes that guidance could reiterate that examiners should consider existing legal limitations when assessing anticipation and obviousness, such as whether the art is enabled, from an analogous field, and how to weigh objective indicia of non-obviousness.

13. In addition to the considerations discussed above, in what other ways, if any, does the proliferation of AI impact patentability determinations made by the Office (e.g., under 35 U.S.C. 101, 102, 103, 112, etc.)?

C4IP believes that this question is best answered through the development of law in individual cases before the Office and before the courts, absent any change in the law from Congress.

14. Are there any laws or practices in other countries that effectively address any of the questions above? If so, please identify them and explain how they can be adapted to fit within the framework of U.S. patent law.

[17] In re Wands, 858 F.2d 731, 737 (Fed. Cir. 1988) (factors to be considered in assessing enablement “include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) *the relative skill of those in the art*, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.”) (emphasis added).

C4IP reiterates that it is primarily concerned with overly prescriptive regulation related to AI. Such efforts have been criticized in other jurisdictions.¹⁸

15. Should title 35 of the U.S. Code be amended to account for any of the considerations set forth in this notice, and if so, what specific amendments do you propose?

C4IP is not advocating for legislative changes at this time.

* * *

C4IP again thanks the USPTO for the opportunity to provide its input in response to this request for comments and would be pleased to provide any further input that may be requested.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank Cullen', is positioned below the word 'Sincerely,'.

Frank Cullen
Executive Director
Council for Innovation Promotion (C4IP)

[18] See, e.g., Javier Espinoza, *Europe's Rushed Attempt to Set the Rules for AI*, Financial Times (July 15, 2024).