No. 18-1199

In The
Supreme Court of the United States

INVESTPIC, LLC,

Petitioner,

v.

SAP AMERICA, INC.,

Respondent.

On Petition For Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

REPLY IN SUPPORT OF PETITION

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REPLY IN SUPPORT OF PETITION

This case involves perhaps the most important issue in patent law today—what it means for an idea to be "abstract." The Federal Circuit has lost its way in applying the judicial exclusion of "abstract ideas" from patent eligibility. This Court should grant certiorari to resolve the Federal Circuit's divergent standards, which are inconsistent with this Court's jurisprudence.

Ever since Samuel Morse applied for patents on the telegraph 165 years ago, this Court has emphasized that the driving principle behind the judicial exclusion of abstract ideas from patent eligibility is to avoid granting patents that would preempt the fundamental "building blocks" of human ingenuity. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014); *O'Reilly v. Morse*, 56 U.S. 62, 112-13 (1854). This Court has used the abstract-idea exclusion to reject preemptive patents that would monopolize the basic tools of science and technology, which must remain "free to all" and "reserved exclusively to none." *Bilski v. Kappos*, 561 U.S. 593, 602 (2010).

Nevertheless, a preoccupation with evaluating the physicality of inventive ideas is corrupting recent lower court decisions—a preoccupation unconnected to the *Alice* framework's fundamental concern with preemption. Many Federal Circuit panels, including the panel below, have abandoned preemption as the lodestar of the abstract-idea exclusion, turning instead to an alternative definition of "abstract": not tangible, not concrete, not in the "physical realm." This competing

understanding of what constitutes an "abstract idea" has resulted in irreconcilable decisions between different Federal Circuit panels. The ensuing uncertainty has made it nearly impossible to predict what inventions are eligible for patent protection.

Eighteen *amici*, in seven separate briefs, have urged this Court to review the question presented here. The *amici* recognize the "physical realm" test's potential to gut patent protection in some of the highest-growth sectors of our economy. *See, e.g.*, U.S. Inventor et al. Br. 4 ("[A]pplication of the 'physical realm/non-abstract application realm' requirement would effectively abolish protection for a significant number of, or possibly all, inventions in the area of computer science"); Amplify Exchange LLC & Mighty Buildings Br. 6 ("The 'physical realm' test imposed by the Federal Circuit is currently a major threat to patent eligibility in computer-intensive fields like artificial intelligence, machine learning, and data science."). That loss of protection would jeopardize the vitality of our economy, undercut our position as a global technological leader, and hamstring our ability to meet the challenges of an increasingly digital world.

This case presents a single question that requires a timely answer from this Court. Continued chaos about the patent-eligibility of non-physical technological advancements imposes devastating costs on innovators and industry. Review by this Court would bring much-needed clarity and stability to this vital question of law.

I. This Court's Review Is Needed To Resolve Turmoil Created By The Federal Circuit Replacing Preemption Analysis With A "Physical Realm" Test

The Federal Circuit did not mention preemption in its decision below. Instead, it decided that the '291 patent claimed an abstract idea because it did not claim an improvement in the "physical realm."

SAP's opposition, however, denies the very existence of a "physical realm" test. But the growing list of decisions requiring the physicality, tangibility, or concreteness of inventions refutes SAP's denial. Some Federal Circuit panels have deemed physicality a necessary component of non-abstractness under § 101. *See, e.g.*, *In re Wang*, 737 F. App'x 534, 536 (Fed. Cir. 2018) ("Because the . . . subject of Mr. Wang's claimed invention is not a 'concrete thing,' a 'tangible article,' or 'a combination of two or more substances,' it plainly does not meet the 'physical or tangible form' requirement of section 101."); *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1125 (Fed. Cir. 2018) ("The district court erred to the extent it determined that claim 1 of the '615 patent is ineligible because it is not directed to a tangible embodiment. . . . This is very much a tangible system."); *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 809 F.3d 1282, 1285 (Fed. Cir. 2015) ("Abstract steps are, axiomatically, the opposite of tangible steps; that which is not tangible is abstract. But steps that involve machines, which are tangible, steps that involve transformation of tangible subject matter, or tangible implementations of ideas or

