

Checking in With Alice
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I. Introduction

Ever since the Supreme Court’s seminal decision in *Alice Corp. v. CLS Bank Int’l*¹ (“*Alice*”), the law of subject matter eligibility for software patents has remained an enigma. While practitioners understand that abstract ideas, without more, are not patentable under 35 U.S.C. § 101, gleaning from relevant precedent whether a particular software patent will or will not pass muster under *Alice* remains a challenge. The Federal Circuit has yet to develop a consistent body of precedent governing *Alice* determinations for software patents, district court treatment of the issue remains dynamic, and the United States Patent and Trademark Office (“USPTO”) has tried to make sense of it all.

This article attempts to make sense of what’s been happening with software patents over the course of the last six years. To sum up the current state of affairs: the Federal Circuit’s *Alice* test has become a search for technological specificity, different district courts take very different approaches and the USPTO has charted its own course on the issue. This article will provide an in-depth overview of *Alice* developments over the last five years, ending with emerging trends that practitioners in the *Alice* arena need to know.

II. *Alice*: A Refresh

35 U.S.C. § 101 provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” Though the language of § 101 appears broad, courts have set forth several judicially-created subject matter categories that cannot qualify for patent protection: namely, “laws of nature, physical phenomena, and abstract ideas.” *See Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010) (citation omitted). Software patents largely implicate the “abstract idea” exception to patent subject matter eligibility.

Although the Supreme Court has dealt with § 101 subject matter issues in cases including *Bilski*, *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576 (2013), and *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), its June 2014 *Alice* decision remains its most recent pronouncement on the issue. While some thought the Court may take the occasion to categorically rule on whether software is patentable, the Supreme Court instead applied its *Mayo* framework to software patent claims to determine if they pass the eligibility threshold of § 101.

The resulting *Alice* framework is as follows: first, it must be determined whether the patent claim at issue is directed to a patent-ineligible concept, such as an abstract idea. *Alice*, 134 S. Ct. at 2355. If the answer is no, the inquiry ends, and the patent claim is valid under § 101. *Id.* If the answer is yes, then the patent claim can only pass muster under § 101 if it contains an “inventive concept,” *i.e.*, whether the elements of the claim, considered “both individually and as an ordered combination,” add enough to “transform the nature of the claim into a patent-eligible application.” *Id.* (internal quotations omitted). According to the Supreme Court, an “inventive concept” cannot result simply by implementing an abstract idea on a generic computer. *Id.* at 2359. An “inventive concept” could, however, result from a software patent claim that achieves a new result not previously attainable, requires novel computer operations to operate or improves the functioning of the hardware itself. *See id.* at 2356-60.

¹ 134 S. Ct. 2347 (2014).

Given the open-ended nature of the *Alice* decision, it is not surprising that judicial application of the two-part subject matter eligibility test post-*Alice* has been a struggle for consistency.

III. *Alice* At The Federal Circuit In 2018-23

With Congress and the Supreme Court remaining on the sidelines with respect to § 101, the Federal Circuit's treatment of the issue needs to be closely considered. Just as in preceding years, the Federal Circuit's 2023 docket featured a steady stream of cases (albeit less decisions than in prior years) involving software patents with § 101 challenges, resulting in both precedential and non-precedential opinions:²

2018 CASES

- *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356 (Fed. Cir. 2018)
- *Move, Inc. et al. v. Real Estate Alliance Ltd.*, 721 F. App'x 950 (Fed. Cir. 2018) – NP³
- *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018)
- *Zuili v. Google LLC*, 722 F. App'x 1027 (Fed. Cir. 2018) – NP
- *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121 (Fed. Cir. 2018)
- *Automated Tracking Solutions v. The Coca-Cola Co.*, 723 F. App'x 989 (Fed. Cir. 2018) – NP
- *Intellectual Ventures I LLC v. Symantec Corp.*, 725 F. App'x 976 (Fed. Cir. 2018) – NP
- *Maxon, LLC v. Funai Corp.*, 726 F. App'x 797 (Fed. Cir. 2018) – NP
- *Voter Verified, Inc. v. Election Sys. & Software LLC*, 887 F.3d 1376 (Fed. Cir. 2018)
- *In re Ebera*, 760 F. App'x 916 (Fed. Cir. 2018) – NP
- *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161 (Fed. Cir. 2018)
- *Burnett v. Panasonic Corp.*, 741 F. App'x 777 (Fed. Cir. 2018) – NP
- *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335 (Fed. Cir. 2018)
- *In re Wang*, 737 F. App'x 534 (Fed. Cir. 2018) – NP
- *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281 (Fed. Cir. 2018)
- *In re Villena*, 745 F. App'x 374 (Fed. Cir. 2018) – NP
- *Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999 (Fed. Cir. 2018)
- *Ancora Techs., Inc. v. HTC Am., Inc.*, 908 F.3d 1343 (Fed. Cir. 2018)

2019 CASES

- *Univ. of Fl. Research Found., Inc. v. Gen. Elec. Co.*, 916 F.3d 1363 (Fed. Cir. 2019)
- *Voit Techs., LLC v. Del-Ton, Inc.*, 757 F. App'x 1000 (Fed. Cir. 2019) – NP
- *SRI Int'l, Inc. v. Cisco Sys., Inc.*, 930 F.3d 1295 (Fed. Cir. 2019)
- *Uniloc USA, Inc. v. ADP, LLC*, 772 F. App'x 890 (Fed. Cir. 2019) – NP
- *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759 (Fed. Cir. 2019)
- *Reese v. Sprint Nextel Corp.*, 774 F. App'x 656 (Fed. Cir. 2019) – NP
- *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306 (Fed. Cir. 2019)
- *Innovation Scis., LLC v. Amazon.com, Inc.*, 778 F. App'x 859 (Fed. Cir. 2019) – NP
- *Bridge and Post, Inc. v. Verizon Commc'ns., Inc.*, 778 F. App'x 882 (Fed. Cir. 2019) – NP
- *Solutran, Inc. v. Elavon, Inc.*, 931 F.3d 1161 (Fed. Cir. 2019)
- *MyMail, Ltd. v. ooVoo, LLC*, 934 F.3d 1373 (Fed. Cir. 2019)
- *Chamberlain Group, Inc. v. Techtronic Indus.*, 935 F.3d 1341 (Fed. Cir. 2019)
- *Koninklijke KPN N.V. v. Gemalto M2M GmbH*, 942 F.3d 1143 (Fed. Cir. 2019)
- *Am. Axle & Mfg. v. Neapco Holdings LLC*, 939 F.3d 1355 (Fed. Cir. 2019)

² In addition to the substantive opinions that the Federal Circuit issued in 2018-23, the Federal Circuit also issued several Rule 36 affirmances. Those decisions are outside the scope of this article.

³ NP = non-precedential.

