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IN THE  
**Supreme Court of the United States**

ALICE CORPORATION PTY, LTD.,

*Petitioner,*

*v.*

CLS BANK INTERNATIONAL, *et al.*,

*Respondents.*

ON WRIT OF CERTIORARI TO THE UNITED STATES  
COURT OF APPEALS FOR THE FEDERAL CIRCUIT

**BRIEF OF *AMICUS CURIAE* THE  
AMERICAN INTELLECTUAL PROPERTY  
LAW ASSOCIATION IN SUPPORT OF  
NEITHER PARTY**

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## STATEMENT OF INTEREST

The American Intellectual Property Law Association (“AIPLA”) is a voluntary bar association of approximately 15,000 members who are lawyers in both private and corporate practice, judges, patent agents, academics, law students and USPTO professionals. Our members practice in a wide and diverse spectrum of intellectual property fields, including patent, trademark, copyright, and unfair competition law, as well as other fields of law affecting intellectual property. They represent owners of intellectual property as well as those who seek to commercialize technology. Our members are involved in United States litigation on behalf of patent owners and accused infringers, and also prosecute applications before patent and trademark offices, giving AIPLA a unique and varied perspective on the issue of patent eligibility of computer-implemented inventions.<sup>1</sup>

AIPLA has no interest in any party to this litigation or stake in the outcome of this case, other than its interest

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1. In accordance with Supreme Court Rule 37.6, AIPLA states that this brief was not authored, in whole or in part, by counsel to a party, and that no monetary contribution to the preparation or submission of this brief was made by any person or entity other than AIPLA or its counsel. After reasonable investigation, AIPLA believes that (i) no member of its Board or Amicus Committee who voted to file this brief, or any attorney in the law firm or corporation of such a member, represents a party to this litigation in this matter, (ii) no representative of any party to this litigation participated in the authorship of this brief, and (iii) no one other than AIPLA, or its members who authored this brief and their law firms or employers, made a monetary contribution to the preparation or submission of this brief.

in seeking a correct and consistent interpretation of the law affecting intellectual property.<sup>2</sup>

## SUMMARY OF ARGUMENT

This Court once again returns to the challenge of analyzing patent eligible subject matter under 35 U.S.C. § 101 and, in particular, to the longstanding judicial rule that abstract ideas, *per se*, are not eligible for patent protection and that applications of an abstract idea are eligible.

The Federal Circuit's *en banc* decision in this case reflects the unfortunate disarray of current jurisprudence on Section 101 of the Patent Statute. Patent jurisprudence seems recently to have fixated on simply characterizing many patented inventions as purely abstract ideas, without any clear means of distinguishing between patent-ineligible abstract idea and the patent-eligible application of that idea. Instead, the current undefined rubric of Section 101 gets repeatedly invoked to deny patent claims, many times because the claimed subject matter appears too broad, or too vague, or already invented.<sup>3</sup> In this way,

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2. AIPLA sought and obtained consent to file this brief from the counsel of record for all parties, pursuant to Supreme Court Rule 37.3(a). Counsel for both parties filed general letters of consent with the Clerk.

3. For instance, the children's "teeter totter" toy (at bottom, an application of the simple machine "lever") might have been patentable when first conceived because at that time it was a "new and useful . . . machine", and a specific application of an abstract physical law. Today, of course, a patent application for a teeter totter would and should be rejected. But the reason would not be because it is ineligible under Section 101 as an abstract

Section 101 too often has provided an easy, blunt tool to deny patent protection, where the possible grounds for finding the patent invalid (or unpatentability for an application) more prudently could be based on the prior art and the other key conditions of patentability set forth in Sections 102, 103 and 112 of the Patent Act.

As detailed below, this Court's prior decisions on computer-related patent eligible subject matter have focused appropriately on the particular facts of each case. Here, however, some will ask the Court to issue an across-the-board ban on computer-implemented inventions, with no consideration of whether a specific computer-implemented application of the underlying idea can ever constitute patentable subject matter. Whatever the merits of the particular patent claims before this Court, such a wholesale exclusion is completely inconsistent with the fact-based analysis which has guided this Court's precedent.