abstractions should not be considered to be abstract ideas."); *Allvoice Devs. U.S., LLC v. Microsoft Corp.*, 612 F. App'x 1009, 1017 (Fed. Cir. 2015) ("Here, claims 60-68 of the '273 Patent do not recite a process or tangible or physical object and, thus, do not fall within any of the categories of eligible subject matter."); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) ("Information as such is an intangible. Accordingly, we have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.") (internal citations omitted). *See also Morsa v. Facebook, Inc.*, 77 F.Supp.3d 1007, 1014 (C.D. Cal. 2014) ("The dispositive inquiry is whether the concept to which a claim is drawn has 'no particular concrete or tangible form.'") (internal citations omitted); *Chamberlain Grp., Inc. v. Linear LLC*, 114 F.Supp.3d 614, 630 (N.D. Ill. 2015) ("An idea is abstract if it has 'no particular concrete or tangible form'. . . . These additional variables in the disclosure . . . anchor the claimed subject matter to a particular tangible and concrete form, rendering it patent-eligible.") (internal citations omitted).

The Federal Circuit's emerging focus on physicality—a "requirement" that appears nowhere in § 101 or this Court's jurisprudence—drove its decision below. The court contrasted the InvestPic claims with the purportedly physical nature of the claims in *McRO* and *Thales*, stating: "[T]he claims [in '291] are critically different from [the patent eligible claims in *McRO*, which] were directed to the creation of something physical";

and "[I]n *Thales* . . . the improvement was in a physical tracking system. . . . Here, in contrast, the focus of the claims is not a physical-realm improvement." App. 13a-14a. Unquestionably, the dispositive difference between the '291 claims and the claims held to be non-abstract in *McRO* and *Thales* was physicality.

Cases that SAP cites as incompatible with a "physical realm" test, Opp. 14, show no such thing. Indeed, they show the inconsistency within the Federal Circuit regarding the abstract-idea analysis—a factor favoring certiorari. *See* S. Ct. R. 10(a). *Compare, e.g.*, *McRO*, 837 F.3d at 1315 ("The concern underlying the exceptions to § 101 is not tangibility, but preemption."), *with In re Wang*, 737 F. App'x at 536 ("Because the . . . claimed invention is not a 'concrete thing,' a 'tangible article,' or 'a combination of two or more substances,' it plainly does not meet the 'physical or tangible form' requirement of section 101."). No case that SAP cites harmonizes the Federal Circuit's irreconcilable panel decisions on the role that tangibility plays in the abstract-idea analysis.

Neither the Constitution, nor the Patent Act, nor the America Invents Act, nor this Court's jurisprudence supports the Federal Circuit's apparent preference for software affecting the "physical realm" over other types of software (e.g., software that improves information, detection, operations of programs running on computers, or that expands a computer's functionality). Of greatest concern, the "physical realm" test encroaches on Congress's territory, excluding useful software inventions Congress never said should be

excluded. *See Henry Schein, Inc. v. Archer & White Sales, Inc.*, 586 U.S. ___, 139 S. Ct. 524, 528 (2019) ("[This Court is] not at liberty to rewrite the statute passed by Congress and signed by the President.").

Moreover, the Federal Circuit's divergent "physical realm" test for abstractness constrains innovation with an outmoded concern for physicality in an increasingly digital world. The emerging technologies of our time—including breakthroughs in AI, blockchain, and Big Data—depend on process- and data-oriented innovations like InvestPic's. Without patent protection for innovation in these critical areas, the United States will fall rapidly behind other nations.

These risks to our separation of powers and innovation landscape can be ameliorated by a return to the roots of the abstract-idea exclusion: preventing preemption. Pet. 18-20 (tracing this Court's preemption inquiry back to *Le Roy* and *Morse*). SAP concedes that preemption is *Alice*'s guiding principle. Opp. 16. Mere citation to *Alice*, however, is not a preemption analysis. SAP nowhere argues that a tangibility analysis is a reasonable proxy for a preemption analysis.

