# IS THE USPTO TURNING *ALICE* INTO EPC ARTICLE 52?

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*Despite recent technological advances, the statutory basis under which U.S. courts evaluate patent-eligible subject matter has remained substantially unchanged for over 200 years. As a result, the Supreme Court and the Federal Circuit have decided patent eligibility for software-based inventions without legislative input. Most notably, in* Alice Corp. v. CLS Bank International *the Supreme Court created a two-part test for analyzing eligibility that determines (1) whether a claimed invention is directed towards an abstract idea, and if so, (2) whether the claim recites "significantly more" such that the abstract idea is transformed into patent-eligible subject matter. This test has been criticized for its lack of clarity and predictability. Conversely, in European patent law, courts consult a statutory framework that excludes enumerated groups of unpatentable subject matter. Moreover, a claimed invention may avoid falling within one of the excluded groupings if it integrates the excluded subject matter into a practical, technical application. Interestingly, the United States Patent and Trademark Office ("USPTO") recently created a guidance document to help examiners apply the* Alice *two-part test consistently, and it is strikingly similar to the European approach to subject matter eligibility. Not only does this guidance document employ enumerated groups of excluded subject matter, it also states that a claimed invention may avoid falling within one of the excluded groupings if it integrates the excluded subject matter into a practical, technical application. Although the USPTO guidance document does not carry the force of law, it is likely to encourage legislative action amending the controlling statute, moving the United States closer to European patent law.*



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## INTRODUCTION

"[U]pon the petition of any person . . . setting forth, that he, she, or they, hath or have *invented or discovered any useful art, manufacture, engine, machine, or device*, . . . it shall and may be lawful . . . to cause letters patent to be made out in the name of the United States . . . ."

Patent Act of 1790[1]

"Whoever *invents or discovers any new and useful process, machine, manufacture, or composition of matter* . . . may obtain a patent therefor . . . ."

Current 35 U.S.C. § 101[2]

Although the statute defining patentable subject matter in the United States has remained substantially unchanged since first recited in the Patent Act of 1790,[3] interpretations of patent eligibility have been anything but stagnant over the past several decades.[4] Recent technological advances have required courts to decide how

1. Patent Act of 1790, ch. 7, § 1, 1 Stat. 109–112 (emphasis added).
2. 35 U.S.C. § 101 (2018) (emphasis added).
3. *Compare* Patent Act of 1970, ch. 7, § 1, *with* § 101.
4. *See infra* Part I.

this old statutory language applies to new inventions in rapidly advancing software- and computer-related technologies.[5] Moreover, these rapid technological advances are being driven by a growing software industry, which like all industries seeks to profit from its investments and innovations.[6] As a result, deciding whether to grant software developers a patent monopoly over software-related inventions has significant economic implications.[7] But because inventions related to software often exist in an abstract form, deciding how to clearly and predictably analyze software patent eligibility has proven difficult.[8]

Part I of this Note provides a brief overview of U.S. patent law as it relates to subject matter eligibility. Specifically, it outlines the current two-step patent eligibility analysis required by the Supreme Court in *Alice Corp. v. CLS Bank International*[9] and discusses how this framework has received significant criticism due to its complicated and unpredictable nature.[10] Then, Part II provides an analogous overview of European patent law as it relates to subject matter eligibility.

Following this overview, Part III explains why the European approach to subject matter eligibility provides more clarity and predictability than the current U.S. approach under *Alice*. Most notably, unlike § 101, which only positively defines categories of patentable subject matter, European Patent Convention ("EPC") Article 52 expressly defines categories of excluded subject matter.[11] Because § 101 does not negatively limit patent eligibility, U.S. courts have created a complicated, fact-specific analysis to determine whether subject matter that falls within a patent-eligible category should nevertheless be excluded from patentability.[12] On the other hand, because EPC Article 52 defines categories of excluded subject matter, the European eligibility analysis only requires the European Patent Office ("EPO") courts to determine whether an invention is related to one of the statutorily defined exclusions "as such."[13] Because of its enumerated exclusions to patent eligibility, the European approach is more workable than the analysis under *Alice*.[14]

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5. *See infra* Part I. The decisions in Part I pertain to more than just software; however, this Note's focus is related to how the patent eligibility test applies to "abstract ideas."

6. *See* Smart Sys. Innovations, LLC v. Chicago Transit Auth., 873 F.3d 1364, 1376–80 (Fed. Cir. 2017) (Linn, J., dissenting in part); Gene Quinn, *Unintelligible and Irreconcilable: Patent Eligibility in America*, IP WATCHDOG (Nov. 4, 2018), https://www.ipwatchdog.com/2018/11/04/unintelligible-irreconcilable-patent-eligibility-in-america/id=102958/.

7. *See Smart Sys. Innovations*, 873 F.3d at 1376–80; Quinn, *supra* note 6.

8. *See infra* Part I.

9. 573 U.S. 208 (2014).

10. *See infra* Part I.

11. *See infra* Part II. *Compare* 35 U.S.C. § 101 (2018), *with* GRANT OF EUROPEAN PATENTS art. 52, Oct. 5, 1973, 1065 U.N.T.S. 255, revised Nov. 29, 2000 [hereinafter EPC].

12. *See infra* Part I.

13. EPC, *supra* note 11, art. 52(3); *see infra* Part II.

14. *See infra* Part III.

Next, Part IV provides an overview of the USPTO 2019 Revised Patent Subject Matter Eligibility Guidance Document[15] and its October 2019 Update, which clarifies the 2019 Guidance Document.[16] The 2019 Guidance Document, which provides guidelines for patent examiners when analyzing patent subject matter eligibility,[17] is strikingly similar to EPC Article 52.[18] Although the USPTO framed the 2019 Guidance Document as an interpretation of the *Alice* analysis based on recent Federal Circuit decisions, Part V shows that the creation of this document appears to be the USPTO's attempt to turn *Alice* into EPC Article 52.[19] Specifically, Part V will analyze the similar approaches that both frameworks use in defining explicit categories excluded from subject matter eligibility and in determining if a claimed invention is actually directed towards one of the excluded categories.

Finally, Part VI discusses substantive changes in U.S. patent law that are likely to result from the USPTO's implementation of the 2019 Guidance Document. Specifically, it will show that the 2019 Guidance document is unlikely to influence future judicial opinions but will help to prompt legislative action.[20]

## I. *ALICE*: THE U.S. ANALYSIS FOR PATENT ELIGIBILITY

In the United States, anyone who "invents or discovers any new and useful *process*, machine, manufacture, or composition of matter . . . may obtain a patent therefor."[21] As the Supreme Court explained in *Diamond v. Chakrabarty*, Congress intended this broad statutory language to "include anything under the sun that is made by man."[22] However, the Supreme Court has consistently held that even though an invention such as a software program can be described as a process, it is not automatically patent eligible.[23]

The Supreme Court first faced the question of software patent eligibility almost five decades ago in *Gottschalk v. Benson*.[24] There, the Court held that a computer-based method of converting binary-coded decimals into pure binary was not patent eligible, classifying the algorithm used for conversion as an abstract idea.[25] Although the algorithm was considered a process, the Court reasoned that, because the invention had no "substantial practical application except in connection with a digital computer, . . . [allowing] the patent would wholly pre-empt the

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15. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) [hereinafter 2019 Guidance Document].

16. U.S. PATENT AND TRADEMARK OFFICE, OCTOBER 2019 UPDATE: SUBJECT MATTER ELIGIBILITY (Oct. 17, 2019), https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf. [hereinafter OCTOBER 2019 UPDATE].

17. *See infra* Part IV.

18. *See infra* Part V.

19. *See infra* Part V.

20. *See infra* Part VI.

21. 35 U.S.C. § 101 (2018) (emphasis added).

22. 447 U.S. 303, 309 (1980) (quoting S. Rep. No. 82-1979, at 5 (1952), *as reprinted in* 1952 U.S.C.C.A.N. 2394, 2399).

23. *See infra* notes 24–39.

24. 409 U.S. 63 (1972).

25. *Id.* at 71–73.

mathematical formula and in practical effect would be a patent on the algorithm itself."[26]

Six years later, the Supreme Court again found a computer-process-related patent invalid in *Parker v. Flook*.[27] The Court reasoned that, although the patent claims practically applied a mathematical formula by updating alarm limits in a catalytic conversion process, every component of the catalytic conversion alarm update, except the mathematical formula, was known in the art.[28] Conversely, in *Diamond v. Diehr*, the Court held that a process for curing synthetic rubber, which implemented a computer program, was patent eligible.[29] There, the patent claims again involved a mathematical formula, but the formula was implemented as part of a novel process.[30] As a result, the Court explained,

> [W]hen a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (*e.g.*, transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.[31]

Following *Parker* and *Diehr*, the Supreme Court did not take on another software-related case for almost 30 years.[32] During this time, software-related inventions were largely considered patent eligible as long as they produced a "useful, concrete, and tangible result."[33] Then, in 2010, the Court decided *Bilski v. Kappos*, where it held that a method of hedging against price fluctuations during commodities trading was patent ineligible because it was directed towards a fundamental economic practice.[34] Although the Court rejected the Federal Circuit's strict application of the "machine-or-transformation" test, requiring process patents to transform a particular article into a different state or thing, the Court accepted this test as a useful factor in deciding patent eligibility.[35]

Finally, in 2014, the Supreme Court decided *Alice Corp. v. CLS Bank International*, and in doing so, articulated the current patent subject matter eligibility

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26. *Id.* at 71–72.
27. 437 U.S. 584, 594–95 (1978).
28. *Id.*
29. 450 U.S. 175, 187–91 (1981).
30. *Id.* at 181.
31. *Id.* at 192.
32. *See* Bilski v. Kappos, 561 U.S. 593 (2010).
33. Most notably, the Federal Circuit held that "transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result.'" State St. Bank & Tr. Co. v. Signature Fin. Grp., 149 F.3d 1368, 1373 (Fed. Cir. 1998), *abrogated by In re* Bilski, 545 F.3d 943, 959–62 (Fed. Cir. 2008).
34. *Bilski*, 561 U.S. at 611–13.
35. *Id.* at 604.

analysis framework followed under U.S. patent law today.[36] There, Alice Corporation owned patents with method claims, computer system claims, and program-coded media claims related to financial-transaction risk mitigation.[37] Each of these claims required a computer to hold a shadow record of an account's credit and debt records related to real-time financial transactions, only allowing the transactions to be completed if the shadow record showed sufficient funds.[38] The Court held the patents invalid under 35 U.S.C. § 101, indicating that the claims were directed to the abstract idea of risk settlement without reciting an "inventive concept" sufficient to transform the abstract idea into a patent-eligible application.[39] The two-step subject matter eligibility analysis resulting from *Alice* is described below.