The Federal Circuit's *en banc* decision in this case provides more than enough evidence that this area of law is in disarray, to the extreme detriment of U.S. industries and technologies that rely on patent protection as a cornerstone of their investments in innovation. The competing views of the Federal Circuit judges, expressed

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idea, but rather because it lacks the necessary novelty required under the Act. Unfortunately, both the courts and the USPTO are rejecting countless patent applications and granted patents on the blunt basis that they are "abstract" rather than the admittedly sometimes more factually involved (but also more careful and tailored) comparison to prior inventions under novelty or obviousness review, or the fact that the claims are simply too vague or indefinite. 35 U.S.C. §§ 102, 103 and 112.

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in their various opinions below, are telling about the difficulty that lower courts must face in applying current Section 101 precedent to the patent claims brought before them.

Section 101, as an enabling provision addressed to particular categories of inventive subject matter, typically is not the proper standard for deciding whether a particular technical advance is patentable as claimed. Applying it for that purpose has produced the same degree of uncertainty in the law that motivated Congress to establish the Federal Circuit more than 30 years ago; it has produced all of the dampening effects on innovation that motivated the Congress to confer on that court responsibility for uniformity in this area of the law.

As explained below, a careful examination of this Court's Section 101 case law reveals that the patent eligibility decisions there have turned on the specific facts of each case, including the detail of claim language, specifications, and prosecution history for the patents involved.

Moreover, these decisions explicitly reject any attempt to invoke categorical criteria for denying patent eligibility. They specifically disclaim any intent to preclude the patentability of software. They also specifically point out how the disclosures of some patent claims fall short for eligibility, and how other patent claims recite enough specifics to qualify. In one case, a vague and overbroad claim to a general calculation divorced from any specific application was found to be no more than a claim to an

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abstract idea,<sup>4</sup> whereas a claim that incorporated such a calculation into a particular industrial context was found to be a specific human application of the general concept.<sup>5</sup> The consistent theme of these and other decisions has involved the dividing line between patent ineligible attempts to capture bare ideas, divorced from specific human implementations, and patent eligible claims that involved a man-made application of those ideas.

The other crucial theme in this Court's case law is the preeminence of the patent claim language to define the invention entitled to exclusive rights. For purposes of Section 101, the corollary of that proposition is the consistent rule that the determination of patentable subject matter must be based on the claims as a whole, with due regard for the statutory category of the claimed invention.

This Court has made clear that determining whether a claim is directed to an abstract idea or to the application of an abstract idea must be tied to the actual claim language, taken as a whole and not dissected into constituent elements. And given the difference between apparatus and method claims, this Court should renew its recognition of the fundamental distinction between claim language directed to "a process" and claim language directed to "a machine." While there may be occasions where the line of demarcation is blurred by creative counsel, such occasions should not be allowed to obscure the basic principle that patent claims to machines are, by their nature, tied to particular physical structures, and are therefore in almost

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4. *Parker v. Flook*, 437 U.S. 584 (1972).

5. *Diamond v. Diehr*, 450 U.S. 175 (1981).

all cases statutory applications of ideas. By contrast, the patent eligibility of process or method claims may or may not be as clear, and may bear further scrutiny. These specifics should inform any decision on patent eligibility.

This Court should return to these basic principles and hold that claims to computer hardware or software methods or systems are generally eligible for patent protection under Section 101 unless the specifics of the claimed invention indicate otherwise.

## ARGUMENT

### I. SECTION 101 CASE LAW OF PATENT ELIGIBILITY HAS CAST A CLOUD OF UNCERTAINTY OVER PROTECTIONS FOR INNOVATION

The question presented by the Petitioner asks “[w]hether claims to computer-implemented inventions—including claims to systems and machines, processes, and items of manufacture—are directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101 as interpreted by this Court.” Despite the strong disagreements among the Federal Circuit judges in this case, the high-level answer to the question presented is straightforward: under the decisions of this Court, claims to computer-implemented inventions *can be* directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101.

Subsumed within the question presented, however, are two critical issues on which the Federal Circuit unfortunately is deeply divided: (1) must a court peer

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through and beyond the specific claim language to discern a “genuine human contribution” in order to decide patent eligibility under Section 101; and (2) does the preeminence of patent claim language control the eligibility determination for all categories of invention listed in Section 101. However, this case has moved well beyond its facts and the actual claims under consideration. Some have moved the discussions from a consideration of patent eligibility for a particular invention to the suggestion of an across-the-board ban on computer implemented inventions, with no regard for whether the claimed invention is in fact an application of an underlying idea.