2020 CASES

- *Customedia Tech., LLC v. Dish Network Corp.*, 951 F.3d 1359 (Fed. Cir. 2020)
- *In Re Thomas*, No. 2019-1957 (Fed. Cir. April 8, 2020) – NP
- *WhitServe LLC v. Donuts Inc.*, No. 2019-2240, 2019-2241 (Fed. Cir. April 10, 2020) – NP
- *Bozeman Fin. LLC v. Fed'l Reserve Bank of Atlanta*, 955 F. 3d 971 (Fed. Cir. 2020)
- *In re Morsa*, No. 2019-1757 (Fed. Cir. April 10, 2020) – NP
- *In re Gopalan*, No. 2019-2070 (Fed. Cir. April 13, 2020) – NP
- *Ericsson Inc. v. TCL Comm. Tech. Holdings Ltd.*, 955 F.3d 1317 (Fed. Cir. 2020)
- *Uniloc USA, Inc. v. LG Elec. USA, Inc.*, 957 F.3d 1303 (Fed. Cir. 2020)
- *In re Jobin*, No. 2020-1067 (Fed. Cir. May 8, 2020) – NP
- *Cisco Sys., Inc. v. Uniloc 2017 LLC*, No. 2019-2048 (Fed. Cir. May 13, 2020) – NP
- *Electronic Comm. Tech., LLC v. ShoppersChoice.com LLC*, 958 F.3d 1178 (Fed. Cir. 2020)
- *British Telecom PLC v. IAC/InterActiveCorp.*, No. 2019-1917 (Fed Cir. June 3, 2020) – NP
- *In re Rosenberg*, No. 2019-2251 (Fed. Cir. June 4, 2020) – NP
- *Ubisoft Entertainment, S.A. v. Yousician Oy*, No. 2019-2399 (Fed. Cir. June 11, 2020) – NP
- *Dropbox, Inc. v. Synchronoss Tech., Inc.*, Nos. 2019-1765, 2019-1767, 2019-1823 (Fed. Cir. June 19, 2020) – NP
- *Data Scape Limited v. Western Digital Corp.*, No. 2019-2161 (Fed. Cir. July 1, 2020) – NP
- *Western Express Bancshares, LLC v. Green Dot Corp.*, No. 2020-1079 (Fed. Cir. July 14, 2020) – NP
- *Packet Intelligence LLC v. NetScout Sys., Inc., LLC*, 965 F.3d 1299 (Fed. Cir. 2020)
- *Salwan v. Iancu*, No. 2020-1061, 2020-1301 (Sept. 8, 2020 Fed. Cir. 2020) – NP
- *EcoServices, LLC v. Certified Aviation Services, LLC*, No. 2019-1602 (Fed. Cir. October 8, 2020) – NP
- *Tenstreet, LLC v. DriverReach, LLC*, No. 2020-1101 (Fed. Cir. October 19, 2020) – NP
- *American Axle & Manuf., Inc. v. Neapco Holdings LLC*, 2018-1763 (Fed. Cir. October 23, 2020) (denying motion to stay pending petition for certiorari)
- *TecSec, Inc. v. Adobe Inc.*, No. 2019-2192, 2019-2258 (Fed. Cir. 2020)
- *GREE, Inc. v. Supercell Oy*, No. 2019-1864, 2019-1960 (Fed. Cir. November 19, 2020) – NP
- *Fast 101 Pty Ltd. v. CitiGroup Inc.*, No. 2020-1458 (Fed. Cir. Nov. 25, 2020) – NP
- *Adaptive Streaming Inc. v. Netflix, Inc.*, No. 2020-1310 (Fed. Cir. Dec. 14, 2020) – NP
- *Simio, LLC v. Flexsim Software Prods.*, No. 2020-1171 (Fed. Cir. 2020)
- *Netsoc, LLC v. Match Group, LLC*, No. 2020-1195, 2020-1430 (Fed. Cir. Dec. 31, 2020) – NP

2021 CASES

- *Mortgage Application Tech., LLC v. Meridianlink, Inc.*, No. 2020-1504, 2020-1645 (Fed. Cir. Jan. 12, 2021) – NP
- *Boom! Payments, Inc. v. Stripe, Inc. et al.*, No. 2020-1274 (Fed. Cir. Jan 13, 2021) – NP
- *ILife Tech., Inc. v. Nintendo of America*, No. 2020-1477 (Fed. Cir. Jan. 13, 2021) – NP
- *Veripath, Inc. v. Didomi*, No. 2020-1777 (Fed. Cir. Feb. 8, 2021) – NP
- *Aftchmobile Inc. v. Salesforce.com, Inc.*, No. 2021-1105 (Fed. Cir. July 13, 2021) – NP
- *CXLoyalty, Inc. v. Maritz Holdings Inc.*, 986 F.3d 1367 (Fed. Cir. 2021)
- *Enco Sys., Inc., v. Davincia, LLC*, No. 2020-1995 (Fed. Cir. March 8, 2021) – NP
- *Whitserve LLC v. Dropbox, Inc.*, No. 2019-2334 (Fed. Cir. April 26, 2021) – NP
- *Gree, Inc. v. Supercell Oy*, No. 2020-2125 (Fed. Cir. May 10, 2021) – NP
- *Free Stream Media Corp. v. Alphonso Inc.*, 996 F.3d 1355 (Fed. Circ. 2021)
- *Bot M8 LLC v. Sony Corp. of America*, 4 F.4th 1342 (Fed. Cir. 2021)
- *Sensormatic Electronics, LLC v. Wyze Labs, Inc.*, No. 2020-2320 (Fed. Circ. July 14, 2021) – NP

- *Personalweb Tech. LLC v. Google LLC*, 8 F.4th 1310 (Fed. Cir. 2021)
- *Mymail, Ltd. v. Oovoo, LLC*, Nos. 2020-1825, 2020-1826 (Fed. Cir. Aug. 19, 2021) – NP
- *Universal Secure Registry LLC v. Apple Inc.*, 10 F.4th 1342 (Fed. Cir. 2021)
- *Cardionet, LLC v. Infobionic, Inc.*, No. 2020-2123, 2020-2150 (Fed. Cir. Oct. 29, 2021) – NP
- *Cosmokey Solutions GMBH & Co. v. Duo Security LLC*, 15 F.4th 1091 (Fed. Cir. 2021)
- *Mentone Solutions LLC v. Digi Int’l Inc.*, Nos. 2021-1202, 2021-1203 (Fed. Cir. Nov. 15, 2021) – NP

2022 CASES

- *California Inst. of Technology v. Broadcom Ltd.*, 25 F.4th 976 (Fed. Cir. 2022)
- *Travel Sentry, Inc. v. Tropp*, Nos. 2021-1908, 2021-1909 (Fed. Cir. Feb. 14, 2022) – NP
- *Repifi Vendor Logistics, Inc. v. Intellicentrics, Inc.*, No. 2021-1906 (Fed. Cir. Mar. 15, 2022) – NP
- *Weisner v. Google LLC*, 51 F.4th 1073 (Fed. Cir. 2022)
- *Cooperative Ent. ’t v. Kollektive Tech.*, 50 F.4th 127 (Fed. Cir. 2022)
- *In Re: Jeffrey Killian*, No. 2021-2113 (Fed. Cir. Aug. 23, 2022)
- *IBM v. Zillow*, 50 F.4th 1371 (Fed. Cir. 2022)
- *Adasa Inc. v. Avery Dennison Corp.*, 55 F.4th 900 (Fed. Cir. 2022)

2023 CASES

- *Riggs Tech. Holdings, LLC v. Cengage Learning, Inc.*, No. 2022-1468 (Fed. Cir. Jan. 17, 2023) – NP
- *Hawk Tech. Sys., LLC v. Castle Retail, LLC*, 60 F.4th 1349 (Fed. Cir. 2023)
- *Hantz Software, LLC v. Sage Intacct, Inc.*, No. 2022-1390 (Fed. Cir. March 20, 2023) – NP
- *People.AI, Inc. v. Clari Inc.*, Nos. 2022-1364, 2022-1366, (Fed. Cir. April 7, 2023) – NP
- *Sanderling Mngmt. Ltd. v. Snap Inc.*, 65 F.4th 698 (Fed. Cir. 2023)
- *In re: AuthWallet, LLC*, No. 2022-1842 (Fed. Cir. May 10, 2023) – NP
- *Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355 (Fed. Cir. 2023)
- *Realtime Data LLC v. Array Networks Inc.*, Nos. 2021-2251, 2021-2291 (Fed. Cir. Aug. 2, 2023) – NP
- *Ficep Corporation v. Peddinghaus Corp.*, No. 2022-1590 (Fed. Cir. Aug. 21, 2023) – NP
- *USC IP Partnership v. Meta Platforms, Inc.*, No. 2022-1397 (Fed. Cir. Aug. 30, 2023) – NP

By this author’s count, the Federal Circuit issued ninety-six opinions that considered substantive *Alice* issues in 2018-23. Forty-one such opinions were precedential, and all but ten of the precedential opinions dealt with a lower court finding of invalidity for failure to satisfy § 101. In fourteen instances (*Core Wireless, Data Engine, Ancora, SRI, Koninklijke, Uniloc USA, Packet Intelligence, EcoServices, TecSec, Cosmokey, Mentone, Cal. Tech., Weisner, Adasa Inc.*) the Federal Circuit found challenged patent claims not invalid under § 101 (with the exception of *Cosmokey* and *Weisner* — involving Step Two wins — all cases were based on passing Step One of the *Alice* test). In at least five instances, the Federal Circuit vacated the district court’s finding of ineligibility under § 101 due to factual disputes, and remanded for further proceedings (*Berkheimer, Aatrix Software, Cellspin, MyMail, Cooperative Ent. ’t*). The remainder of the Federal Circuit’s 2018-22 opinions resulted in the challenged claims being invalidated under § 101, often based on the lack of technical detail sufficient to save the claim under Steps 1 or 2 of the *Alice/Mayo* framework.