### *A. Step One: Is the Claim Directed to a Judicially Recognized Exception?*

First, the *Alice* Court explained that, for over 150 years, it has considered § 101 to contain "an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable."[40] The purpose of applying these exceptions is to prevent the award of patents over the "building blocks" of human ingenuity, which would otherwise risk "tying up the use of underlying ideas" and inhibit the patent system's goal of promoting "the Progress of Science and useful Arts."[41] Accordingly, the first step of the *Alice* analysis requires courts to consider whether the claimed invention is directed to a law of nature, a natural phenomenon, or an abstract idea.[42] Aside from classifying the concept of intermediate settlement as a "fundamental economic practice," and comparing the claims at issue to those of *Benson*, *Flook*, and *Bilski*, the *Alice* Court did not actually provide a clear standard for determining whether a computer-related invention is directed to an abstract idea.[43] Unfortunately, this ambiguity has caused much frustration among both the Federal Circuit and patent practitioners in general.[44]

Since *Alice*, the Federal Circuit has provided some examples of the types of software-related claims that are not directed to an abstract idea. For example, the court in *Enfish, LLC v. Microsoft Corp.* held that a software-related invention serving to improve the functionality of a computer was patent eligible.[45] It reasoned

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36. 573 U.S. 208 (2014). The Supreme Court first applied the current two-part subject matter eligibility test in Mayo Collaborative Servs. v. Prometheus Labs., Inc., 566 U.S. 66, 77 (2012), a biotech case, but then more clearly articulated and applied the test to the software field in *Alice*.

37. *Alice*, 573 U.S. at 212–13.

38. *Id.* at 213.

39. *Id.* at 218–25.

40. *Id.* at 216 (quoting Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 576, 589 (2013)).

41. *Id.* at 216–17 (quoting U.S. CONST. art. I, § 8, cl. 8).

42. *Id.* at 217–18.

43. Specifically, the Court said, "we need not labor to delimit the precise contours of the 'abstract ideas' category in this case. It is enough to recognize that there is no meaningful distinction between the concept of risk hedging in *Bilski* and the concept of intermediated settlement at issue here." *Id.* at 221.

44. *See infra* notes 57–67 and accompanying text.

45. 822 F.3d 1327, 1335–36 (Fed. Cir. 2016).

that, because the software actually improved the computer's operation, the invention described by the claims was more than just an abstract idea that could be carried out by the human mind.[46] Similarly, the court in *McRO, Inc. v. Bandi Namco Games America Inc.* held that the automation of a process only previously performed by humans was not automatically directed to an abstract idea.[47] It reasoned that the claims at issue were directed to a specific implementation of a process that no human animator would actually perform; thus, they did not monopolize an abstract idea.[48]

### *B. Step Two: Does the Claim Recite Additional Elements that Amount to Significantly More than the Judicial Exception?*

Next, the *Alice* Court explained that, because all inventions "embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas" at some level, patent eligibility should not be barred "simply because [an invention] involves an abstract concept."[49] Therefore, if a claim is directed to an abstract idea, the second step of the *Alice* analysis requires courts to consider whether it recites "significantly more"[50] than the abstract idea, "thereby transforming [it] into a patent-eligible invention."[51]

To define what it meant by "transforming" an abstract idea into patent eligibility, the Court seemed to invoke a novelty and obviousness analysis similar to those required under 35 U.S.C. §§ 102 and 103, explaining that if the application of the abstract idea is "well known in the art," the claim is not patent eligible.[52] Moreover, rather than provide a clear standard for how to apply the "something more" requirement, the Court simply explained how this requirement comports with its previous decisions.[53] For example, the Court explained, as illustrated by *Benson* and *Flook*, that implementing the abstract idea using a general-purpose computer fails the "something more" requirement because it is considered well known in the art.[54] Conversely, as shown in *Diehr*, if the abstract idea is applied to solve a technical problem that "the industry ha[d] not been able to obtain," it may be patent eligible.[55] Therefore, the analysis of whether claims recite "significantly more" than an abstract idea appears to require a determination of the novelty and nonobviousness of its application compared to the state of the art.[56]

### *C. The* Alice *Patent-Eligibility Analysis is Widely Criticized*

Many patent law experts, including Federal Circuit judges, the USPTO, and private intellectual property organizations, have openly criticized the current

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46. *See id.* at 1335–38.
47. *See* 837 F.3d 1299, 1314 (Fed. Cir. 2016).
48. *See id.* at 1316.
49. Alice Corp. v. CLS Bank Int'l, 573 U.S. 208, 217 (2014) (quoting Mayo Collaborative Servs. v. Prometheus Labs., Inc., 566 U.S. 66, 71 (2012)).
50. *Mayo*, 566 U.S. at 77.
51. *Alice*, 573 U.S. at 217 (internal quotations omitted).
52. *Id.* at 221–22.
53. *See id.* at 221–24.
54. *Id.* at 222.
55. *Id.* at 223.
56. *See id.* at 221–24.

state of U.S. patent law as it relates to subject matter eligibility.[57] Specifically, since the Supreme Court released the two-part *Alice* test in 2014, with its lack of guidance in defining what qualifies as an abstract idea and its inclusion of a novelty and obviousness inquiry as part of the "significantly more" analysis, many have expressed the need for change.[58]

For example, former Federal Circuit Chief Judge Paul Michel could not reconcile the state of subject matter eligibility following *Alice*:

> In my view, recent cases are unclear, inconsistent with one another and confusing. I myself cannot reconcile the cases. That applies equally to Supreme Court and Federal Circuit cases. Nor can I predict outcomes in individual cases with any confidence since the law keeps changing year after year. If I, as a judge with 22 years of experience deciding patent cases on the Federal Circuit's bench, cannot predict outcomes based on case law, how can we expect patent examiners, trial judges, inventors and investors to do so?[59]

Similarly, according to Federal Circuit Judge Jay Plager, "[t]here is almost universal criticism among commentators and academicians that the 'abstract idea' idea has created havoc in the patent law."[60] And Federal Circuit Judge Richard Linn warned of *Alice*'s unclear standard for patent eligibility:

> Despite the number of [Federal Circuit] cases that have faced these questions and attempted to provide practical guidance, great uncertainty yet remains. And the danger of getting the answers to these questions wrong is greatest for some of today's most important inventions in computing, medical diagnostics, artificial intelligence, the Internet of Things, and robotics, among other things.[61]

Moreover, the USPTO has indicated that "[p]roperly applying the *Alice/Mayo* test in a consistent manner has proven to be difficult, and has caused uncertainty in this area of the law."[62] Specifically, "it has become difficult in some cases for inventors, businesses, and other patent stakeholders to reliably and predictably determine what subject matter is patent eligible."[63]

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57. *Infra* notes 59–67 and accompanying text.

58. *Id.*

59. Brief of the Honorable Paul R. Michel (ret.) as Amici Curiae Supporting Petitioners, Athena Diagnostics, Inc. v. Mayo Collaborative Servs., 140 S. Ct. 855 (2020) (No. 19-430), 2019 WL 5784718, at *13–14 (quoting *The State of Patent Eligibility in America, Part I: Hearing Before the Subcomm. on Intellectual Property of the S. Comm. on the Judiciary*, 116th Cong. 2 (2019) (testimony of Hon. Paul R. Michel)).

60. Interval Licensing LLC v. AOL, Inc., 896 F.3d 1335, 1353–54 (Fed. Cir. 2018) (Plager, J., concurring in part and dissenting in part).

61. Smart Sys. Innovations, LLC v. Chicago Transit Auth., 873 F.3d 1364, 1378 (Fed. Cir. 2017) (Linn, J., dissenting in part).

62. 2019 Guidance Document, *supra* note 15, at 50.

63. *Id.*

In addition, prominent professional intellectual property organizations have spoken out against *Alice*.[64] For example, the American Intellectual Property Law Association ("AIPLA") and Intellectual Property Owners Association ("IPO") have proposed a legislative change.[65] Notably, their proposal adds an express definition of excluded subject matter to § 101 that reads: "A claimed invention is ineligible . . . if and only if the claimed invention as a whole (i) exists in nature independently of and prior to any human activity or (ii) is performed solely in the human mind."[66] Moreover, the proposal attempts to clearly remove any novelty and obviousness inquiry from the eligibility analysis by stating that "eligibility of a claimed invention . . . shall be determined without regard to . . . the requirements or conditions of sections 102, 103, and 112 of this title . . . [or] whether the claimed invention includes an inventive concept."[67] Yet, despite criticism from the Federal Circuit, the USPTO, and private intellectual property organizations, *Alice* remains good law in the United States.