To be sure, as this Court has recognized, “[t]he line between a patentable ‘process’ and an unpatentable ‘principle’ is not always clear. Both are ‘conception[s] of the mind, seen only by [their] effects when being executed or performed.’” *Parker v. Flook*, 437 U.S. 584, 589 (1978) (quoting *Tilghman v. Proctor*, 102 U.S. 707, 728 (1888)).

The difficulty of drawing that line, however, is not insurmountable. This Court grappled with a similar problem in *Feist Publications, Inc. v. Rural Telephone Service, Co., Inc.*, 499 U.S. 340 (1991), a case that discussed the “idea-expression” dichotomy in copyright law. Noting that “originality” is the *sine qua non* of copyright law, the *Feist* Court found that where a compilation author “clothes facts with an original collocation of word,” the author could claim copyrightable expression based on that simple modicum of originality. *Feist*, 499 U.S. at 348. This distinction between unprotectable facts or ideas versus their protectable specific expression (as in copyright law) and unprotectable ideas or natural laws versus

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their protectable application (as in patent law), animates the very core of U.S. patent and copyright law.<sup>6</sup> These principles should also caution courts that such thresholds are rather low by design.

As this Court held in *Feist*, only minimal human creativity is required to transform unprotected fact into copyrightable human expression. *Id.* Similarly, this Court has previously made clear, and should once again confirm, that in the patent arena only a modicum of real-world application is required (in the computer context) to transform a patent-ineligible idea or principle into a specific, patent-eligible, man-made application of that idea, as reflected in the patent claim as a whole.

An inventor who transforms an algorithm into a computer program produces the means to cause the programmed computer or processor to operate differently as a machine. It is the production of this specific, real-world result—the different operation of the computer or processor—that is the man-made step which constitutes patent-eligible subject matter. If it turns out the “man-made step” is already known, then the patent claim certainly fails, but under Sections 102 and/or 103, and not because the claim as a whole merely embodies an abstract idea.

Unfortunately, after more than 30 years of jurisprudence, cases involving “algorithms” implemented

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6. This Court has on several occasions recognized that there can be parallels between patent and copyright law. See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 392 (2006); *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984).



on a computer have not provided certainty or predictability as to subject matter eligibility. Nowhere perhaps is this morass more starkly evident than in the Federal Circuit's *CLS Bank* decision, where the only agreement that the en banc court could muster was in a one-paragraph *per curiam* decision stating the result of the case, accompanied by seven different additional opinions. None of the authors of those opinions found a rationale to attract a majority, although each thought that he or she was correctly applying this Court's precedent.

Judge Newman clearly stated her frustration at this, in the section of her dissent-in-part/concurrence-in-part entitled "*Today's Impasse*":

The *en banc* court undertook to remedy disproportions flowing from inconsistent precedent on section 101. This remedial effort has failed. This failure undoubtedly reflects the difficulties of the question; I suggest that it also demonstrates that an all-purpose bright-line rule for the threshold portal of section 101 is as unavailable as it is unnecessary.

*CLS Bank*, 717 F.3d at 1321. Judge Newman continued, "Section 101 is not the appropriate vehicle for determining whether a particular technical advance is patentable; that determination is made in accordance with the rigorous legal criteria of patentability." *Id.*

As framed by the United States Constitution, patents are meant "to promote the Progress of ... the useful Arts." U.S. Const., art. I, § 8. These useful arts, *i.e.*, these *inventions*, can cover a vast array of useful methods and

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devices. No doubt the Founders never envisioned the vast array of inventions brought forth over the last 225 years, nor can we now envision what is yet to be invented in the future. For this reason, it is impossible to now absolutely define what would be, or should be, patent-eligible subject matter far into the future.

Congress grappled with this and other issues when it created the Federal Circuit, one of several outcomes from a broad study of litigation-related ills. *See, e.g.*, 67 F.R.D. 195 (1975) (Hruska Commission). The Senate Report leading to the Federal Circuit's creation stated that a single appeals court for patent issues would "increase doctrinal stability" and "produce desirable uniformity" in patent law. *See* S. Rep. No. 97-275, at 5 (1981), *reprinted in* 1982 U.S.C.C.A.N. 11, 15. In other words, it would produce certainty in patent law. As Professor Rochelle Dreyfuss expressed it, "a single [patent] appellate forum would create a stable, uniform law and would eliminate forum shopping. Greater certainty and predictability would foster technological growth and industrial innovation and would facilitate business planning." Rochelle Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U.L. Rev. 1, 5-7 (1989). Doctrinal stability was required, because in the late 1970s the law concerning patents was so unclear as to cause significant economic hardship throughout the United States. Professor Dreyfuss summarized the situation as follows: "It became impossible to adequately counsel technology developers or users. In such a legal environment, the promise of a patent could hardly be considered sufficient incentive to invest in research and development." *Id.*, at 1.