A table summarizing the Federal Circuit’s 2018-2023 precedential decisions is attached as Appendix A.

IV. *Alice* In The District Courts

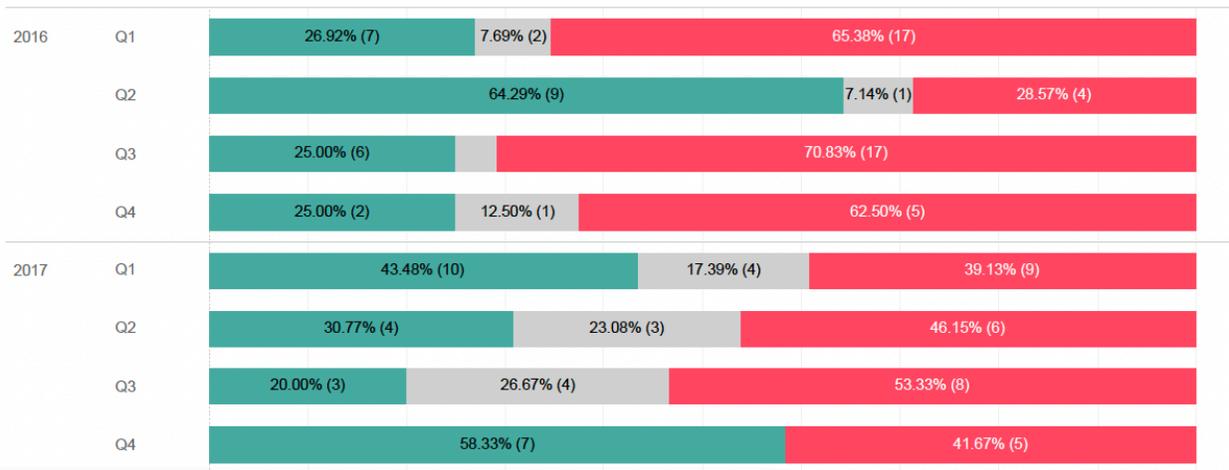
In the end, it falls upon district courts to make sense of the Federal Circuit’s *Alice* jurisprudence. Although a full-scale survey of district court *Alice* decisions is beyond the scope of this article, the relevant data allows several interesting conclusions.

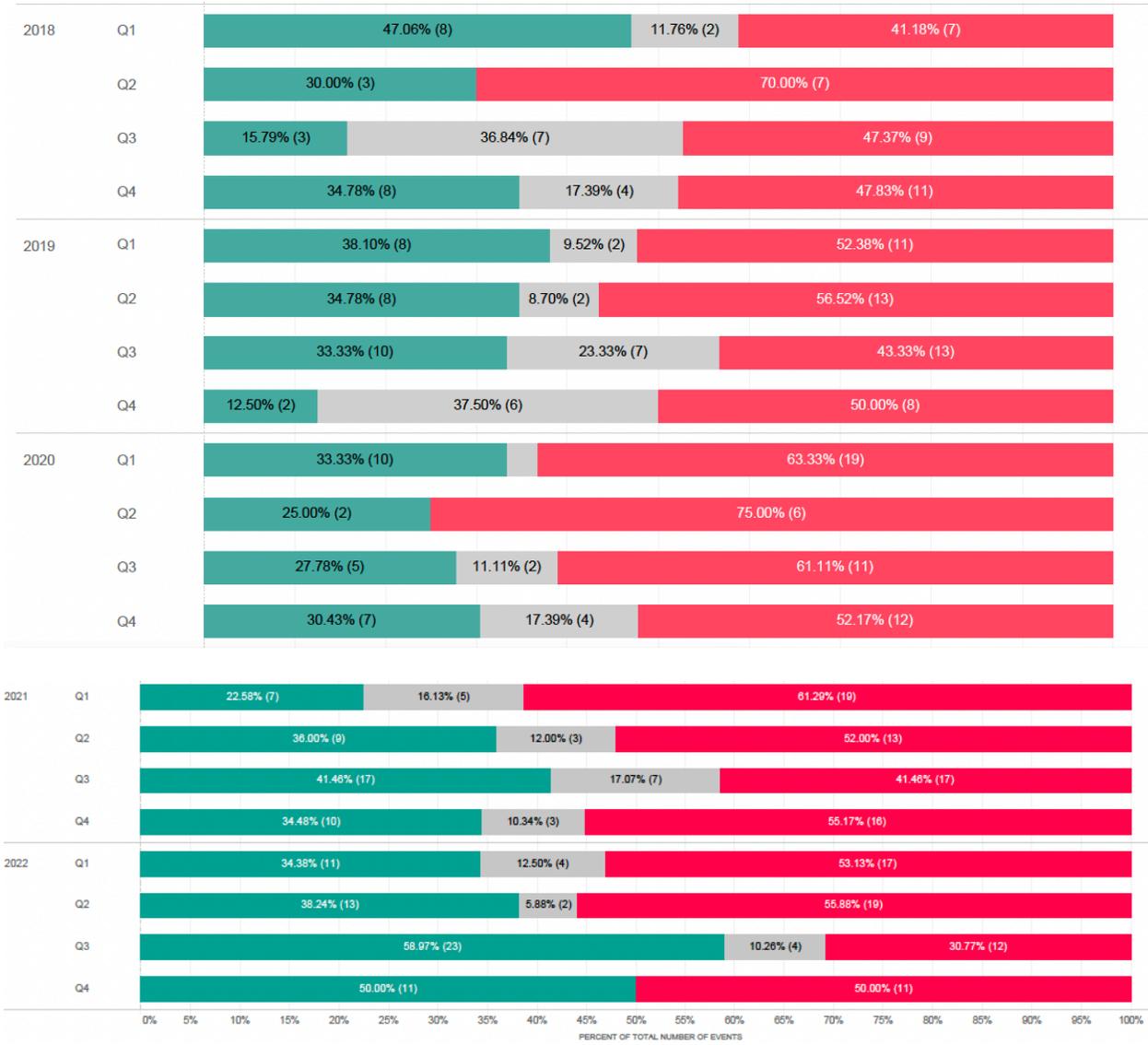
The statistics show that unlike the Federal Circuit, district courts are trending towards denying motions to invalidate patents under *Alice*. In 2023, for instance, more motions to invalidate under *Alice* were denied than granted (including motions at the pleading stage, SJ and post-trial).

Prior Years

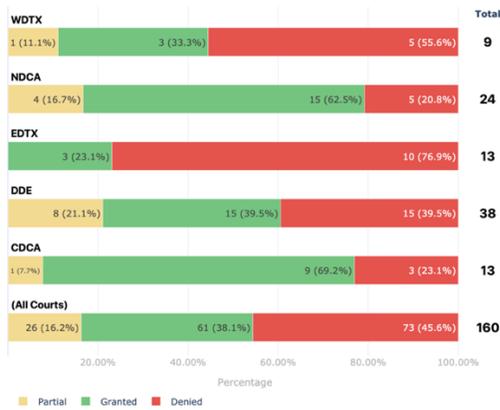


These charts show the results of judicial decisions on challenges to patent validity under 35 U.S.C. § 101. Only contested motions are shown.





2023



Source: Docket Navigator

At a micro level, and perhaps not surprisingly when it comes to *Alice* challenges, litigants considering the most popular patent venues should be aware that a patent owner is likely to face significantly more difficulty passing the *Alice* hurdle in California compared to Texas. In 2023, Delaware also proved a moderate jurisdiction for software patent owners.

V. *Alice* At The USPTO

One of the most noteworthy developments on the *Alice* front came on January 7, 2019, when the USPTO issued its “2019 Revised Patent Subject Matter Eligibility Guidance.” *See generally* 2019 Revised Patent Subject Matter Eligibility Guidance (“*Guidelines*”), 84 Fed. Reg. 50-57 (Jan. 7, 2019). By strictly interpreting the kinds of subject matter that fall within judicial exceptions to subject matter eligibility, the Guidelines are likely to significantly reduce the volume of § 101 rejections emanating from the USPTO.