## II. EPC ARTICLE 52: THE EUROPEAN ANALYSIS FOR PATENT ELIGIBILITY

Unlike that of the United States, European patent law has statutorily enumerated categories of excluded subject matter and an eligibility analysis that is clearly separate from novelty and obviousness inquiries.

### *A. The European Patent System*

European patent law is based on the European Patent Convention ("EPC"), which was signed in 1973 to create a "single procedure for the grant of patents . . . by the establishment of certain standard rules" in order to "strengthen co-operation between the States of Europe in respect of the protection of inventions."[68] In addition to forming a standard set of rules governing the grant of patents, the EPC also created the European Patent Office ("EPO").[69] The EPO serves both an administrative and judicial function, not only examining patent applications and granting patents but also interpreting the laws created under the EPC.[70]

The EPC allows inventors to file a single patent application with the EPO while designating specific member states in which they want patent protection.[71] Alternatively, an inventor can file directly with the local patent office of each

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64. *See generally* Comments on 2019 Revised Subject Matter Eligibility Guidance, U.S. PATENT AND TRADEMARK OFFICE (Mar. 8, 2019), https://www.uspto.gov/patent/laws-and-regulations/comments-public/comments-2019-revised-subject-matter-eligibility.

65. *Joint AIPLA-IPO Proposal on Patent Eligibility*, AIPLA (Mar. 2017), https://www.aipla.org/policy-advocacy/legislative/joint-aipla-ipo-proposal-on-patent-eligibility.

66. *Id.*

67. *Id.*

68. EPC, *supra* note 11, pmbl.

69. *Id.* art. 4.

70. *Id.*; Susan J. Marsnik & Robert E. Thomas, *Drawing A Line in the Patent Subject-Matter Sands: Does Europe Provide A Solution to the Software and Business Method Patent Problem?*, 34 B.C. INT'L & COMP. L. REV. 227, 269–70 (2011).

71. EPC, *supra* note 11, art. 64.

individual member state.[72] But regardless of whether a patent was granted through the EPO or an individual member state, a patent owner must file suit separately in each state when seeking to enforce their rights against potential infringers.[73]

Statutes created under the EPC are interpreted through cases decided by the EPO Technical Board of Appeals.[74] This judicial body's decisions control substantive EPO patent examination procedure. Conversely, decisions by the national courts of individual EPC member states do not bind the Technical Board of Appeals or EPO patent examination procedure.[75] Further, although each member state follows the EPC's provisions, they are not bound by the decisions of other member states or the EPO Technical Board of Appeals.[76]

### *B. The European Subject Matter Eligibility Analysis*

EPC Article 52 controls European patent subject matter eligibility. Paragraph 1 of this statute broadly states that "patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application."[77] Next, ¶ 2 explicitly outlines the exceptions to ¶ 1, stating: "The following in particular shall not be regarded as inventions within the meaning of paragraph 1: (a) discoveries, scientific theories and *mathematical methods*; (b) aesthetic creations; (c) schemes, rules and methods for performing *mental acts*, *playing games or doing business*, and *programs for computers*; (d) presentations of information."[78] Finally, Article 52(3) explains that the ¶ 2 exceptions apply "only to the extent to which a European patent application or European patent relates to such subject-matter or activities *as such*."[79]

The first significant Technical Board of Appeals case to interpret this "as such" language as it relates to software was *Viacom/Computer Related Invention*.[80] There, the court held that a computer aided design ("CAD") program was patentable by determining that the invention was not related to the mathematical method exclusion category "as such."[81] The court reasoned that because the CAD program improved digital images by increasing computer processing speed, it had the

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72. *See id.*

73. For example, if an inventor owns a patent granted through the EPO designating Germany and the United Kingdom, that inventor would have to bring separate suits against a potential infringer in both Germany and the United Kingdom in order to enforce his rights in both countries. *See* Marsnik & Thomas, *supra* note 70, at 272.

74. Case G-3/08, Programs for Computers, [2010] O.J.E.P.O. 10, 12–13 (Enlarged Bd. Appeal, May 12, 2010). Further, if there are conflicting Technical Board of Appeals opinions on a "point of law of fundamental importance," the EPO Enlarged Board of Appeals has limited jurisdiction to hear cases. EPC, *supra* note 11, art. 112(1).

75. Marsnik & Thomas, *supra* note 70, at 269.

76. *Id.*

77. EPC, *supra* note 11, art. 52(1).

78. *Id.* art. 52(2) (emphasis added).

79. *Id.* art. 52(3) (emphasis added).

80. Case T-208/84, Computer-Related Invention/VICOM [1987] O.J.E.P.O. 14 (Technical Bd. Appeal 3.5.01, July 15, 1986), https://archive.epo.org/oj/issues/1987/01/p14/1987-p14.pdf.

81. *Id.* at 19–21.

practical effect of changing the computer, therefore producing a "technical effect."[82] Because the invention produced a "technical effect," it was not related to an Article 52(2) exclusion "as such."[83]

The Technical Board of Appeals further refined the "technical effect" analysis in *IBM/Computer Product Program*.[84] There, the court clarified that software running on a computer is not in itself enough to be considered a "technical effect."[85] It explained that software that produces "further technical effects" which "solve a technical problem" may be considered patent eligible.[86] Specifically, a computer program product "is not excluded from patentability" if it produces a *further technical effect* "which goes beyond the 'normal' physical interactions between program (software) and computer (hardware)."[87] For example, under the EPC, software is patent eligible where "a technical effect . . . is achieved by the internal functioning of a computer itself under the influence of said [software] program."[88]

Although courts have further refined the test set out by the Technical Board of Appeals since *IBM/Computer Product Program*, the "further technical effect" standard of software patent eligibility remains the current law under the EPO today.[89] Notably, in *Estimating Sales Activity/Duns Licensing Assocs.*, the Technical Board of Appeals clarified that the purpose of the language in Article 52(1) requiring that patents be granted for any invention, "in all fields of technology," is to ensure that patentable inventions had a technical nature.[90] For example, this requirement

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82. *Id.*; *see also* Marsnik & Thomas, *supra* note 70, at 279.

83. Case T-208/84, Computer-Related Invention/VICOM at 19–21; *see also* Marsnik & Thomas, *supra* note 70, at 279.

84. Case T-1173/97, Computer Program Product/IBM, [1999] O.J.E.P.O. 609, 620 (Technical Bd. Appeal 3.5.01, Jul. 1, 1998), https://archive.epo.org/oj/issues/1999/10/p609/1999-p609.pdf.; *see also* Marsnik & Thomas *supra* note 70 at 285.

85. Case T-1173/97, Computer Program Product/IBM at 620–23; *see also* Marsnik & Thomas, *supra* note 70, at 285.

86. Case T-1173/97, Computer Program Product/IBM at 620.

87. *Id.* at 632.

88. *Id.* at 620–21.

89. *See, e.g.*, Philip Naylor et al., *Patent Cases in the EPO and UKIPO: Different Qualifications for Computer Software*, IAM MEDIA (Mar. 6, 2019), https://www.iam-media.com/patent-cases-epo-and-ukipo-different-qualifications-computer-software. For example, the technical board decided two business-method related software patent eligibility cases, basically holding that patent applications which claim "hardware" to perform a business method have "technical character" and are therefore not related to an Article 52(2) exclusion "as such." *See* Case T-931/95, Controlling Pension Benefit Systems Partnership/PBS PARTNERSHIP, [2001] O.J.E.P.O. 441, 447–48 (Technical Bd. Appeal 3.5.01, Sept. 8, 2000), http://archive.epo.org/epo/pubs/oj001/10_01/10_4411.pdf; Case T-258/03, Auction Method/HITACHI, [2004] O.J.E.P.O. 575, 587 (Technical Bd. Appeal 3.5.01, Apr. 21, 2004), http://archive.epo.org/epo/pubs/oj004/12_04/12_5754.pdf.

90. Case T-154/04, Estimating Sales Activity/DUNS LICENSING ASSOCS., [2008] O.J.E.P.O. 46, 62 (Technical Bd. Appeal 3.5.01, Nov. 15, 2006), http://archive.epo.org/epo/pubs/oj008/02_08/02_0468.pdf.

ensures that patents are granted to inventions from fields such as engineering and technology rather than mathematics and natural science.[91]

### *C. Europe's Clear Distinction Between Subject Matter Eligibility and Obviousness*

In addition to clarifying that patent eligibility requires inventions to be based in a technical field, *Duns Licensing* explained that the "inventive step" analysis under EPC Article 56 is a distinct requirement which should only be considered after the Article 52 patent-eligibility analysis is complete.[92]

Article 56 is the EPC's version of 35 U.S.C. § 103 and similarly requires inventions to be nonobvious. Specifically, Article 56 states that "[a]n invention shall be considered as involving an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art."[93] To analyze whether Article 56 is satisfied, examiners "(i) determin[e] the 'closest prior art,' (ii) establish[] the 'objective technical problem' to be solved, and (iii) consider[] whether or not the claimed invention, starting from the closest prior art and the objective technical problem, would have been obvious to the skilled person."[94]

The court in *Duns Licensing* definitively stated that the subject matter eligibility analysis under Article 52 and the obviousness analysis under Article 56 are separate and distinct inquiries which should not be blurred.[95] Thus, European patent law explicitly prevents EPO examiners from considering what would be known or obvious to a person skilled in the art when determining whether a software-related invention causes a "further technical effect," and more broadly, whether the invention is patent eligible.

## III. EPC ARTICLE 52 IS MORE WORKABLE THAN *ALICE*

The patent eligibility analysis under EPC Article 52 is clearer and more predictable than the U.S. analysis under *Alice* for three reasons: (1) it provides statutorily enumerated groupings of excluded subject matter; (2) it provides a clearer standard to determine whether an invention falls within those groupings; and (3) it prohibits any inquiry into the invention's obviousness compared to the state of the art.