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At the time the new court was under consideration, now Circuit Judge Newman was Director of Intellectual Property Law for FMC Corporation. In her 2002 testimony before the Federal Trade Commission, Judge Newman recalled the situation as follows: “Investment in basic science, in applied research had disappeared . . . . Our production in the United States was no longer competitive. Old technologies were stagnant. New [technologies] were dormant.” *See* Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy* 19 (2003).

Unfortunately, today’s confused state of Section 101 jurisprudence threatens to bring back these same ills.<sup>7</sup> Whether discussing biotechnology or electronic/software advances, to quote Professor Dreyfuss, “it [is] impossible to adequately counsel technology developers or users.” 64 N.Y.U. L. Rev. at 1. It is often simply impossible for lower courts and practitioners to understand what is and is not patent eligible subject matter based upon the current state of doctrine. This is a situation that this Court, AIPLA respectfully submits, should urgently put right.

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7. The uncertainty resulting from these divisions has cast a pall over the United States software and information technology services industry, which the government valued at \$606 billion in 2011 promoting domestic business opportunity to international businesses “because of its [the United States’] strong intellectual property rights laws and enforcement.” *See* The Software and Information Technology Services Industry in the United States (2011), available at <http://selectusa.commerce.gov/industry-snapshots/software-and-information-technology-services-industry-united-states>.

One justification for the judicially excluded subject matter categories, particularly abstract ideas, has been to prevent patentees from overreaching with claims to basic truths, “free to all men and reserved exclusively to none.” *Funk Brothers Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948). While Section 101 is needed for that purpose, this Court’s jurisprudence is now being invoked in patent litigation reform debates to address all manner of overreaching by patent owners.

Broad claiming, poor claim drafting, or poor patent quality in general are all important issues to address, but Section 101 eligibility is the wrong medicine. Overreaching by patentees is policed in the examination of patent applications and in court review of issued patents for novelty, nonobviousness and sufficient disclosure. This Court needs to clarify that its Section 101 jurisprudence is not a cure for problems with the conditions of patentability, and may not be used to contract the traditional breadth of patent eligibility that is fundamental to the U.S. patent system.

The clearest statement, AIPLA respectfully submits, is one that tells courts and practitioners to apply *all* of the sections of Title 35, United States Code, in weeding out bad patents and unpatentable applications. Allow the other sections of Title 35 to do their jobs, but AIPLA respectfully submits that the standard for what subjects are patent eligible must remain a broad and simple one that encourages innovation, since no one can (or frankly should) anticipate its potential ambit. As Chief Justice Burger wrote in *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980), Congress intended the Section 101 description of patentable subject matter to “include anything under the sun *that is made by man.*” (emphasis added).

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It is time for a return to the broad congressional intent reflected in *Chakrabarty*, and AIPLA urges that the Court indicate that the legislative history cited in *Chakrabarty* remains the correct formulation—if the subject matter of a patent claim is new and made by man, then it is patent eligible. Beyond that, it can be a patent only if it also complies with the other conditions of patentability in Title 35, including novelty (§ 102), nonobviousness (§ 103), and “a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is nearly connected, to make and use the same” (§ 112). *Chakrabarty*, 447 U.S. at 312.

## **II. COMPUTER-IMPLEMENTED INVENTIONS CAN BE PATENT-ELIGIBLE**

### **A. The Court’s Prior Decisions Confirm that Computer-Implemented Inventions Can be Patent-Eligible**

This Court long ago identified three classes of claimed “invention” excluded from the categories of patentable subject matter now embodied in 35 U.S.C. § 101—that is: laws of nature, physical phenomena and abstract ideas. At bottom, these limited exceptions address subject matter that is not patentable because nothing “new” has been added by man. As with the present case (and indeed in many computer-implemented cases), lower courts have wrestled with this Court’s framework that while an abstract idea is not patentable, the application of an

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abstract idea can be.<sup>8</sup> *See, e.g., O'Reilly v. Morse*, 15 How. 62, 113-116, 14 L.Ed. 601 (1854).