The Guidelines mandate a two-pronged approach to *Alice* issues. Under Prong One, an Examiner must determine whether a patent claim is directed to a judicial exception (law of nature, natural phenomenon or abstract idea). The Guidelines set forth the three categories that qualify as abstract ideas: “mathematical concepts,⁴ certain methods of organizing human activity,⁵ and mental processes.” *Guidelines* at 50. Only if a given claim falls within one of these three abstract idea categories (or is directed to a law of nature or natural phenomenon) is it directed to a judicial exception. *Id.* at 53. When a judicial exception is not present, the analysis ends and the patent passes muster under § 101. *Id.* When a judicial exception is present, the Examiner must proceed to Prong 2 of the analysis. *Id.*

Under Prong 2 (Step TwoA), the Examiner must determine whether a claim, though directed to a judicial exception, is nonetheless “integrated into a practical application of the judicial exception.” *Id.* “A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.” *Id.* In delineating specific considerations that should guide this analysis, the USPTO leans on a number of Federal Circuit cases finding no abstract idea when the challenged claim set forth technological improvements or other limitations that remove the claim from being abstract. *Id.* at 55 & nn. 25-32.

Where no practical application has been found, an examiner must determine (Prong 2, Step TwoB) whether the claim nonetheless sets forth an “inventive concept.” *Id.* at 56. Only if an inventive concept is found will the claim survive under § 101. *See id.* Tracking Federal Circuit precedent on the issue, the inventive concept inquiry examines considerations such as whether the claim sets forth a limitation or combination of limitations “that are not well-understood, routine, conventional activity in the field.” *Id.* at 56. If an inventive concept is found under Step TwoB, the patent remains eligible under § 101. *Id.* If no such inventive concept is found, the patent is not eligible. *Id.*

⁴ The Guidelines define “mathematical concepts” as “mathematical relationships, mathematical formulas or equations, mathematical calculations.” *Id.* at 9.

⁵ The Guidelines define “certain methods of organizing human activity” as “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); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions).” *Id.* at 10.

⁶ The Guidelines define “mental processes” as “concepts performed in the human mind (including an observation, evaluation, judgment, opinion).” *Id.* at 11.

Since the Guidelines were released, the PTAB has issued several decisions analyzing claims under the Guidelines, including several that the PTAB has designated as informative:

In sum, the PTAB’s approach now follows the strict interpretations set forth in the Guidelines, and the result has been significantly less *Alice* rejections at the USPTO compared to before the issuance of the Guidelines. has taken the new Guidelines and followed the strict interpretations and framework laid out in them.

VI. *Alice* Cases At The Supreme Court

Although many believed that the Supreme Court would jump back into the *Alice* fray by at least granting certiorari in the *American Axle*, such was not the case. Despite urging from the Solicitor General, the Supreme Court did not elect to hear the case. As of this article’s writing, no *Alice* issues appear likely to garner the Supreme Court’s attention. The task of further reform appears to rest solely on Congress’s shoulders.

VII. Section 101 Legislative Reform Efforts

In response to *Alice* and the cases from the Federal Circuit and district courts that have followed *Alice*, efforts to reform § 101 have been in progress for several years but have yet to prove successful. In 2017, the Intellectual Property Owners Association (IPO) put forth a proposed revision to § 101, as did the American Intellectual Property Lawyers Association (AIPLA).⁷ In 2018, the IPO and AIPLA agreed on a “Joint AIPLA-IPO Proposal on Patent Eligibility,” under which only laws of nature and mental steps would be patent-ineligible under § 101.⁸

Building on these proposals, a bipartisan group of legislators (including Senators Thom Tillis and Chris Coons) released a draft bill in May 2019 which would eliminate the judicial exceptions to patent eligibility altogether, and instead only require that an invention meet one of the statutory subject matter areas (process, machine, manufacture, or composition of matter) in order to be patentable under § 101.⁹ Following the release of this draft legislation, the Senate Judiciary Subcommittee on Intellectual Property held three public hearings in June 2019 on § 101 reform.¹⁰

In July 2021, the USPTO announced a patent eligibility jurisprudence study, and requested public comment on the issue from concerned stake holders. 43 public comments were ultimately submitted, highlighting concerns ranging from unpredictability to the effect of §101 jurisprudence on R&D.

In August of 2022, Senator Tillis presented legislation to reform subject matter eligibility in the U.S., termed the “Patent Eligibility Restoration Act.” The new bill would allow subject matter to qualify for

⁷ See Intellectual Property Owners Association, “Proposed Amendments to Patent Eligible Subject Matter Under 35 U.S.C. § 101”, Feb. 7, 2017, https://ipo.org/wp-content/uploads/2017/02/20170207_IPO-101-TF-Proposed-Amendments-and-Report.pdf.

⁸ See Intellectual Property Owners Association and American Intellectual Property Law Association, “Joint IPO-AIPLA Proposal Concerning Legislative Amendment of 35 U.S.C. § 101”, May 2018, https://www.aipla.org/docs/default-source/uploadedfiles/documents/advocacy/congress/documents/aipla-ipo-joint-proposal.pdf?sfvrsn=a4067549_0.

⁹ See “Sens. Tillis and Coons and Reps. Collins, Johnson, and Stivers Release Draft Bill Text to Reform Section 101 of the Patent Act”, May 22, 2019, <https://www.tillis.senate.gov/2019/5/sens-tillis-and-coons-and-reps-collins-johnson-and-stivers-release-draft-bill-text-to-reform-section-101-of-the-patent-act>.

¹⁰ See *id.*

potential patent protection so long as the subject matter does not fall within the following, predefined exclusions derived from case law:

- A mathematical formula, apart from a useful invention or discovery.
- A process that - (i) is a non-technological economic, financial, business, social, cultural, or artistic process; (ii) is a mental process performed solely in the human mind; or (iii) occurs in nature wholly independent of, and prior to, any human activity.
- An unmodified human gene, as that gene exists in the human body.
- An unmodified natural material, as that material exists in nature.

Senator Coons has since co-sponsored the Bill, and the Senate Judiciary Committee on Intellectual Property introduced the bill in June of 2023 (S.2140).

VIII. Take-Aways & Predictions

District courts, the Federal Circuit and the USPTO routinely confront *Alice* issues, albeit in different ways and with different philosophies. As the volume of *Alice* jurisprudence grows, so too does our ability to understand important trends. Below we outline those trends that practitioners, particularly litigators, would be wise to pay close attention to.

A. Data Processing & Organization Is Often Fatal

When it comes to the Federal Circuit and software patents, one variety of patent claim so consistently fails that its ineligibility under § 101 should perhaps become a rule. These are claims directed to some combination of analyzing, organizing and/or displaying data. With limited exception, if a patent claim is directed to analyzing data and displaying the results of that analysis on a general purposes graphical interface — or can be generalized to encompass these activities — the Federal Circuit will invalidate it under *Alice*.

In 2018-20, the Federal Circuit invalidated data processing/display claims in decisions such as *Berkheimer*, *SAP America*, *Interval Licensing*, *Data Engine*, *University of Florida*, and *Solutran*. As these cases demonstrate, traditional markers of non-abstractness since *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), such as technology rooted in the computer realm, will not save a data processing and display claim from being found abstract. The Federal Circuit confirmed as much in *Berkheimer*:

Limiting the invention to a technological environment does not make an abstract concept any less abstract under step one. That the parser transforms data from source to object code does not demonstrate non-abstractness without evidence that this transformation improves computer functionality in some way.

Berkheimer, 881 F.3d at 1367 (internal quotations and citations omitted). Nor will the fact that a particular data processing technology can only be performed on a computer save a claim directed to such a technology under *Alice*.

Contrary to *Solutran*'s arguments, the physicality of the paper checks . . . is not by itself enough to exempt the claims from being directed to an abstract idea. As we explained . . . the abstract idea exception does not turn solely on whether the claimed invention comprises physical versus mental steps.

Solutran, 931 F.3d at 1168 (internal quotations and citations omitted).

But all is not lost for data processing technologies, as the Federal Circuit demonstrated in its *Koninklijke* decision. There, the Federal Circuit indicated that patent claims directed to data processing may survive an *Alice* challenge if (a) written with enough detail to capture the *specific* improvement over the prior art and (b) that improvement enables a discernible advance in computer functionality. See *Koninklijke*, 942 F.3d at 1151 (“Here, as in *Finjan*, the claimed invention is . . . directed to a non-abstract improvement because it employs a new way of generating check data that enables the detection . . . that prior art systems were previously not equipped to detect.”). The AI community, in particular, should take note.