### *A. Statutorily Enumerated Groupings of Ineligible Subject Matter*

First, the statutory basis for determining patent eligibility under the EPC Article 52 provides more clarity than 35 U.S.C. § 101 because, although both define what *is* patent eligible, only Article 52 explicitly enumerates subject matter groupings that define what *is not* patent eligible. For example, Article 52(1) states

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91. *See id.* at 62.

92. *See id.* at 67–68.

93. EPC, *supra* note 11, art. 56.

94. EUROPEAN PATENT OFFICE, GUIDELINES FOR EXAMINATION IN THE EUROPEAN PATENT OFFICE, pt. G, ch. VII, § 5 (2014), https://www.epo.org/law-practice/legal-texts/html/guidelines/e/g_vii_5.htm.

95. *See* Case T-154/04, Estimating Sales Activity/DUNS LICENSING ASSOCS., at 67–68.

that "any inventions, in all fields of technology," may be patented.[96] This is somewhat similar to the broad definition of patent eligibility under §101, which allows inventors to obtain patents for any "new and useful process, machine, manufacture, or composition of matter."[97] However, only the EPC further qualifies its definition of allowable subject matter by explicitly listing groupings of subject matter that may not be patented. Specifically, it excludes inventors from patenting things such as mathematical methods, mental acts, playing games or doing business, and programs for computers.[98] Conversely, the statutory language under § 101 lacks any exceptions to its broad definition of patent eligibility.[99] As a result, the Supreme Court decided to create its own broad groupings of nonpatentable subject matter, reasoning that abstract ideas, laws of nature, and physical phenomena are inherently excluded under § 101.[100]

### *B. A Clearer Standard to Determine Whether an Invention Falls within the Excluded Groupings*

Second, even though the U.S. Supreme Court has created its own broad groupings of excluded subject matter, it is easier to predict whether an invention will fall within one of the EPC's statutorily excluded groupings. Initially, this is because the EPC's groupings are more descriptive than those used under *Alice*. For example, EPC Article 52(2) groupings such as mathematical methods, mental acts, and programs for computers specifically describe different types of subject matter that could each be generally classified as abstract ideas under *Alice*.[101] Therefore, EPC Article 52(2) provides EPO examiners with some guidance as to what type of subject matter should fall within each grouping based on the groupings' names.[102] Conversely, the Supreme Court has never actually defined what constitutes an abstract idea, leaving it to the Federal Circuit to decide on a case-by-case basis.[103] As a result, U.S. patent examiners must analogize the claims at issue to those previously analyzed by the courts (or at the very least, the USPTO must provide the examiner with guidelines based on its own interpretation of the case law) to know whether an invention is directed to an abstract idea.[104]

Further, assuming that the type of subject matter at issue seems to invoke one of the excluded groupings, the EPO's approach to determining whether a patent actually falls within one of the excluded groupings is more predictable than *Alice*. At first glance, the EPO approach and the two-step *Alice* approach follow a similar subject matter analysis. Both analyze whether the invention in question falls within a set of excluded categories. EPC Article 52(3) indicates that the exclusions listed

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96. EPC, *supra* note 11, art. 52(1).

97. 35 U.S.C. § 101 (2012).

98. EPC, *supra* note 11, art. 52(2).

99. *See* § 101.

100. *Compare* EPC, *supra* note 11, art. 52(2), *with* Alice Corp. v. CLS Bank Int'l, 573 U.S. 208, 216 (2014).

101. EPC, *supra* note 11, art. 52(2).

102. *Id.*

103. *Alice*, 573 U.S. at 221 ("In any event, we need not labor to delimit the precise contours of the 'abstract ideas' category in this case.").

104. *See* MANUAL OF PATENT EXAMINATION PROCEDURE 9TH ED., U.S. PATENT AND TRADEMARK OFFICE § 2106 (June 2020).

under Article 52(2) only apply if the invention is related to these categories "as such," while the first step of *Alice* asks whether the invention is "directed to" a judicially created exception.[105] However, the EPC's "as such" test constitutes the entirety of the European subject matter eligibility analysis.[106] Specifically, an invention is not related to an exception "as such" under Article 53(3) if it produces a further technical effect while applying the exception to a practical application.[107] Therefore, if a further technical effect is found, the invention is patent eligible, and if no further technical effect is found, the invention is patent ineligible. The analysis ends there.[108]

Conversely, the test under *Alice* requires two steps wherein the second step is especially confusing. *Alice* step one asks whether an invention is "directed to" a judicial exception such that the inventor impermissibly claims a monopoly over an abstract idea.[109] A claim is not "directed to" one of the exceptions if it applies the abstract idea as part of a broader, patent-eligible invention.[110] Thus, like claims that are not related "as such" to excluded subject matter under the EPC, claims that are not "directed to" a judicial exception under *Alice* are patent eligible, and the analysis ends.[111] But, unlike with the EPC, if the claims are "directed to" an exception, the U.S. patent eligibility analysis under *Alice* continues with a second step.[112] This added step is the cause of much confusion because it ambiguously requires examiners to determine whether the claims recite "significantly more" such that the judicial exception is "transformed" into patentable subject matter in a novel or nonobvious way.[113]

Based on the *Alice* opinion alone, it is difficult for examiners to know whether claims recite "significantly more" such that the invention "transforms" an abstract idea into patent eligibility. For example, the *Alice* Court seemed to largely define this concept by providing examples of subject matter that would fail the "significantly more" test.[114] As a result, all *Alice* really tells us is that adding the words "apply it" to the recitation of an abstract idea, or implementing the abstract idea using a general computer, fails the "significantly more" requirement.[115]

*Alice* did provide one example of patent-eligible subject matter based[116] on the invention described in *Diehr*.[117] It explained that the *Diehr* invention applied an abstract idea to solve a technical problem that "the industry ha[d] not been able to

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105. *Compare* EPC, *supra* note 11, art. 52(3), *with Alice*, 573 U.S. at 221.

106. *See* EPC, *supra* note 11, art. 52(2), (3); Case T-1173/97, Computer Program Product/IBM, [1999] O.J.E.P.O. 609, 620–23 (Technical Bd. Appeal 3.5.01, Jul. 1, 1998).

107. Case T-1173/97, Computer Program Product/IBM at 620.

108. *See id.* at 620–21.

109. *Alice*, 573 U.S. at 218.

110. *Id.* at 217.

111. *Compare* EPC, *supra* note 11, art. 52(3), *with Alice*, 573 U.S. at 217.

112. *See Alice*, 573 U.S. at 221.

113. *See id.*

114. *See id.* at 221–24.

115. *Id.* at 222–23.

116. *Id.*

117. Diamond v. Diehr, 450 U.S. 175, 177–79 (1981).

obtain."[118] Unfortunately, this example sheds little light on what might be "significantly more" because this invention seemingly applied an abstract idea as part of a broader invention that would otherwise be patent eligible. Thus, it avoids being "directed to" a judicial exception in the first place under the first step of *Alice*. In other words, if the *Diehr* invention was analyzed under *Alice* today, it would arguably qualify as patent eligible under step one and never make it to the "significantly more" determination under step two.[119] Therefore, *Diehr* hardly helps define what "significantly more" means. Left with this nearly incomprehensible framework created by the Supreme Court, the Federal Circuit has made efforts in cases like *Enfish* and *McRO* to refine this test into a somewhat coherent analysis that the average district court judge or patent examiner might be able to follow.[120] Yet, because of the underlying confusion created by *Alice*, such efforts are akin to putting a band-aid on a gaping wound.

### *C. Prohibition of Obviousness Inquiries During the Eligibility Analysis*

Third, the European approach produces more consistent results than *Alice* because, unlike the "significantly more" inquiry under *Alice* step two, the EPC requires courts and examiners to determine patent eligibility without considering an invention's novelty and obviousness.[121] As explained in *Alice*, if the application of the abstract idea is "well known in the art," the claimed invention does not recite "significantly more" and is not patent eligible.[122] Thus, to determine patent eligibility, examiners must consider the obviousness of the invention compared to the state of the art.[123] This creates a significant issue because it inherently leads to a standard of patent eligibility that shifts over time.

For example, imagine 20 years ago, an inventor applied for a patent with claims directed to an abstract idea. But, to the inventor's fortune, he applied that abstract idea in a novel way that was unknown in the art. His invention would be patent eligible according to *Alice*. Now, imagine that this inventor never applied for the patent 20 years ago, and instead applied for the same exact invention today. If technology had advanced such that his application of the abstract idea was no longer novel, this invention would be patent ineligible. As a result, the same exact subject matter is analyzed under a different standard of patent eligibility depending on the state of the art. The better, more predictable outcome would be to hold the invention

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118. *Alice*, 573 U.S. at 222–23.

119. *Alice* suggests that the novelty of an invention is important when considering whether a claim recites "significantly more." *See id.* at 221–24. Interestingly, the Court in *Diehr* explicitly prohibited such an analysis in stating "[t]he 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter." 450 U.S. at 188–89.

120. *See generally* Enfish, LLC v. Microsoft Corp., 822 F.3d 1327 (Fed. Cir. 2016); McRO, Inc. v. Bandai Namco Games Am. Inc., 837 F.3d 1299 (Fed. Cir. 2016).

121. *Compare Alice*, 573 U.S. at 221–24, *with* Case T-154/04, Estimating Sales Activity/DUNS LICENSING ASSOCS., [2008] O.J.E.P.O. 46, 46 (Technical Bd. Appeal 3.5.01, Nov. 15, 2006), https://www.epo.org/law-practice/case-law-appeals/recent/t040154ep1.html.