The simple answer to the question presented here is straightforward. Claims to computer-implemented inventions—including claims to systems and machines, processes, and items of manufacture—*can be* directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101 as interpreted by this Court. Importantly, each of this Court's computer-related decisions emphasized that the case was being decided on the specific facts at hand. Such attention to detail would have been unnecessary if claims to computer-implemented inventions were not patentable as a matter of law.

*Gottschalk v. Benson*, 409 U.S. 63 (1972) was the Court's first patent case dealing specifically with a computer-related invention. It involved an invention related to the programmed conversion of numerical information in general-purpose digital computers and, in particular, to a method for converting binary-coded decimal numerals into pure binary numerals. The Court began from the general proposition that abstract ideas are not patentable “as they are the basic tools of scientific and technological work,” *id.* at 67, but then decided the case based on the facts before it: “The question is whether *the method described and claimed* is a ‘process’ within the meaning of the Patent Act.” *Id.* at 65 (emphasis added) (footnote omitted) (*citing* 35 U.S.C. §§ 100(b) and 101).

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8. More specifically, the patent claims before the Court in this case include claims to a method, claims to data processing systems, and claims to computer-readable media containing a computer program. *CLS Bank Int'l. v. Alice Corp. Pty, Ltd.*, 717 F.3d 1269, 1274 (Fed. Cir. 2013)(*en banc*).

The Court found the claims ineligible under Section 101 because the only practical application of the mathematical formula involved was in connection with a digital computer, which meant that the patent “would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.” *Id.* at 72. Significantly, the Court explicitly rejected any suggestion that it intended to preclude patent eligibility for software programs: “It is said that the decision precludes a patent for any program servicing a computer. *We do not so hold.*” *Id.* at 71. (Emphasis added.)

*Flook* involved patent claims to a method covering “*any use of a formula* for updating the value of an alarm limit on any process variable involved in a process comprising the catalytic chemical conversion of hydrocarbons.” *Id.* at 586 (emphasis added). In reaching its conclusion that the claimed invention was ineligible for patent protection, the Court was careful to note that the patent application did not specifically explain how the variables used in the formula were to be selected, and contained no disclosure relating to the chemical processes at work or the means of setting off an alarm. *Id.* At the same time, the Court explained that the claim step involving “conventional or obvious” “post-solution activity” could not transform the unpatentable principle into a patentable process, because doing so would “exalt[] form over substance.”<sup>9</sup> *Id.* at 590.

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9. It is noteworthy that the vagueness identified by the Court: lack of specificity of variables or the chemical process context, etc., encompass issues of claim indefiniteness typically resolved by 35 U.S.C. § 112.

*Diehr* was the next Supreme Court case to consider a patent claim to a method involving a programmed digital computer. Crucially, the *Diehr* case also involved an alarm limit (just like *Flook*), but set the alarm limit into a specific setting, with specific values and for a specific industrial purpose: molding rubber. *See* 450 U.S. at 210 n.31. The Court majority held that the recited “physical and chemical process for molding precision synthetic rubber products falls within the § 101 categories of possibly patentable subject matter.” *Id.* This Court, engaged in a case-specific analysis, distinguished *Flook* on the ground that the patent application in *Flook*:

did not purport to explain how these other variables [for an updated alarm] were to be determined, nor did it purport ‘to contain any disclosure relating to the chemical processes at work, the monitoring of process variables, or the means of setting off an alarm or adjusting the alarm limit. All that it [the *Flook* claim] provides is a formula for computing an updated alarm limit.’

*Id.* at 186-87 (quoting 437 U.S. at 586). By contrast, *Diehr* described the claimed process as drawn to a specific industrial process for the molding of rubber products, and thus patent-eligible under § 101. *See* 450 U.S. at 192-93.

In the course of its analysis, *Diehr* identified three important aspects of an analysis under § 101. First, claims must be considered as a whole. *Id.* at 188. Second, “[t]he ‘novelty’ of any element of 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

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categories of possibly patentable subject matter.” *Id.* at 188-89 (emphasis added). Third, case specific analysis of the details in the record of the specific patent is required to identify meaningful limits on the scope of the claim. *Id.* at 191-92.