B. In A Search For Inventiveness, The *Alice* Test Has Collapsed In On Itself

Although the Supreme Court’s *Alice/Mayo* framework requires a two-part analysis, the Federal Circuit’s recent decisions confirm that in many respects the two-part test has been collapsed into a singular search for “inventiveness.” Often, the Federal Circuit shifts the Step Two “inventive concept” analysis to the Step One “abstraction” analysis, resulting in a search for a sufficient technological advance. See, e.g., *Ancora*, 908 F.3d at 1349 (“[w]e do note . . . overlaps between some step one and step two considerations. . . .”); see also *BSG Tech*, 899 F.3d at 1288 (searching for inventiveness under Step One); *Cosmokey Solutions GMBH & Co. KG*, 15 F.4th at 1099 (noting that the Step 2 finding could have also been made pursuant to Step 1); *Weisner v. Google LLC*, 51 F.4th 1073, 1085 (Fed. Circ. 2022) Thus, claims directed to the computer realm, once thought safe under *Alice*, will not get a patentee over the § 101 hump unless there is also a demonstrable and provable technological advance set forth in the claims. See *Berkheimer*, 881 F.3d at 1367 (“Limiting the invention to a technological environment does not make an abstract concept any less abstract under step one.”) (internal quotation marks and citation omitted). And given the overlap in considerations between *Alice* Step Two and a Step One that focuses on a search for technological improvement, if a patentee cannot pass under Step One, there is very little chance that success will come under Step Two. Proof in point: the Federal Circuit did not uphold the validity of a single patent under Step Two in 2018, 2019 or 2020.

The crucial question has thus become: what must a patentee do to convince the Federal Circuit that its claims possess enough of a technological improvement to not be abstract? Here, the Federal Circuit’s 2018-23 *Alice* cases provide some guidance.

1) The Claims Must Teach How

Assuming that the claims are directed to an improvement in computer functionality¹¹, the most important refrain from the Federal Circuit’s recent § 101 jurisprudence is that in order to pass Step One or Two of the *Alice* test (assuming an overlap in analyses), the claim must detail “how” the patentee’s technological solution is implemented:

Here, the claims themselves do not disclose performing any ‘special data conversion’ or otherwise describe how the alleged goal of ‘conserving bandwidth while preserving data’ is achieved.

¹¹ Since the Federal Circuit’s decision in *DDR*, claims that simply digitize human behavior, mental processes and/or ways of doing things, have not survived under *Alice*. This remains true today, as such claims present the easy case of abstractness. See *Trinity Info*, 72 F.4th at 1361-62 (“A telltale sign of abstraction is when the claimed functions are ‘mental processes that can be performed in the human mind or using a pencil and paper.’”) (internal quotations and citations omitted); See also *In re Auth Wallet*, No. 2022-1842 (“We have held to be abstract claims directed to “longstanding commercial practice[s],” such as collecting and relaying rewards program points . . .”) (internal quotations and citation omitted).

Hawk Tech Sys., 60 F.4th at 1357.

The claims at issue here fail to do this. As the district court explained, none of the claims at issue specifies any particular technique to carry out the compression of data— the particular rules for producing a smaller set of data out of a larger starting set. Rather, they all take the availability of compression techniques as a given and address the threshold matter of choosing to use one or more such available techniques. And even as to making such a selection, the claims are directed to only abstract ideas, calling for unparticularized analysis of data and achievement of general goals.

Realtime Data, Nos. 2021-2251, 2021-2291 (Fed. Cir. Aug. 2, 2023)

If the focus of the claim is a specific and concrete technological advance, for example an improvement to a technological process or in the underlying operation of a machine, our inquiry ends and the claim is eligible.

Adasa Inc. v. Avery Dennison Corp., 55 F.4th 900, 908 (Fed. Cir. 2022)

The claims are directed to using a specific technique — using a plurality of network monitors that each analyze specific types of data on the network and integrating reports from the monitors — to solve a technological problem arising in computer networks: identifying hackers or potential intruders into the network.

SRI, 930 F.3d at 1303. *See also Koninklijke*, 942 F.3d at 1150 (“An improved result, without more stated in the claim, is not enough to confer eligibility to an otherwise abstract idea. To be patent-eligible, the claims must recite a specific means or method that solves a problem in an existing technological process.”); *Core Wireless*, 880 F.3d at 1363; *Ancora*, 908 F.3d at 1348 (upholding claims under § 101 because the patent “rel[ies] on specific and unique characteristics of certain aspects of the BIOS that . . . were not previously used in the way now claimed”); *Ericsson Inc.*, 955 F.3d at 1329; *Packet Intelligence LLC*, 965 F.3d at 1309.

Claims directed to results, which don’t answer the “how” question, will fall.

Even if ChargePoint’s specification had provided, for example, a technical explanation of how to enable communication over a network for device interaction . . . the claim language here would not require those details. Instead, the broad claim language would cover any mechanism for implementing network communication on a charging station, thus preempting the entire industry’s ability to use networked charging stations. This confirms that claim 1 is indeed “directed to” the abstract idea of communication over a network to interact with network-attached devices.

ChargePoint, 920 F.3d at 769-70; *see also Interval Licensing*, 896 F.3d at 1345; *see also BSG Tech*, 899 F.3d at 1288 (“Here, the focus of BSG Tech’s claims is unrelated to how databases function The claims do not recite any improvement to the way in which such databases store or organize

information.”). Thus, during claim construction, practitioners would be well-advised to seek constructions of critical claim terms that focus on how results are accomplished.

2) The Specification Should Confirm The Claimed Advance

In addition to the claims, the specification also plays a critical role in the § 101 analysis. The specification is where the Federal Circuit first looks to confirm the technological advance of the claims. To do so, the specification must both explain the particular problem that the patented technology solves, and also enable a conceptual link between alleged “inventive” claim limitations and the solution that the invention purports to solve. Here, *SRI* and *Adasa* are illustrative:

[T]he claims are directed to using a specific technique . . . to solving a technological problem The specification bolsters our conclusion that the claims are directed to a technological solution to a technological problem.

930 F.3d at 1303; *Adasa Inc.*, 880 F.3d at 1909 (highlighting the specific technological improvement in the claim and noting how the written description explains the improvement enabled via the claim limitation.) In *Core Wireless*, the Federal Circuit went on to note that “[t]his language clearly indicates that the claims are directed to an improvement in the functioning of computers, particularly those with small screens.” *Core Wireless*, 880 F.3d at 1363; *Packet Intelligence LLC*, 965 F.3d at 1309.

Cosmokey is similarly illustrative:

Here, the claim limitations are more specific and recite an improved method for overcoming hacking by ensuring that the authentication function is normally inactive, activating only for a transaction, communicating the activation within a certain time window, and thereafter ensuring that the authentication function is automatically deactivated. The specification explains that these features in combination with the other elements of the claim constitute an improvement that increases computer and network security, prevents a third party from fraudulently identifying itself as the user, and is easy to implement and can be carried out even with mobile devices of low complexity.

Cosmokey, 15 F.4th at 1099.

In contrast, where the patent specification does not support the inventiveness of a claim challenged under § 101, the Federal Circuit is more prone to look unfavorably upon such a claim:

To the extent that BSG Tech argues that this limitation constitutes an improvement in computer functionality similar to the self-referential table in *Enfish*, there is no support for such an assertion. The ‘652 patent specification says nothing about how to construct a database structure that is not modified by the addition of new parameters. This suggests that this feature of the claimed system is not claim 9’s focus. Relatedly, nothing in the specification suggests that conventional databases required structural modifications to add new parameters, or explains how maintaining the same structure would improve database functionality relative to structures that change with the addition of new parameters.

BSG Tech, 899 F.3d at 1289.

The instructions limitations Interval Licensing highlights in its appeal as representing an improvement in computing devices are unavailing. For example, the specification admits the acquisition instructions are “generic,” and are, in any event, a necessary aspect of

carrying out any conception of providing one set of information to be displayed next to another.

Interval Licensing, 896 F.3d at 1346 (internal citations omitted).

In discussing how a technological advance set forth in the claims is an inventive step over the prior art, the specification can also go a long way toward creating the necessary factual issues to survive a challenge for lack of subject matter eligibility. In denying a motion for an *en banc* rehearing in *Berkheimer*, the Federal Circuit spelled out how the specification can help or haunt a software patent owner:

In a situation where the specification admits the additional claim elements are well-understood, routine, and conventional, it will be difficult, if not impossible, for a patentee to show a genuine dispute.

...