122. *See Alice*, 573 U.S. at 221–22.

123. *See id.*

patent eligible under §101 in both cases, but to reject the latter application based on § 103 for being obvious compared to the state of the art. The EPC follows such an approach and avoids this time-shifting standard of patent eligibility.[124] Specifically, the EPC requires examiners to analyze patent eligibility under Article 52 without considering novelty and obviousness. Then, only after eligibility is determined can they analyze obviousness under Article 56.[125]

## IV. 2019 GUIDANCE DOCUMENT: THE USPTO'S INTERPRETATION OF *ALICE*

In the United States, the USPTO is charged with examining patent applications and issuing patents.[126] Although the USPTO does not have the authority to create law, its examiners must frequently interpret and apply the law when analyzing the patent eligibility of applied-for inventions.[127] To help its examiners more consistently apply the two-step test promulgated in *Alice*, the USPTO issued a guidance document that breaks down the concept of abstract ideas into specific groupings and subgroupings and separates the first step of *Alice* into two prongs.[128]

Even though the USPTO does not have the power to promulgate substantive law, its guidance documents have a significant impact on the U.S. patent law system.[129] For example, thousands of examiners rely on USPTO documents to provide a concise and consistent summary of the applicable statutory and case law.[130] Thus, the majority of patent applications that initially pass through the USPTO are approved or rejected based on these USPTO guidelines.[131] As a primary reference, the USPTO maintains the Manual of Patent Examination Procedures ("MPEP") which provides a comprehensive set of guidelines for examiners to follow

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124. *See, e.g.*, Case T-154/04, Estimating Sales Activity/DUNS LICENSING ASSOCS. at 67–68.

125. *Id.*

126. *E.g.*, Wen Xue, *Obviousness Guidance at the PTO*, 5 N.Y.U. J. INTELL. PROP. & ENT. L. 306, 324 (2016).

127. *See id.* at 323–24.

128. *See* 2019 Guidance Document, *supra* note 15, at 51–54.

129. Koninklijke Philips Elecs. N.V. v. Cardiac Sci. Operating Co., 590 F.3d 1326, 1336 (Fed. Cir. 2010) (explaining that the USPTO lacks substantive rulemaking authority); Merck & Co., Inc. v. Kessler, 80 F.3d 1543, 1549–50 (Fed. Cir. 1996) ("[T]he broadest of the PTO's rulemaking powers—35 U.S.C. § 6(a)—authorizes the Commissioner to promulgate regulations directed only to 'the conduct of proceedings in the [PTO]'; it does not grant the Commissioner the authority to issue substantive rules.") (quoting Animal Legal Def. Fund v. Quigg, 932 F.2d 920, 930 (Fed. Cir. 1991)); *see also* Sarah Tran, *Administrative Law, Patents, and Distorted Rules*, 80 GEO. WASH. L. REV. 831, 834 (2012) ("The Federal Circuit construes the PTO's authority narrowly and even imposes its own judicially crafted limitations on the PTO's rulemaking powers."); Sarah Tran, *Patent Powers*, 25 HARV. J.L. & TECH. 609, 611 (2012) ("Over the years, the Federal Circuit has assumed primary responsibility for interpreting the Patent Act and crafted limitations on the USPTO's authority that have limited the Agency to a rubberstamping, ministerial role rather than a policy-setting or substantive rulemaking role.").

130. *See* Xue, *supra* note 126, at 326.

131. *See id.*

during every step of the patent examination process.[132] In addition to the MPEP, the USPTO frequently releases guidance documents specifically focused on changing areas of law.[133] For example, the 2019 Guidance Document discussed in this Note specifically focuses on interpreting Federal Circuit case law related to subject matter eligibility under *Alice*.[134] Thus, by setting standards through its guidance documents, the USPTO controls the issuance of the vast majority of patents.[135] And in addition to playing a significant role in the examination of patent applications, USPTO guidance can influence substantive law. For example, although the Federal Circuit does not give any deference to USPTO guidance, USPTO guidance documents have influenced the Federal Circuit in some cases.[136]

The USPTO issued the 2019 Guidance Document to "ensure that its more than 8500 patent examiners and administrative patent judges apply the *Alice*[] test in a manner that produces reasonably consistent and predictable results across applications, art units and technology fields."[137] Also, in an effort to further clarify the subject matter eligibility examination process, the USPTO asked the public to submit feedback regarding the 2019 Guidance Document.[138] "Using further explanation and examples," the 2019 October Update "focuses on clarifying practice for patent examiners" based on the feedback the USPTO received.[139] The sections below summarize the USPTO's approach to subject matter eligibility as explained in the 2019 Guidance Document and 2019 October Update.

### *A. Creating Groupings of Abstract Ideas*

The first section of the 2019 Guidance Document attempts to clarify the concept of "abstract ideas" by defining groupings of subject matter that fall within this judicially created exclusion to patent eligibility.[140] It explains that, to identify abstract ideas, "courts have been 'compar[ing] claims at issue to those claims already found to be directed to an abstract idea in previous cases.'"[141] Further, "[w]hile that approach was effective soon after *Alice* was decided, it has since become impractical."[142] This is because the "growing body of precedent has become increasingly more difficult for examiners to apply in a predictable manner."[143]

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132. *See id. See generally* MANUAL OF PATENT EXAMINATION PROCEDURES 9TH ED., *supra* note 104.

133. *See* Xue, *supra* note 126, at 326.

134. *See* 2019 Guidance Document, *supra* note 15, at 50.

135. *See, e.g.*, Melissa F. Wasserman, *The PTO's Asymmetric Incentives: Pressure to Expand Substantive Patent Law*, 72 OHIO ST. L.J. 379, 398–400 (2011).

136. *See, e.g.*, *In re* Fisher, 421 F.3d 1365, 1372 (Fed. Cir. 2005) (adopting standards from a 2001 USPTO guidance document for examining utility under 35 U.S.C. § 101).

137. 2019 Guidance Document, *supra* note 15, at 50.

138. OCTOBER 2019 UPDATE, *supra* note 16, at 1.

139. *Id.*

140. *See* 2019 Guidance Document, *supra* note 15, at 51–53.

141. *Id.* at 51 (quoting Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1334 (Fed. Cir. 2016)).

142. *Id.* at 52.

143. *Id.*

Based on judicial precedent, the 2019 Guidance Document "extracts and synthesizes key concepts identified by the courts as abstract ideas" to create three general groupings: (1) mathematical concepts; (2) certain methods of organizing human activity; and (3) mental processes.[144] Each of these three general groupings are defined with specific subgroupings and further explained in the 2019 October Update.[145]

The "mathematical concepts" grouping includes mathematical relationships, mathematical formulas or equations, and mathematical calculations.[146] The 2019 October Update explains the key factor in deciding whether a claim falls within the mathematical concepts grouping is the language of the claim itself.[147] Specifically, a "claim does not recite a mathematical concept (i.e., the claim limitations do not fall within the mathematical concept grouping), if it is only based on or involves a mathematical concept," as opposed to actually claiming the concept.[148] For example, a claim that describes the relationship between variables or numbers falls under the mathematical relationship subgrouping.[149] Similarly, a claim that recites a numerical formula, equation, or a calculation falls under either the mathematical formulas, equations, or calculations subgroup.[150] Conversely, "a limitation that is merely based on or involves a mathematical concept described in the specification may not be sufficient to fall into this grouping, provided the mathematical concept itself is not recited in the claim."[151]

The "*certain* methods of organizing human activity" grouping includes fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing, or sales activities or behaviors; business relations); and managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions).[152] The 2019 October Update explains three key factors in determining whether a claim's limitations fall within this grouping.[153] First, the word "certain" is significant because "not all methods of organizing human activity are abstract ideas."[154] For example, a method claim that recites "steps for combining particular ingredients to create a drug formulation" would not be considered an abstract idea falling under the methods of organizing human activity grouping.[155] Second, a claim does not recite "certain methods of organizing human activity"

144. *Id.*
145. *See id.*; OCTOBER 2019 UPDATE, *supra* note 16, at 3–9.
146. 2019 Guidance Document, *supra* note 15, at 52.
147. *See* OCTOBER 2019 UPDATE, *supra* note 16, at 3.
148. *Id.*
149. *Id.* at 3–4.
150. *Id.* at 4.
151. *Id.* at 3.
152. 2019 Guidance Document, *supra* note 15, at 52 (emphasis added).
153. *See* OCTOBER 2019 UPDATE, *supra* note 16, at 4–5.
154. *Id.*
155. *Id.* at 5 (citing *In re* Marco Guldenaar Holding B.V., 911 F.3d 1157, 1160–61 (Fed. Cir. 2018)).

unless it falls within one of the enumerated subgroupings.[156] Finally, the "number of people involved in the activity is not dispositive as to whether a claim limitation falls within this grouping."[157]

The "mental processes" grouping includes concepts performed in the human mind (including an observation, evaluation, judgment, or opinion).[158] The 2019 October Update explains that a claim does not recite a mental process if it would be practically impossible for a human to perform the limitation in question.[159] For example, a claim requiring the calculation of "an absolute position of a GPS receiver and an absolute time of reception of satellite signals" would not fall under the mental process grouping because it would be practically impossible to perform in the human mind.[160] However, just because a claim recites a limitation requiring a process to be carried out on a computer does not necessarily exclude it from the "mental processes" grouping.[161] This is because any limitation that can be practically performed in the human mind necessarily falls under the "mental process" grouping.[162] Therefore, if a claimed process could be practically performed in the human mind, but is made simpler by using a computer as a tool, it still falls within this grouping.[163]

### *B. Dividing the First Step of* Alice *into Two Prongs*

Under the first step of the *Alice* analysis, courts and examiners must determine whether a claim is "directed to" judicially excluded subject matter.[164] The 2019 Guidance Document splits this step into two prongs to "more accurately and consistently identify claims that recite a practical application of a judicial exception (and thus are not 'directed to' a judicial exception)."[165] Under Prong One, if a claim does not "recite" a judicial exception (a law of nature, a natural phenomenon, or an abstract idea from one of the groupings described above), then it is patent eligible.[166]

> To determine whether a claim recites an abstract idea in Prong One, examiners are now to: (a) Identify the specific limitation(s) in the claim under examination (individually or in combination) that the examiner believes recites an abstract idea; and (b) determine whether the identified limitation(s) falls within the [enumerated] subject matter groupings of abstract ideas.[167]

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156. *Id.*
157. *Id.*
158. 2019 Guidance Document, *supra* note 15, at 52.
159. OCTOBER 2019 UPDATE, *supra* note 16, at 7.
160. *Id.* (citing SiRF Tech., Inc. v. Int'l Trade Comm'n, 601 F.3d 1319, 1331–33 (Fed. Cir. 2010)).
161. *Id.* at 8.
162. *Id.* at 8–9.
163. *See id.*
164. Alice Corp. v. CLS Bank Int'l, 573 U.S. 208, 218 (2014).
165. 2019 Guidance Document, *supra* note 15, at 53.
166. *See id.*
167. *Id.* at 54.