The abstract-idea analysis must adhere to *Diamond v. Diehr*, where this Court held that claims must be viewed as a whole with regard to their potential to preempt entire fields of innovation. 450 U.S. 175, 188 (1981). Contrary to SAP's suggestion, the assessment of patent eligibility cannot be easily settled simply because an invention applies mathematics or statistics. SAP ignores this Court's statement in *Diehr* that "a

claim drawn to subject matter otherwise statutory [e.g., a process] does not become nonstatutory simply because it uses a mathematical formula, computer program, or digital computer." *Id*. at 187. SAP, however, would have this Court end its § 101 analysis the moment it sees a patent that appears to implicate mathematics, ignoring that inventions that apply mathematics are critical to our modern economy and can be patented without tying up the fundamental "building blocks" of invention. This Court should avoid such misdirection and return the abstract-idea exclusion to its foundational preemption principle.

II. This Case Is Ideal For Resolving The Rampant Uncertainty About Abstract Ideas

This case presents an opportunity to clarify the boundaries of the abstract-idea exclusion. This opportunity was not provided by earlier cases such as *Alice*, in which the computer-implemented claims were so unambiguously "well-understood, routine, and conventional"—and thus preemptive—that the Court determined it "need not labor to delimit the precise contours of the 'abstract ideas' category." 573 U.S. at 221, 225.

First, as discussed above, the Federal Circuit's decision squarely presents the question of whether a physical realm inquiry may replace a preemption inquiry. Lower courts insist that abstractness hinges on tangibility, *see Ariosa*, 809 F.3d at 1285 ("Abstract steps are, axiomatically, the opposite of tangible steps; that which is not tangible is abstract."), contradicting

this Court's jurisprudence holding that abstractness hinges on preemption risk. *See Alice*, 273 U.S. at 216. There is a clear intra-circuit split on this question. This Court could cleanly decide this question on certiorari.

Second, the '291 Patent claims both a previously unknown process (an entirely new way of resampling) and a novel feature (the bias parameter) added to a known process. In both ways, this patent differs materially from the insufficient "inventions" in *Alice* and *Bilski*, which involved no actual invention, but only implemented well-known and conventional concepts on a computer. Pet. 24-25.

Third, the '291 Patent survived far more extensive scrutiny than nearly all the patents that have reached this Court. Pet. 13-14. As a result, unlike *Alice* and *Bilski*, weaknesses that lie in the statutory barriers to patentability (§ 102, § 103, and § 112) are absent, leaving a pure § 101 judicial-exclusion question. The invention is novel, useful, not obvious, and supported by a written description that enables a person of ordinary skill in the art to practice the claims. In contrast, the claims in *Alice* and *Bilski* essentially stated an abstract idea and added the words "apply it on a computer." *See Alice*, 573 U.S. at 223; *Bilski*, 561 U.S. at 620.

Fourth, *amici* and post-*Alice* case law refute SAP's assertion that the proper application of *Alice* is "settled" and "unchallenged." *See Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1348-56 (Fed. Cir. 2018) (Plager, J., concurring in part and dissenting in part) (dissenting from the Federal Circuit's "continued

application of [the] incoherent body of doctrine" regarding the § 101 abstract-idea exception); *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1377 (Fed. Cir. 2017) (Linn, J., concurring in part and dissenting in part) (observing that "the abstract idea exception is almost impossible to apply consistently and coherently" and "often leads to arbitrary results"); *Front Row Techs., LLC v. NBA Media Ventures, LLC*, 204 F.Supp.3d 1190, 1227 (D.N.M. 2016) (describing the post-*Alice* environment as "developing and unstable"); *Cal. Inst. of Tech. v. Hughes Communs., Inc.*, 59 F.Supp.3d 974, 980, 990 (C.D. Cal. 2014) (observing that courts "have struggled to define the boundaries of software patentability"); *see also* Pet. 4-5, 30-33.

In *Smart Systems Innovations*, Judge Linn warned about the repercussions of inconsistency: "Despite the number of cases that have faced these questions [about patent eligibility] 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." 873 F.3d at 1378. This Court can eliminate this uncertainty and mitigate these dangers by hearing this case.

III. SAP's Mischaracterizations Of The Record Confuse The Real Issues Presented

This case arose from a Rule 12(b)(6) dismissal, before any facts could be developed. The lower courts thus made sweeping factual assumptions to decide the case as a matter of law based on overbroad applications of judicially created tests. *See* App. 1a-20a (Federal Circuit applying its own physical realm test); App. 38a-65a. While full rebuttal on the merits is properly reserved for later briefing, SAP's most obvious mischaracterizations warrant brief attention.