... The specification described the increases in efficiency and computer functionality that the invention, in claims 4-7, had over conventional digital asset management systems. It further stated that “known asset management systems” did not contain the one-to-many claim element and its advantages, , and that redundant document images “are the convention” in “today's digital asset management systems.” While assertions in the patent will not always be enough to create a genuine dispute of material fact, they did so here.

Berkheimer v. HP Inc. (“Berkheimer II”), 890 F.3d 1369, 1371 (Fed. Cir. 2018) (internal citations omitted).

3) Automation & Wireless Embodiments Often Fail

Many patents claim methods for automating or wirelessly implementing a particular technology. Time and time again, however, the Federal Circuit has invalidated such patents under *Alice*. In *Chamberlain Group*, the Federal Circuit even went so far as to invalidate such a patent following a jury verdict and award of enhanced damages. See 935 F.3d at 1345. The ‘275 patent, which claimed a method for wirelessly implementing a garage door, could not survive the Federal Circuit’s scrutiny:

The only described difference between the prior art movable barrier operator systems and the claimed movable barrier operating system is that the status information about the system is communicated wirelessly Wirelessly communicating status information about a system is similar to abstract ideas we have found in our previous cases.

Id. at 1346-47.

4) Other Intrinsic & Extrinsic Evidence Can Help

In a potential positive development for patentees, in its search for “inventiveness” sufficient to carry the day under § 101, the Federal Circuit is willing to rely on a host of intrinsic and extrinsic evidence. Of late, the Federal Circuit found the necessary evidentiary support to link a prior art problem with a claimed technological advance—or at least enough evidence to create a material issue of fact—not only in patent

specifications, but also in the prosecution history,¹² litigation complaints,¹³ and third party articles attached as exhibits to a litigation complaint.¹⁴

5) So Can a Detailed Preamble

In its most recent jurisprudence, the Federal Circuit highlighted how a detailed preamble, directed to the specific alleged improvement featured in the claim, can aid a patentee in overcoming an *Alice* challenge. See *Weisner*, 51 F.4th at 1084 (“In contrast with the preamble of claim 1 of both the ‘202 and ‘910 patents, which focus on creating the location histories, the preamble to claim 1 of the ‘911 patent recites a ‘method of combining enhanced computerized searching for a target business with use of humans as physical encounter links.’”).

6) Whether A Claim Sets Forth The Right Kind of “How” Is Difficult To Predict

The single most important theme to emerge from the Federal Circuit’s recent *Alice* jurisprudence is that a claim cannot survive *Alice* unless it trades breadth for specific detail as to “how.” Instead of allowing broad claim language that covers entire technological categories, the Federal Circuit primarily relies on *Alice* to kill all but those patents that limit their claim scope to the patentee’s very specific solution to a given technological problem.

As Judge Moore highlighted in her *American Axle* dissent, however, such an approach is inherently subjective and makes line drawing difficult. See 939 F.3d at 1158. In *BSG Tech*, for instance, the challenged claims related to a self-evolving generic index for organizing information stored in a database. There, improving a user’s ability to use a database was *not sufficient* to impart subject matter eligibility under § 101. Rather, the Federal Circuit stressed that an improvement *to the database itself* would be required to pass *Alice*:

[T]he claimed invention allows users to quickly and efficiently access hundreds of thousands or even millions of records, and still find only those few records that are relevant.

These benefits, however, are not improvements to database functionality. Instead, they are benefits that flow from performing an abstract idea in conjunction with a well-known database structure.

BSG Tech, 899 F.3d at 1288 (internal quotations and citations omitted).

In contrast, the Federal Circuit in *Data Engine* upheld a number of patents directed to improved electronic spreadsheets. There, the Federal Circuit relied on the fact that the patents enabled a *user-friendly approach* to navigating computer spreadsheets. See *Data Engine*, 906 F.3d at 1008 (“The Tab Patents solved this known technological problem in computers in a particular way — by providing a highly intuitive, user-friendly interface with familiar notebook tabs for navigating the three-dimensional worksheet environment.”). In *Data Engine*, there was no improvement to the computer itself, to a database, or to any other data structures within the computing environment. See *id.* at 1008-1011. And, the spreadsheet at issue could run on any generic computer. See *id.* Yet, the increased ease of use that the challenged patents enabled carried the day. See *id.*

¹² See *Ancora*, 908 F.3d at 1349.

¹³ See *Cooperative Ent. ’t v. Kollektive Tech.*, 50 F.4th at 133; *Aatrix Software*, 882 F.3d at 1127; see also *Cellspin*, 927 F.3d at 1318.

¹⁴ See *Data Engine*, 906 F.3d at 1008.

Similarly, the Federal Circuit in *Universal Secure Registry* ruled that asserted claims directed to specifics of authentication do not pass muster under *Alice*, but that the very similar, authentication-specific claims at issue in *Cosmokey* did survive *Alice*. See *Universal Secure Registry*, 10 F.4th 1342; *Cosmokey*, 15 F.4th 1091.

The above holdings remain difficult to reconcile, and prove the panel specific nature of the Federal Circuit's *Alice* analysis.

C. A Number of Federal Circuit Judges Are Dissatisfied With The Court's Approach to *Alice*

The goal of any case law survey— this being no exception— should be to synthesize a cohesive framework that will offer a modicum of predictability to practitioners. But perhaps the most common refrain from a number of judges on the Federal Circuit is a disdain for the way the court has come to apply the *Alice* test.

The most significant rebuke of the *Alice* test came from Judge Plager in his *Interval Licensing* concurring opinion. Judge Plager laments the “abstract idea” analysis, views Step Two of the *Alice* test as largely redundant of Step One, and pleads with Congress to fix the § 101 issue. See *Interval Licensing*, 896 F.3d at 1350-56. Similarly, in the Federal Circuit's denial of an *en banc* rehearing in *Berkheimer*, Judge Lourie, joined by Judge Newman, wrote separately to address his concerns with the *Alice* framework and to express his hope for a “higher intervention” with respect to the *Alice*. In Judge Lourie's opinion, a § 101 test that now routinely calls for § 102- and § 103-type analyses “require[s] attention beyond the power of [the Federal Circuit].” *Berkheimer II*, 890 F.3d at 1374-76.

And to close out 2019, Judge Moore voiced a strong dissent to the majority opinion in *American Axle*, which found a patented method for manufacturing a drive shaft assembly to be abstract. Judge Moore expressed a strong displeasure with an *Alice* test that now seems most focused on whether the claim sufficiently teaches “how.” This framework, Judge Moore stressed, is too subjective and conflates § 112 with § 101:

Section 101 simply should not be this sweeping and this manipulatable. It should not be used to invalidate claims under standards identical to those clearly articulated in other statutory sections, but not argued by the parties. It should not subsume § 112. It should not convert traditional questions of fact (like undue experimentation) into legal ones. The majority's validity goulash is troubling and inconsistent with the patent statute and precedent. The majority worries about result-oriented claiming; I am worried about result-oriented judicial action.

American Axle, 939 F.3d at 1373. See also Judge Moore's dissent in the Federal Circuit's opinion denying *American Axle* a stay pending its petition for certiorari to the Supreme Court. *American Axle & Manuf., Inc. v. Neapco Holdings LLC*, 2018-1763 (Fed. Cir. October 23, 2020) (“[a]s the nation's lone patent court, we are at a loss as to how to uniformly apply § 101.”).

D. Factual Issues Matter

Perhaps the most covered aspect of the Federal Circuit's recent *Alice* jurisprudence is its decision in *Berkheimer*. There, the Federal Circuit made two potentially pro-patent pronouncements with respect to *Alice*. First, the Federal Circuit ruled that it is improper for a district court to base its entire *Alice* analysis on a single representative claim when other claims contain additional inventive limitations. *Berkheimer*,

881 F.3d at 1365-66. Second, and more importantly, the Court highlighted the important role that underlying issues of fact play in determining whether a given claim limitation is “routine and conventional” under Step Two of the *Alice* analysis. *Id.* at 1369-70. In *Berkheimer*, due to genuine factual issues in light of the specification as to whether the alleged inventive concept of certain dependent claims was instead “well-understood, routine and conventional” the Federal Circuit remanded the case back to the district court for further fact finding.¹⁵ *Id.* In so doing, the Court provided future patentees with a potential tool to defeat § 101 eligibility challenges.