According to the USPTO, this revised analysis is "[i]n accordance with judicial precedent."[168] Moreover, aside from the enumerated groupings, "Prong One does not represent a change" from prior guidance.[169]

If the claim does "recite" a judicial exception under the first prong, then the analysis continues to Prong Two.[170] There, "examiners should evaluate whether the claim as a whole integrates the recited judicial exception into a practical application of the exception."[171] A claim that integrates the exception into a practical application is patent eligible.[172] If no practical application of the exception is identified, the claim is "directed to" the exception under *Alice* step one, and the analysis for subject matter eligibility continues under *Alice* step two.[173]

The 2019 Guidance document provides representative examples of what may be a practical application of the exception under Prong Two.[174] Within the context of software, the examples include an additional claim element that: (1) "reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field;" (2) "implements a judicial exception with, or uses a judicial exception in conjunction with, a particular machine or manufacture that is integral to the claim;" (3) "effects a transformation or reduction of a particular article to a different state or thing;" and (4) "applies or uses the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment."[175]

When looking for a practical application of the abstract idea under Prong Two, the 2019 October Update emphasizes the importance of considering whether the claim limitations reflect an improvement in the functioning of a computer or an improvement to another technology or technical field.[176] To illustrate this concept, the 2019 October Update relied on *SRI International, Inc. v. Cisco Systems, Inc.*[177] There, the claim practically applied an abstract idea by improving computer technology (specifically computer security) because it required "a plurality of network monitors to analyze specific network traffic data and integrate generated reports from the monitors to identify hackers and intruders on the network."[178] Conversely, it relied on *Alice* to illustrate claims that did not improve computer technology.[179] There, the "Supreme Court determined that the claim limitations [such as a] 'data processing system,' 'communications controller,' and 'data storage

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168. *Id.* at 52.
169. *Id.* at 53–54.
170. *Id.* at 53.
171. *Id.* at 54.
172. *Id.* at 53.
173. *Id.*
174. *Id.* at 55.
175. *Id.*
176. OCTOBER 2019 UPDATE, *supra* note 16, at 12.
177. *Id.* at 11. *See generally* SRI Int'l, Inc. v. Cisco Sys., Inc., 930 F.3d 1295, 1303 (Fed. Cir. 2019).
178. OCTOBER 2019 UPDATE, *supra* note 16, at 11.
179. *Id.* at 11–12.

unit' were generic computer components that amounted to mere instructions to implement the abstract idea on a computer."[180]

### *C. Diminishing the Importance of Novelty and Obviousness Considerations*

Unlike prior USPTO interpretations of *Alice*, the 2019 Guidance Document all but eliminates considerations of novelty and obviousness during the subject matter eligibility analysis.[181] It states that "revised [*Alice* step one] specifically excludes consideration of whether the additional elements represent well-understood, routine, conventional activity. Instead, analysis of well-understood, routine, conventional activity is done in [*Alice* step two]."[182] The 2019 October Update also reiterates this distinction, stating that "the claimed invention may integrate the judicial exception into a practical application by demonstrating that it improves the relevant existing technology although it may not be an improvement over well-understood, routine, conventional activity."[183]

This guidance significantly diminishes the overall importance of novelty and obviousness within the subject matter analysis. These problematic novelty and obviousness inquiries are buried in the second step of *Alice*, a step that is all but meaningless at the USPTO. This is because the eligibility of every claim will essentially rise and fall under the first step of *Alice*. For example, the claim limitations from *SRI International* described above[184] would be considered a technical improvement regardless of whether the integration of "generated reports to identify hackers and intruders" was well understood in the art.[185] Therefore, the examiner would identify the claim as patent eligible under step one, and it would never be subjected to a novelty or obviousness analysis under step two.

Similarly, applying step two to the exemplary *Alice* claims described above is meaningless.[186] First, under step one, an examiner would find the "data processing system," "communications controller," and "data storage unit" limitations to be generic computer components which fail to demonstrate a technical improvement resulting from an application of the abstract idea. Because the claim "recites" (Prong One) and is "directed to" (Prong Two) an abstract idea under step one, the analysis would continue under step two. However, determining whether the "data processing system," "communications controller," and "data storage unit" are well known in the art is a trivial task because, if such limitations do not demonstrate a technical improvement under step one, how could they possibly be novel or nonobvious under step two? If a limitation is directed toward a generic computer component, it is necessarily well known in the art. As a result, the USPTO has created an analysis where all subject matter eligibility considerations will essentially be determined

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180. *Id.* at 12.

181. 2019 Guidance Document, *supra* note 15, at 55.

182. *Id.*

183. OCTOBER 2019 UPDATE, *supra* note 16, at 12–13.

184. *Supra* notes 177–78 and accompanying text.

185. OCTOBER 2019 UPDATE, *supra* note 16, at 11. This is because the 2019 Guidance Document expressly prohibits examiners from considering whether a limitation is well known during step one of the *Alice* analysis. 2019 Guidance Document, *supra* note 15, at 55.

186. *See supra* notes 179–80 and accompanying text.

under step one, without considering novelty or nonobviousness, which are rightly decided under 35 U.S.C. § 102 and § 103.

Andrei Iancu, the director of the USPTO under whom the 2019 Guidance Document was released, seems to support the idea that prohibiting obviousness considerations under *Alice* step one renders such considerations moot under step two.[187] He states:

> The genius of the 1952 Patent Act was that it clearly categorized the conditions for patentability in addition to, and separate from, the categories of invention. But some recent § 101 findings seem to mix them all up again. As Judge Rich cautioned, this "may lead to distorted legal conclusions." So, I propose that we stop commingling patent eligibility, on one hand, with the conditions for patentability, on the other.[188]

He further clarifies, "pursuant to the Patent Act of 1952, we should keep invalidity rejections in their own lanes. If something is not novel or is obvious, we should invalidate it under § 102 or § 103."[189] Therefore, although he does not expressly say it, it is likely that Director Iancu expects removing novelty and obviousness from *Alice* step one will help relegate these inquiries to § 102 and § 103 where they belong.

## V. THE USPTO IS TURNING *ALICE* INTO ARTICLE 52

The similarities between the analysis outlined in the 2019 Guidance Document and the analysis required under EPC Article 52 are striking. Even though the 2019 Guidance Document was purportedly based on judicial precedent,[190] it seems that the USPTO has found a way to make *Alice* clearer and more predictable by molding it to fit within the EPC Article 52 framework. Specifically, both the 2019 Guidance Document and EPC Article 52: (1) utilize enumerated groupings of excluded subject matter; (2) determine if a claim falls within these groupings based on whether the excluded subject matter is practically applied to produce a technological improvement; and (3) explicitly prohibit considerations of novelty and obviousness when determining whether the excluded subject matter is practically applied.[191]

### *A. Groupings of Excluded Subject Matter*

Not only do both frameworks utilize groupings but also the groupings defined in the 2019 Guidance Document significantly overlap with those enumerated under EPC Article 52. This is especially true for the groupings that would be considered "abstract ideas" under U.S. law. For example, EPC Article 52(2) enumerates (i) mathematical methods; (ii) playing games or doing business; and (iii) schemes, rules and methods for performing mental acts as categories of

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187. *See* Andrei Iancu, *The Role of the Courts in Shaping Patent Law & Policy*, 3 GEO. L. TECH. REV. 526, 528–34 (2019).

188. *Id.* at 528.

189. *Id.*

190. 2019 Guidance Document, *supra* note 15, at 52.