Comparing the *Diehr* decision against the *Flook* decision, both helpfully involving a similar “idea”—the calculation of an alarm limit, underscores the relatively low threshold that Section 101 can and should provide to subject matter eligibility. On the one hand, *Flook* claimed a vague and overbroad general calculation, an abstract idea, divorced from specific contexts. On the other hand, *Diehr* took that same idea, an alarm limit, and claimed it meaningfully within a specific context, a specific human application of the general concept. The successful claims in *Diehr* (as opposed to the unsuccessful claims in *Flook* and the unsuccessful copyright owner in *Feist*) exhibit the relatively low bar that Section 101 should provide.

In the area of business processes, this Court also rejected any bright line approach for patentability. In *Bilski v. Kappos*, 130 S.Ct. 3218 (2010), the Court reviewed method claims directed towards buyers and sellers of energy commodities hedging against the risk of price changes in that market. The Court, rejecting “machine or transformation” as the sole test for Section 101 patent eligibility,<sup>10</sup> expressly warned against adoption of “categorical rules that might have wide-ranging and

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10. The USPTO repeatedly argued for the “machine or transformation” test as the bright-line rule for Section 101 patent-eligibility, but that categorical approach was finally and clearly rejected in *Bilski*.

unforeseen impacts.” *Id.* at 3230. After a record-specific analysis of “key claims” 1 and 4, directed to a general series of steps for hedging risk and a mathematical formula reflecting that concept, *id.* at 3223, the Court concluded that “[Bilski’s] claims are not patentable processes because they are attempts to patent an abstract idea.” *Id.* at 3230-31.

*Mayo Collaborative Services v. Prometheus Labs., Inc.*, 132 S.Ct. 1289 (2012), did not involve a computer-implemented invention, but is consistent in its fact-specific analysis. *Mayo* considered claims directed to methods of adjusting drug dosages to treat patients suffering from autoimmune diseases. The Court focused on the degree of detail in the record to determine “whether the claims do significantly more than simply describe those natural relations [between concentrations of metabolites and the effectiveness of a drug dosage]” and recite the steps of applying the natural law. *Id.* at 1297. That is, by holding the *Mayo* claims patent-ineligible, *Mayo* distinguished the details of claimed application of ideas in *Diehr* based on “the way the additional steps of the process integrated the equation into the process as a whole,” and identified the details of that patent application which demonstrated the point. *Id.* at 1298-99.

In sum, the Court’s decisions in *Benson*, *Flook*, *Diehr*, *Bilski* and *Mayo*, taken together, demonstrate the basic dividing line between patent-ineligible claims that simply attempt to capture bare ideas, divorced from specific human implementations (and which thereby might preempt broad swaths of future applications), and patent-eligible claims that situate such ideas in a specific context and human-made application. The fact that the Court

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engaged in such case-specific inquiries in *Benson*, *Flook*, and *Diehr*, demonstrates the basic point that computer-implemented inventions, *per se*, can be patent-eligible.

**B. The Court Should Reiterate that Claims are to be Considered as a Whole, with Due Regard to the Statutory Category of the Invention Claimed**

This Court has repeatedly required that a claim be considered as a whole, in a variety of contexts. It has done so in the course of assessing patent-eligibility under Section 101. *See, e.g., Diehr*, 450 U.S. at 188 (“In determining the eligibility of respondents’ claimed process for patent protection under § 101, their claims must be considered as a whole.”) In *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 374 (1996), while holding that claim construction was an issue to be decided by the trial judge, the Court noted the significance of the patent claim in the context of an infringement suit. “Victory in an infringement suit requires a finding that the patent claim ‘covers the alleged infringer’s product or process.’” *Id.* The Court held in *Warner-Jenkinson Co. v. Hilton-Davis Chem. Co.*, 520 U.S. 17, 40 (1997), that all elements in a claim are relevant for analysis of infringement under the doctrine of equivalents. Thus, the Court should clarify that analysis of whether a process (or any) claim is to an abstract idea or to the application of that abstract idea must not be divorced from all of the actual claim language, taken as a whole.<sup>11</sup>

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11. To take the child’s “teeter totter” analogy again (*supra*, footnote 3), what many courts tend to do (and the various Federal Circuit opinions in this case are no exception) is to parse the

Second, this Court has long recognized the fundamental difference between a process and a machine (two different statutory categories of invention under § 101). *See, e.g., Expanded Metal Co. v. Bradford*, 214 U.S. 366, 384 (1909):

A machine is a thing. A process is an act, or a mode of acting. The one is visible to the eye — an object of perpetual observation. The other is a conception of the mind, seen only by its effects when being executed or performed. Either may be the means of producing a useful result.