On the heels of its *Berkheimer* decision, in *Aatrix Software* — another opinion authored by Judge Moore — the Federal Circuit went even further in addressing the fact finding that should occur before some § 101 challenges are ripe for resolution. The Court highlighted the role that claim construction can and should sometimes play as a prerequisite to a district court’s § 101 analysis, particularly at the motion to dismiss stage. *Aatrix Software*, 882 F.3d at 1125. Like its predecessor decision in *Berkheimer*, the Federal Circuit in *Aatrix Software* vacated the district court’s § 101 determination and remanded the case for further fact finding. Of particular import in *Aatrix Software* were the specific inventive concepts that the patentee alleged in a second amended complaint, and the factual issues those allegations created as to whether the challenged claims were “well-understood, routine and conventional” under Step Two of the *Alice* test. *Id.* at 1128.

While certainly good news for patent holders, *Berkheimer* and *Aatrix Software* have not proven the “get-out-of-a-motion-to-dismiss-free card” at the Federal Circuit that some had hoped immediately following the decisions. In the nearly two years that have passed since *Berkheimer*, the Federal Circuit only remanded three § 101 cases because of factual issues: in *Cellspin*, *MyMail* and *Cooperative*. The Federal Circuit has also cautioned that attempts to create factual issues, divorced from the teachings of the specification, are likely to fail. *See IBM v. Zillow Group*, 50 F.4th 1371, 1380 (Fed. Cir. 2022). At the same time, the Federal Circuit affirmed many district court invalidations at the Rule 12 and summary judgment stage.¹⁶

In the district courts, however, *Berkheimer* has made an impact. Section 101 motion grant rates leveled off for the first time following *Berkheimer* in Q1 2018. And while § 101 motion grants still outnumber denials, the situation is certainly better than it once was.

E. Trade Secrets Matter

Given the difficulty in drafting software claims that the Federal Circuit will reliably uphold, many technology companies would be well-advised to introduce and maintain a robust trade secret program. Highly proprietary algorithms, for instance, if not likely to be reverse engineered, or discoverable in competitors’ software products, are often best left for the trade secret realm. This is particularly so when any benefits to disclosure and/or software patent protection are likely to be destroyed by a future court decision ruling the very same software patent claims invalid under § 101.

That some varieties of software technologies are better left for trade secret protection is nothing new. The Federal Circuit encouraging the trade secret route, to avoid the inevitable § 101 sword, is. And this is exactly what the Federal Circuit did in *SAP America*:

¹⁵ In *Cellspin*, the Federal Circuit clarified that *Berkheimer* applies equally to motions to dismiss on the pleadings and motions for summary judgment. 927 F.3d at 1318.

¹⁶ *See., e.g., ChargePoint*, 920 F.3d at 764, 777 (holding claims ineligible at Rule 12(b)(6) stage), *University of Florida*, 916 F.3d at 1369 (same), *SAP America*, 890 F.3d at, 1023-24 (same at Rule 12(c) stage); *Intellectual Ventures*, No. 17-1814, slip op. at 2 (same at summary judgment stage).

We may assume that the techniques claimed are “[g]roundbreaking, innovative, or even brilliant,” but that is not enough for eligibility.

...

There is, in short, nothing “inventive” about any claim details, individually or in combination, that are not themselves in the realm of abstract ideas. In the absence of the required “inventive concept” in application, the claims here are legally equivalent to claims simply to the asserted advance in the realm of abstract ideas — an advance in mathematical techniques in finance. Under the principles developed in interpreting § 101, patent law does not protect such claims, without more, no matter how groundbreaking the advance. An innovator who makes such an advance lacks patent protection for the advance itself. If any such protection is to be found, the innovator must look outside patent law in search of it, such as in the law of trade secrets, whose core requirement is that the idea be kept secret from the public.

898 F.3d at 1163, 1170. *See also CXLoyalty, Inc.*, 986 F.3d at 1378. Given the difficulty in enforcing software patents, practitioners would be well-advised to seriously consider the trade secret route before disclosing client advances to the world.

F. The USPTO Guidelines Do Not Sway The Federal Judiciary

The USPTO’s new § 101 guidelines are the most promising development for patent holders in a very long time. Without question, the guidelines have significantly changed the ways that examiners in various art units are approaching § 101 rejections. That trend is likely to continue. Perhaps the bigger question is the effect that the guidelines will have on the federal judiciary’s treatment of § 101 issues, both in district courts and the Federal Circuit. While obviously not binding precedent on Article III courts, will the guidelines nevertheless prove persuasive?

In this author’s judgment, the answer is no. By strictly interpreting what can qualify as an abstract idea, the USPTO’s guidelines save many patent claims that Federal Circuit jurisprudence likely would not. Unlike the USPTO, the Federal Circuit does not strictly interpret what can qualify as an abstract idea. The Federal Circuit will thus continue to invalidate patent claims under Step One of *Alice* that would not fall within the USPTO’s abstract idea definition. Given this lack of convergence, it remains unlikely that the Federal Circuit will lean on the USPTO’s guidance or that district courts will follow suit. Thus, while the USPTO has re-started its willingness to grant patent under § 101, judicial willingness to sanction the validity of these patents may become an issue.

IX. CONCLUSION

Software is ubiquitous, and so too is the Federal Circuit’s disdain for the manner in which many software patents are drafted. In the last four years, the Federal Circuit has shown a general disdain for many software patents. And while it remains difficult to reconcile some opinions with others, one thing is clear: practitioners need to draft patents with an eye toward satisfying the USPTO and the Federal Circuit. Whereas significantly more software patents will now survive the USPTO’s more forgiving *Alice* Guidelines, the same cannot be said for the Federal Circuit’s *Alice* framework.

As its *Alice* docket demonstrates, the Federal Circuit is keen to limit inventors of all technologies—not just software—to their specific solutions. The hallmark of invalidity under § 101 at the Federal Circuit is

a patent containing “result-oriented” claims devoid of specific detail as to “how.” With Congress unlikely to pass *Alice* reform anytime soon, and the Supreme Court deciding to stay away, practitioners should take heed, because patents that cannot ultimately make it through the Federal Circuit’s gates may offer little in the way of strategic value.

Appendix A

2018 Decisions

Case	Technology	Decision Date	Panel**	Patent(s)	Lower Court Ruling	Fed. Cir. Ruling
<i>Core Wireless</i>	Application summary window on mobile device main menu that allows quicker access to commonly used applications	1/25/18	Moore, O'Malley, Wallach	8,713,476 and 8,434,020	Not invalid under 101 (SJ)	Affirmed (passed under Step 1)
<i>Berkheimer</i>	Method for digitally processing and archiving files in a digital asset management system	2/8/18	Moore, Taranto, Stoll	7,447,713	Invalid under 101 (SJ)	Affirmed as to claims 1-3 & 9; vacated/ remanded as to claims 4-7 (factual issues under Step 2)
<i>Aatrix Software</i>	Systems and methods for designing, creating and importing data into a viewable on a computer so the user can manipulate the form data and create viewable forms	2/14/18	Moore, Taranto, Reyna	7,171,615 and 8,984,393	Invalid under 101 (MTD)	Vacated and remanded (factual issues under Step 2)
<i>Voter Verified</i>	System for voting and checking the accuracy of such votes	4/20/18	Lourie, Reyna, Newman	RE 40,449	Invalid under 101 (MTD)	Affirmed
<i>Interval Licensing</i>	Presentation of information, in a non-overlapping fashion, on a display screen	7/20/18	Chen, Taranto, Plager	6,034,652	Invalid under 101	Affirmed
<i>SAP America</i>	Method for analyzing investment information	8/2/18	Taranto, Lourie, O'Malley	6,349,291	Invalid under 101 (MTD)	Affirmed
<i>BSG Tech</i>	A self-evolving generic index for organizing information stored in a database	8/15/18	Hughes, Wallach, Reyna	6,243,699, 6,035,294 and 6,195,652	Invalid under 101 (SJ)	Affirmed
<i>Data Engine</i>	Improvements to computer spreadsheets, including systems and methods for making complex	10/9/18	Stoll, Reyna, Bryson	5,590,259 5,784,545 6,282,551 and 5,303,146	Invalid under 101 (12(c) motion)	Reversed as to '259, '545 and '551 (Step 1) (except claim 1 of '551); affirmed as to

	electronic spreadsheets more accessible (Tab Patents) and methods that allow electronic spreadsheet users to track their changes ('146 patent).					'146 and '551 claim 1
<i>Ancora</i>	Methods of limiting a computer's running of software not authorized for that computer to run	11/16/18	Taranto, Dyk, Wallach	6,411,941	Invalid under 101 (MTD)	Reversed and remanded (Step 1)