191. *See infra* notes 192–214 and accompanying text.

excluded subject matter.[192] Similarly, the 2019 Guidance Document enumerates (i) mathematical concepts; (ii) certain methods of organizing human activity (including fundamental economic activities and managing interactions between people); and (iii) mental processes as categories of excluded subject matter.[193] In other words, both frameworks generally identify groupings related to mathematical concepts, methods of organizing human activity, and mental processes. By expressly defining these excluded groupings, both frameworks make it easy for examiners to consistently identify claims that recite ineligible subject matter.[194]

### *B. Practical Application of Excluded Subject Matter*

Both frameworks also distinguish between claims that are specifically directed to subject matter within the excluded groupings and claims that practically apply the excluded subject matter to produce a further technical effect. As explained in Section II.B above, EPC Article 52(3) indicates that inventions only fall within the excluded groupings when a "patent relates to such subject-matter or activities *as such*."[195] The EPO courts have interpreted this qualifier to mean that, although a patent may recite language that seemingly invokes an excluded grouping, the invention only relates to that grouping "as such" if it fails to produce a "further technical effect."[196] A "further technical effect" may be identified when the invention solves a technical problem.[197] In terms of software, this is typified when the invention "goes beyond the 'normal' physical interactions between the program (software) and the computer (hardware)"[198] or *improves the technology of the computer*.[199] For example, in *Viacom/Computer Related Invention* the court held that an invention was not directed to a mathematical method "as such" because it improved computer processing speed.[200]

Similarly, under the 2019 Guidance Document, although a claim may "recite" subject matter within one of the excluded groupings, it is not "directed to" the grouping if the claim "integrates the recited judicial exception into a practical application of the exception."[201] Integration of the judicial exception into a practical application is typified when limitations reflect an *improvement in the functioning of a computer*, or an improvement to another technology or technical field.[202] To illustrate such an improvement, the USPTO points to *SRI International* where the software-related claim required the identification of hackers and intruders on a network.[203] Under the 2019 Guidance Document, identifying hackers and intruders,

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192. EPC, *supra* note 11, art. 52(2).
193. 2019 Guidance Document, *supra* note 15, at 51–53.
194. *See id.* at 52; EPC, *supra* note 11, art. 52(2).
195. EPC, *supra* note 11, art. 52(3) (emphasis added).
196. *See* Case T-1173/97, Computer Program Product/IBM, [1999] O.J.E.P.O. 609, 620–21 (Technical Bd. Appeal 3.5.01, Jul. 1, 1998).
197. *Id.*
198. *Id.* at 632.
199. Case T-208/84, Computer-Related Invention/VICOM, [1987] O.J.E.P.O. 14, 16 (Technical Bd. Appeal 3.5.01, July 15, 1986).
200. *Id.*
201. 2019 Guidance Document, *supra* note 15, at 53–54.
202. OCTOBER 2019 UPDATE, *supra* note 16, at 12–13.
203. *Id.* at 11.

at least in this context, is enough of an improvement to computer network operation to be a practical application of any excluded subject matter.[204]

Therefore, although the wording is slightly different, the EPC and USPTO both look for a technological improvement to determine whether a software-related claim is patent eligible. Under the EPC, it is called a "further technical effect,"[205] while the USPTO calls it an "improvement in the functioning of a computer, or an improvement to other technology or technical field" such that the excluded subject matter is "practically applied."[206] Moreover, each analysis seemingly reaches the same result regarding an invention's patent eligibility. For example, the USPTO would consider the computer's improved processing speed from the EPO's *Viacom/Computer Related Invention* opinion to be an improvement in the functioning of a computer such that the excluded subject matter is practically applied. Similarly, the identification of a hacker in a computer network from the *SRI International* opinion referenced in the 2019 October Update would likely qualify as a further technical effect that solves a technical problem under the EPC.

### *C. Prohibition of Novelty and Obviousness Considerations*

Although the USPTO still allows novelty- and obviousness-related considerations under *Alice* step two, both the 2019 Guidance Document and EPC Article 52 explicitly prohibit such considerations when determining if a claim recites enough of a technological improvement to qualify for patent eligibility. This prohibition is very clear according to EPO case law.[207] As explained above in Section II.C, EPC Article 56 requires all inventions to have "an inventive step . . . [that] is not obvious to a person skilled in the art."[208] In *Duns Licensing*, the EPO technical board definitively stated that the subject matter eligibility analysis under Article 52 and the obviousness analysis under Article 56 are separate and distinct inquiries which should not be blurred.[209]

Similarly, as explained in Section IV.C, the 2019 Guidance Document "specifically excludes consideration of whether the additional elements represent well-understood, routine, conventional activity" as part of its two-prong test for *Alice* step one.[210] To be certain, an element that represents well-understood, routine, or conventional activity would be obvious to one of ordinary skill in the art.[211] By eliminating any obviousness considerations from step one, the USPTO is pushing the *Alice* analysis much closer to the complete ban on subject-matter-eligibility-type obviousness considerations outlined in EPC Article 52. This is a significant step in the right direction and avoids the undesirable situation where the standard for subject

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204. *See* 2019 Guidance Document, *supra* note 15, at 53, 55.

205. *See* Case T-1173/97, Computer Program Product/IBM, [1999] O.J.E.P.O. 609, 620–21 (Technical Bd. Appeal 3.5.01, Jul. 1, 1998).

206. OCTOBER 2019 UPDATE, *supra* note 16, at 11–13.

207. *See* Case T-154/04, Estimating Sales Activity/DUNS LICENSING ASSOCS., [2008] O.J.E.P.O. 46, 60–61 (Technical Bd. Appeal 3.5.01, Nov. 15, 2006).

208. EPC, *supra* note 11, art. 56.

209. *See* Case T-154/04, Estimating Sales Activity/DUNS LICENSING ASSOCS. at 67, 70–71.

210. 2019 Guidance Document, *supra* note 15, at 55.

211. *See* Iancu, *supra* note 187, at 528.

matter eligibility changes over time.[212] Again, the *Alice* framework might allow an invention to be patent eligible under § 101 today but reject that same invention 20 years from now, solely based on changes in what is obvious to one of ordinary skill in the art.[213] This hypothetical invention's patentability should rise and fall under § 103 based on obviousness, not under § 101 based on subject matter eligibility.[214]

## VI. CAN THE USPTO HELP FIX *ALICE*?

There seems to be significant support for the 2019 Guidance Document among parties interested in U.S. patent law.[215] For example, following the release of the 2019 Guidance Document, the USPTO asked the public for feedback.[216] Of the 16 intellectual property organizations that submitted written comments, 15 generally supported the USPTO's attempt to create groupings of abstract ideas and clarify the examination process surrounding *Alice* step one.[217]

Although there was overall support, several of the submissions contained suggestions for further improvements.[218] For example, although the AIPLA, the IPO, the American Bar Association Section of Intellectual Property Law ("ABA-IPL"), and the National Association of Patent Practitioners ("NAPP") generally supported the creation of abstract idea groupings, they asked for more guidance on how the groupings are defined.[219] The October 2019 Update addressed several of

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212. *See supra* text accompanying notes 121–18.

213. *See id.*

214. *See* Iancu, *supra* note 187, at 529.

215. *See Comments on 2019 Revised Subject Matter Eligibility Guidance*, USPTO, https://www.uspto.gov/patent/laws-and-regulations/comments-public/comments-2019-revised-subject-matter-eligibility (last visited Apr. 6, 2020) [hereinafter Guidance Document Comments] (repository of comments made in response to the 2019 Guidance Document); *see also* Sangik Bae, *Overcoming Abstract Idea Exception of Patent Subject Matter Eligibility Under 2019 Revised Patent Subject Matter Eligibility Guidance*, 18 J. MARSHALL REV. INTELL. PROP. L. 382, 383 (2019).

216. *See* Guidance Document Comments, *supra* note 215. Specifically, only comments submitted by the Electronic Frontier Foundation were fully against the Guidance document. *Id.*; Daniel Nazer & Alexandra H. Moss, *Re: Request for Comments on 2019 Revised Patent Subject Matter Eligibility Guidance*, ELEC. FRONTIER FOUND. 2–5 (Mar. 8, 2019), https://www.uspto.gov/sites/default/files/documents/eligibility2019comments_a_eff_2019mar08.pdf. (explaining that the Guidance Document "instructs examiners on how to narrow the *Alice v. CLS Bank* decision instead of how to apply it correctly" and therefore it "is as contrary to law as it is to the Constitution's mandate that our patent system promote rather than stifle technological progress").

217. *See id.*

218. *See id.*

219. Sheldon H. Klein, *Re: Comments on 2019 Revised Patent Subject Matter Eligibility Guidance*, AM. INTELLECTUAL PROP. LAW ASS'N 2 (Mar. 8, 2019), https://www.uspto.gov/sites/default/files/documents/eligibility2019comments_a_aipla_2019mar08.pdf; *see also* Mark K. Dickson, *Re: Comments on 2019 Revised Patent Subject Matter Eligibility Guidance*, AM. BAR ASS'N SECTION OF INTELLECTUAL PROP. LAW (Mar. 7, 2019), https://www.uspto.gov/sites/default/files/documents/eligibility2019comments_a_abaipl_2019mar07.pdf; Daniel J. Krueger, *Re: Comments on 2019 Revised Subject Matter Eligibility Guidance*, NAT'L ASS'N PATENT PRACTITIONERS 4 (Mar. 8, 2019),

these comments.[220] Also, the IPO, the NAPP, and the Electronic Frontier Foundation ("EFF") warned the USPTO that it was straying too far from Supreme Court and Federal Circuit case law. They feared that, as a result, the 2019 Guidance Document would cause the USPTO to issue patents that are more susceptible to invalidatoin when later litigated.[221] Although these organizations generally like the 2019 Guidance Document, Congress, rather than the courts or the USPTO, needs to take action to meaningfully change patent subject matter eligibility law in the United States.

### *A. Will the Guidance Document Influence Judicial Lawmaking?*

It is very unlikely that the 2019 Guidance Document will influence judicial lawmaking because: (1) the Supreme Court does not want to address the issues surrounding *Alice*; and (2) the Federal Circuit is bound by *Alice*. First, the Supreme Court does not have much interest in clarifying its *Alice* opinion, as demonstrated by the denial of at least 43 petitions for certiorari that raised patent-eligibility issues over the five years since *Alice*.[222] For example, in 2016, the Supreme Court denied certiorari in *Sequenom v. Ariosa Diagnostics, Inc.*,[223] "a case that many Federal Circuit jurists, scholars, and practitioners regarded as an ideal vehicle for clarifying patent eligibility standards."[224] The Court decided against accepting the case even though it received 22 amicus briefs supporting its review.[225]

Further, even though several Federal Circuit judges disagree with *Alice*,[226] it does not appear that this court will make any dramatic changes based on the 2019 Guidance Document. For example, following the release of the 2019 Guidance Document, a Federal Circuit panel decided *ChargePoint, Inc. v. SemaConnect*.[227] There, the patent claim at issue comprised limitations directed to:

> a control device to turn electric supply on and off to enable and disable charge transfer for electric vehicles;
>
> a transceiver to communicate requests for charge transfer with a remote server and receive communications from the remote server via

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https://www.uspto.gov/sites/default/files/documents/eligibility2019comments_a_napp_2019mar08.pdf.