First, SAP seeks to reframe the "physical realm" test as merely asking whether the patent claims include *anything* physical. Opp. 12-14. That cannot be the test the Federal Circuit applied because, as SAP notes, the '291 Patent *does* include physical computer components and therefore would have satisfied the court's test if it had been applied as SAP suggests. Instead, the court below makes clear that the "physical realm" test demands that the *improvements* must be in the "physical"/"non-abstract application" realm.

Second, SAP wrongly focuses on the frequency of the Federal Circuit's usage of the specific phrase "physical realm." Opp. 13. No minimum usage, though, is required before a word assumes precedential power. In any event, the decision below is saturated with a physicality requirement; the word "physical" appears seven times, and other synonymous language appears throughout. The court contrasted InvestPic's patent with those in *McRO* and *Thales* (see pages 9-10 of the

May 15, 2018 opinion) claiming those inventions satisfy the physicality requirement, while the '291 patent does not. And the court emphasized the use of "databases and processors" to reinforce its physicality requirement for eligibility by emphasizing the lack of inventive physical concepts.

Third, SAP asserts that the Federal Circuit "faithfully applied" the preemption principle that underlies *Alice* and that the InvestPic patent is preemptive. Opp. 16, 17-18, 22. That is not plausible: nowhere in the Federal Circuit's opinion does a discussion of preemption or similar concepts appear. The opinion footnotes several claim limitations but conducts no analysis of whether the claims are sufficiently narrow and/or applied to avoid tying up any abstract ideas. It does not even hint at preemption by, for instance, evaluating whether the patent claims a result rather than a method for achieving a result. *Cf. ChargePoint, Inc. v. SemaConnect, Inc.*, No. 2018-1739, 2019 U.S. App. LEXIS 9191, at *17-18 (Fed. Cir. Mar. 28, 2019) (internal citations omitted). Instead, the lower court's fixation on the "physical realm" test precluded any consideration of preemption concerns. As part of this omission, the lower court also ignored that more than *fifty* patents have issued citing the '291 Patent as prior art—*including a patent owned by SAP*. *See* U.S. Patent No. 9,501,537; *see also* Pet. 35. Evidently, the '291 Patent did not preempt or inhibit further innovation or other practical applications of an abstract idea. SAP and many other inventors have successfully built upon the '291 patent and profited therefrom.

Fourth, SAP repeats throughout its brief the mantra that this patent is about math. As discussed in InvestPic's petition, the '291 Patent is not about and does not claim mathematics. Pet. 7-12. Relying solely on attorney argument, SAP variously describes the patent claims as "mathematical processes," "mathematical techniques," "mathematical calculations," and so on, apparently in the hope that by shouting "math" in as many forms as possible it can cause this Court to cease any closer analysis.

Rather than examine the claims as a whole, as this Court has repeatedly instructed, *see, e.g.*, *Alice*, 573 U.S. at 218 n.3; *Diehr*, 450 U.S. at 188, SAP never identifies the alleged math and cherry-picks only those parts of the patent that sound mathematical (e.g., the words "analyze" and "calculate"). In any event, the mere presence or use of math or mathematical terms cannot disqualify a patent. *Diehr*, 450 U.S. at 187. All science and engineering disciplines use and apply math. So long as math is applied in some practical way, inventions are eligible.

If, after *Diehr*, "an *application* of a law of nature or mathematical formula" to a *known* structure or process "may well be deserving of patent protection," *id*. (emphasis in original), then surely an application of a mathematical formula to a previously *unknown* process—like the one invented by Dr. Varma—can also merit protection. *Diehr* requires that courts continue their analysis of a patent even if they see "math" within the patent. Yet the courts below in this case lost their way in detailed claim limitations that *sounded*

like math. This Court should grant certiorari to stop further distortion of the abstract-idea exclusion and re-center the analysis on the preemption standard.

CONCLUSION

Our patent system needs this Court to return the abstract-ideas exclusion to its roots in the preemption principle. The Federal Circuit defied precedent and created its own "physical realm" standard for applying the exclusion. The result is havoc for courts trying to determine which standard to apply. This case offers the right invention, right patent, and right lower-court decision with which to reorient the analysis. The crisis at the heart of our digital economy can be resolved only by this Court's intervention.

Respectfully submitted,

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