2019 Decisions

Case	Tech	Date	Panel**	Patent(s)	Lower Court Ruling	Fed. Cir.
<i>University of Florida</i>	System and method for collecting and integrating bedside patient physiological data	2/26/19	Moore, Prost, Wallach	7,062,251	Invalid under 101 (MTD)	Affirmed
<i>SRI</i>	Systems and methods for generating and receiving reports of suspicious activity in a network via multiple monitors in an enterprise network	3/20/19	Stoll, Lourie	6,484,203 and 6,711,615	Not invalid under 101 (SJ)	Affirmed
<i>ChargePoint</i>	Networked charging stations for electric vehicles, and methods of using such charging stations	3/28/19	Prost, Reyna, Taranto	8,138,715 8,432,131 8,450,967 and 7,956,570	Invalid under 101 (MTD)	Affirmed
<i>Cellspin</i>	Methods for connecting a data capture device to a mobile device to allow for the automatic transfer and publishing of content from the data capture device to a website	6/25/19	O'Malley, Lourie, Taranto	8,738,794 8,892,752 9,258,698 and 9,749,847	Invalid under 101 (MTD)	Reversed and remanded
<i>Solutran</i>	System and method for processing paper checks	7/30/19	Chen, Hughes, Stoll	8,311,945	Not invalid under 101 (SJ)	Reversed

<i>MyMail</i>	Methods of modifying toolbars that are displayed on internet connected devices	8/16/19	Reyna, Lourie, O'Malley	8,275,863 and 9,021,070	Invalid under 101 (MTD)	Vacated and remanded
<i>Chamberlain Group</i>	Apparatus and method for communicating information about the status of a movable barrier, such as a garage door	8/21/19	Chen, O'Malley, Lourie	7,224,275	Jury verdict for plaintiff, including grant of JMOL for plaintiff	Reversed
<i>American Axle</i>	Method for manufacturing driveline propeller shafts . . . with liners that are designed to attenuate vibrations transmitted through a shaft assembly	10/3/19	Dyk, Moore, Taranto	7,774,911	Invalid under 101 (SJ)	Affirmed
<i>Koninklijke</i>	A device for producing error checking in check data	11/15/19	Chen, Dyk, Stoll	6,212,662	Invalid under 101 (MTD)	Reversed

2020 Decisions

Case	Tech	Date	Panel**	Patent(s)	Lower Court Ruling	Fed. Cir.
<i>Customedia</i>	Advertising data management and processing systems	3/6/2020	Moore, Dyk, Prost	8,719,090 and 9,053,494	Invalid under § 101 (PTAB)	Affirmed
<i>Bozeman</i>	Methods for authorizing and clearing financial transactions to detect fraud	4/10/2020	Moore, Dyk, Lourie	6,754,640 and 8,768,840	Invalid under § 101 (PTAB)	Affirmed
<i>Ericsson</i>	Method and system for limiting and controlling access to resources in a telecommunications system	4/14/2020	Prost, Chen, Newman	7,149,510	Not invalid under § 101 (SJ)	Reversed
<i>Uniloc USA</i>	Ad hoc communication system comprising a primary station and at least one secondary station	4/30/2020	Moore, Reyna, Taranto	6,993,049	Invalid under § 101 (MTD)	Reversed

<i>Electronic Comm. Tech</i>	Method and system for automating communication and updating between two parties to a shopping transaction	7/1/2020	Prost, Dyk, Wallach	9,373,261	Invalid under § 101 (MTD)	Affirmed
<i>Packet Intelligence</i>	Apparatuses and methods for network monitoring	7/14/2020	Lourie, Hughes, Reyna	6,665,725, 6,839,751 and 6,954,789	Not invalid under § 101	Affirmed
<i>TecSec</i>	Systems and methods for multi-level security of various kinds of files being transmitted in a data network	10/23/2020	Taranto, Prost, Reyna	5,369,702, 5,680,452, 5,717,755 and 5,898,781	Not invalid under § 101 (SJ)	Affirmed
<i>Simio</i>	Systems and methods for conducting object-oriented simulations	12/29/2020	Prost, Clevenger, Stoll	8,156,468	Invalid under § 101 (MTD)	Affirmed

2021 Decisions

Case	Tech	Date	Panel**	Patent(s)	Lower Court Ruling	Fed Cir.
<i>CXLoyalty, Inc. v. Maritz Holdings Inc.</i>	Customer loyalty program reward redemptions	2/8/21	Prost, Lourie and Hughes	7,134,087	Original claims invalid under 101; Amended claims valid under 101 (PTAB)	Affirmed as to original claims; Reversed as to amended claims.
<i>Free Stream Media Corp. v. Alphonso Inc.</i>	System of providing mobile phone users targeted information, including advertisements	5/11/21	Dyk, Reyna and Hughes	9,386,356	Not invalid under 101 (MTD)	Reversed
<i>Bot M8 LLC v. Sony Corp. of America</i>	A gaming machine that changes future game conditions based on players' prior game results	7/13/21	Dyk, Linn and O'Malley	7,338,363	Invalid under 101 (MTD)	Affirmed
<i>Personalweb Tech. LLC v. Google LLC</i>	Data processing systems that assign each data item a	8/12/21	Lourie, Prost and Reyna	7,802,310 6,415,280	Invalid under 101 (MTD)	Affirmed

	substantially unique name that depends on the item's content/content-based identifier, which is generated by an algorithm			and 7,949,662		
<i>Universal Secure Registry LLC v. Apple Inc.</i>	Securing electronic payment transactions.	8/26/21	Taranto, Wallach and Stoll	8,856,539, 8,577,813, 9,100,826 and 9,530,137	Invalid under 101 (MTD)	Affirmed
<i>Cosmokey Solutions GMBH & Co. v. Duo Security LLC</i>	An authentication method that relies on an active authentication functional during security checks.	10/4/21	O'Malley, Reyna and Stoll	9,246,903	Invalid under 101 (MTD)	Reversed

2022 Decisions

Case	Tech	Date	Panel**	Patent(s)	Lower Court Ruling	Fed Cir.
<i>California Inst. of Technology v. Broadcom Ltd.,</i>	Creating codewords for encoding, wherein information bits appear in a variable number of subsets.	2/4/22	Linn, Lourie, Dyk	7,916,781	Not invalid under 101.	Affirmed
<i>Cooperative Ent. 't v. Kollektive Tech.</i>	Structuring peer-to-peer dynamic networks for distributing large files.	9/28/22	Moore, Lourie, Stark	9,432,452	Invalid under 101 (MTD)	Reversed
<i>Weisner v. Google LLC</i>	Digital recording of a person's activities and enhanced web searching based thereon.	10/13/22	Stoll, Reyna, Hughes	10,380,202, 10,642,910, 10,394,905 and 10,642,911	Invalid under 101 (MTD)	Affirmed with respect to '202 and '910 patents; reverses with respect to '905 and

						'911 patents.
<i>IBM v. Zillow</i>	Spatially oriented displays, including layering data thereon.	10/17/22	Hughes, Reyna, Stoll	9,158,789; 7,187,389	Invalid under 101 (MTD)	Affirmed.
<i>Adasa Inc. v. Avery Dennison Corp.</i>	Methods and systems for commissioning RFID tags on demand.	12/16/22	Moore, Hughes, Stark	9,798,967	Valid under 101 (SJ).	Affirmed.

2023 Decisions

Case	Tech	Date	Panel**	Patent(s)	Lower Court Ruling	Fed Cir.
<i>Hawk Tech. Sys., LLC v. Castle Retail</i>	A reduced streaming rate video surveillance system	2/7/23	Reyna, Huges, Cunningham	10,499,091	Invalid under 101 (MTD)	Affirmed
<i>Sanderling Mngmt. Ltd. v. Snap Inc</i>	A method of using distribution rules to load digital image branding functions to users when certain conditions are met	4/12/23	Chen, Cunningham, Stark	9,355,412; 9,639,866; 10,108,986	Invalid under 101 (MTD)	Affirmed
<i>Trinity Info Media, LLC v. Covalent, Inc.</i>	A poll-based networking system that connects users based on similarities as determined through poll answering and provides real-time results to the users.	7/14/2023	Stoll, Bryson, Cunningham	9,087,321; 10,936,685	Invalid under 101 (MTD)	Affirmed

**The first judge listed for each panel wrote the relevant opinion.