220. *See* OCTOBER 2019 UPDATE, *supra* note 16, at 3–7.

221. *See* Klein, *supra* note 219; Krueger, *supra* note 219; Nazer & Moss, *supra* note 216.

222. *Id.*

223. 788 F.3d 1371 (Fed. Cir. 2015), *cert. denied*, 136 S. Ct. 2511 (2016).

224. Jeffrey A. Lefstin et al., *Final Report of the Berkeley Center for Law & Technology Section 101 Workshop: Addressing Patent Eligibility Challenges*, 33 BERKELEY TECH. L.J. 551, 557 (2018).

225. *Sequenom, Inc. v. Ariosa Diagnostics, Inc.*, SCOTUS BLOG, https://www.scotusblog.com/case-files/cases/sequenom-inc-v-ariosa-diagnostics-inc/ (last visited Apr. 6, 2020).

226. *See, e.g.*, Interval Licensing LLC v. AOL, Inc., 896 F.3d 1335, 1348–56 (Fed. Cir. 2018) (Plager, J., concurring in part and dissenting in part); Smart Sys. Innovations, LLC v. Chicago Transit Auth., 873 F.3d 1364, 1376–80 (Fed. Cir. 2017) (Linn, J., concurring in part and dissenting in part).

227. 920 F.3d 759 (Fed. Cir. 2019).

> a data control unit that is connected to the remote server through a wide area network; and
>
> a controller, coupled with the control device and the transceiver, to cause the control device to turn the electric supply on based on communication from the remote server.[228]

The court held that "communicat[ing] requests for charge transfer with a remote server" was ineligible for claiming an abstract idea.[229] In seeming disagreement with the 2019 Guidance Document, the court considered this "communication" an abstract idea even though it does not clearly fall within one of the mathematical concepts, certain methods of organizing human activity, or mental processes groupings.[230] Further, the application of this "communication" to a controller which causes a control device to turn on an electrical supply to enable charge transfer for electrical vehicles was not enough to escape being "directed to" an abstract idea under *Alice* step one.[231] Analyzed under the 2019 Guidance Document, even if the "communication" limitation "recited" an abstract idea under the first prong of *Alice* step one, its practical application of controlling the charging of an electrical vehicle would save it from ineligibility. Therefore, although the Federal Circuit presumably was aware of the 2019 Guidance Document, it neither mentioned that document in its opinion nor does it appear that the court was influenced by the groupings of abstract ideas or the two-prong analysis of *Alice* step one.[232]

It is possible that the Supreme Court and the Federal Circuit are reluctant to change their interpretation of subject matter eligibility because they feel it is Congress's duty. For example, former Federal Circuit Chief Judge Paul Michel stated that "[Congress] is the right branch of the government to be making these hugely important national decisions that are going to decide job creation, global competitiveness, national security, economic growth, and productivity growth."[233] He further clarified that, "[e]ven if [Congress] make[s] decisions I might disagree with, it's still better for the decisions to be made by the duly elected representatives of the citizenry, not by black robed lawyers at any level, including the Supreme Court."[234] But will Congress actually amend § 101?

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228. *Id.* at 766.

229. *Id.* at 766, 777.

230. *See id.*

231. *See id.* at 768.

232. *See* Russell Slifer, *The Federal Circuit Just 'Swallowed All of Patent Law' in ChargePoint v. SemaConnect*, IP WATCHDOG (Apr. 2, 2019), https://www.ipwatchdog.com/2019/04/02/federal-circuit-just-swallowed-patent-law-chargepoint-v-semaconnect/id=107917/.

233. Eileen McDermott, *Patent Masters' Warning: U.S. Patents are Weak, Innovation is Going Overseas*, IP WATCHDOG (Mar. 27, 2019), https://www.ipwatchdog.com/2019/03/27/patent-masters-warning-u-s-patents-weak-innovation-going-overseas/id=107758/.

234. *Id.*

### *B. Will the Guidance Document Influence Legislation?*

Although immediate congressional action related to § 101 seems unlikely, it appears that the 2019 Guidance Document has played a significant role in a recently proposed amendment.[235] In April 2019, Senator Thom Tillis, the Chairman of the Senate Judiciary Subcommittee on Intellectual Property, along with four other congressmen, released a proposed framework to amend § 101.[236] Just like the 2019 Guidance Document, this proposal included the addition of groupings of excluded subject matter (including mathematical concepts, certain methods of organizing human activity, or mental processes), required that such groupings be practically applied, and prohibited novelty and obviousness considerations.[237] Specifically, the § 101 Reform Proposal aims to:

> Eliminate, within the eligibility requirement, that any invention or discovery be both "new and useful." Instead, simply require that the invention meet existing statutory utility requirements.
>
> Define, in a closed list, exclusive categories of statutory subject matter which alone should not be eligible for patent protection. The sole list of exclusions might include the following categories, for example:
>
> Fundamental scientific principles; Products that exist solely and exclusively in nature; Pure mathematical formulas; Economic or commercial principles; Mental activities.
>
> Create a "practical application" test to ensure that the statutorily ineligible subject matter is construed narrowly.[238]

Similar to the 2019 Guidance document, the response to this proposed legislation within the patent law community appears to be positive.[239] However, Senate Judiciary Subcommittee on Intellectual Property hearings about the proposal

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235. *See* KEVIN J. HICKEY, CONG. RESEARCH. SERV., R45918 PATENT-ELIGIBLE SUBJECT MATTER REFORM IN THE 116TH CONGRESS 34 (2019), https://fas.org/sgp/crs/misc/R45918.pdf (explaining that proposed legislation "blended elements of the PTO's 2019 Revised Guidance with a 'laundry list' approach of specific ineligible categories, plus new statutory standards for how to apply the list of exceptions to patentable subject matter").

236. *Sens. Tillis and Coons and Reps. Collins, Johnson, and Stivers Release Section 101 Patent Reform Framework*, THOM TILLIS (Apr. 17, 2019), https://www.tillis.senate.gov/2019/4/sens-tillis-and-coons-and-reps-collins-johnson-and-stivers-release-section-101-patent-reform-framework; *see also* Sen. Tillis et al., *Draft Outline for Section 101 Reform*, THOM TILLIS, https://www.tillis.senate.gov/services/files/3491a23f-09c3-4f4a-9a93-71292704c5b1 (last visited Apr. 6, 2020) [hereinafter § 101 Reform Proposal].

237. *See supra* Part IV.

238. § 101 Reform Proposal, *supra* note 236.

239. *See, e.g.*, Eileen McDermott, *Draft Text of Proposed New Section 101 Reflects Patent Owner Input*, IP WATCHDOG (May 22, 2019), https://www.ipwatchdog.com/2019/05/22/draft-text-proposed-new-section-101-reflects-patent-owner-input/id=109498/.

held in June of 2019 contained mixed reactions.[240] For example, the aforementioned former Federal Circuit Chief Judge Paul Michel, along with former USPTO directors Todd Dickinson and David J. Kappos testified in support of the draft bill because it addresses issues related to the current law under *Alice*.[241] However, several witnesses that testified in opposition to the draft bill commended the *Alice* test for its ability to identify overly broad claims and generally invalidate weak patents asserted by patent trolls against small businesses.[242] The hearings concluded with Senator Tillis indicating that the bill needed further refinements to address the issues identified by opposing witnesses.[243]

Therefore, although Congress seems receptive to amending § 101, it is still in the initial stages of deciding exactly what that amendment will include. At a minimum, the 2019 Guidance Document has served as a good starting point for whatever amendment to § 101 Congress will eventually consider.

## CONCLUSION

The statutory basis for patent subject matter eligibility in the United States has not substantially changed in over 200 years. Specifically, in its current form, § 101 only enumerates categories of patent-eligible subject matter, without defining any exclusions. With the rise of modern technology, specifically computer software, U.S. courts have struggled to consistently and predictably apply § 101 to identify excluded subject matter.

To help its examiners consistently apply the confusing case law related to § 101, the USPTO created the 2019 Guidance Document. In doing so, the USPTO appears to have modeled its patent-eligibility analysis after the EPC by: (1) enumerating groupings of excluded subject matter; (2) requiring that such groupings be practically applied to avoid ineligibility; and (3) prohibiting novelty and obviousness considerations. Although this is a step in the right direction, the USPTO lacks authority to actually change U.S. patent law. Nevertheless, the straightforward analysis provided in the 2019 Guidance Document has already motivated Congress to strongly consider amending § 101.

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240. *See The State of Patent Eligibility in America: Part III, Before the Subcomm. on Intellectual Prop. S. Comm. on the Judiciary*, 116th Cong. (June 11, 2019), judiciary.senate.gov/meetings/the-state-of-patent-eligibility-in-america-part-iii.

241. Fish & Richardson, *Senate Judiciary Subcommittee on IP Wraps Up Hearings on § 101 Draft Bill*, JDSUPRA (June 27, 2019), https://www.jdsupra.com/legalnews/senate-judiciary-subcommittee-on-ip-42854/.

242. *Id.*

243. *Id.*