*Id.* (quoting *Tilghman v. Proctor*, 102 U.S. 707, 728 (1880)). At its core then, there is a fundamental difference between a process claim, which need not be tied to any specific structure, and a machine claim, which necessarily is grounded in structure.

This Court should emphasize that a claim to a computer system (a “machine”) should generally pass muster under Section 101, since it has the facial attributes of a machine. Just like the child’s teeter-totter, *see* note 3, *supra*, such claims should be more properly scrutinized under Sections 102, 103 and 112. Process or method claims, on the other hand, may bear more scrutiny, particularly if such claims do not themselves include specific components, chemicals,

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teeter totter into its parts. They would then state that the claimed apparatus is simply a lever and a fulcrum, throwing out the seats and handholds and any other physical attributes as simply add-ons (or in the case of computer claims, “mere post-solution activity”) to reject the claim as an abstract idea. In fact, such a claim, taken as a whole, would be far from abstract and instead should, if filed today, simply be rejected as not novel or obvious.

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machines, or other physical or real-world objects that they are acting upon.<sup>12</sup>

While creative counsel might sometimes blur the lines of demarcation in patent claims, it is essential to note that physical structure is a requirement of apparatus or articles of manufacture claims, but not necessarily of process or method claims. The Court should clarify that required physical structure in a claim to a non-process statutory invention must be given substantive consideration in analyzing whether a claim is to an abstract idea or to the application of that abstract idea.<sup>13</sup>

In 1994, the Federal Circuit held that a claim to circuitry elements in a general purpose computer that perform mathematical calculations was patent-eligible under § 101 because “such programming creates a new machine.” *In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994) (*en banc*). The Federal Circuit is divided over the continuing vitality of *Alappat*. *CLS Bank*, 717 F.3d at 1316. AIPLA urges the Court to emphasize that a claim to a general purpose computer to perform calculations

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12. In other words, a method claim directed to process A operating on computer component X, or process B that uses computer component Y, etc., should also generally pass 101 muster, and certainly bears less scrutiny than a set of processes wholly divorced from any components or real-world objects whatsoever.

13. In *Mayo*, the Court “decline[d] the Government’s invitation to substitute §§ 102, 103 and 112 inquiries for the better established inquiry under § 101.” 132 S. Ct. at 1304. AIPLA recommends that this Court make clear that trial courts are not obligated to assess patent claims under those provisions in strictly numerical order (i.e., a district court can screen claims, in its sole discretion, using any provision).

does pass muster under Section 101 for the cogent reasons expressed in *Alappat*.

Indeed, confusion about these points jeopardizes the protection of some of the world's greatest current innovations. Just to take the example of the "smart phone", these machines are some of the most advanced, complicated, fast and powerful machines human beings have devised. It would be exceedingly odd if our patent laws, which ably covered all of the inventive history of this country from processes for manufacturing salt peter, to twisting new barbed wire, to sending messages through telegraphic alphabets, to color television transmissions, to new genetically modified bacteria, suddenly no longer protected any of the countless new applications being developed and implemented on these fantastic machines.

A new "app" on a smart phone may not be patentable because it simply incorporates obvious steps or desired outcomes in an obvious way, using conventional tools. But that is not a basis for Section 101 ineligibility. All apps on all smart phones use computer implemented instructions to transform a general purpose computer (the smart phone) into a new machine. Using particular apps, one's smart phone can become, at turns: a compass, a flashlight, an interactive map, a "yellow pages", a pedometer, a television, a videophone, etc. Each of these specific machines would of course be patentable in principle if it were hard-wired as a specific separate machine. It would be anomalous if such marvels were rendered *per se* ineligible for patent protection when combined in the smart phone with clever software to make them interchangeable with the push of a button. Yet that is exactly the state of affairs we face, with the tangled jurisprudence exemplified by *CLS Bank*. The tangle begs to be untied.

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### III. CLARITY IS WARRANTED TO PROVIDE DIRECTION TO OUR COUNTRY'S SOFTWARE AND INFORMATION TECHNOLOGY SERVICES INDUSTRY

Our country's software and software-related industries have grown over the past 50 years into critical financial and technology drivers of our economy. Businesses have invested substantial sums of money in research and development, keeping the United States at the forefront of new innovations. At the same time, there has been substantial growth in the number of issued United States patents. There should be little doubt that American businesses have invested substantial amounts of money in research and development of computer-related inventions and have sought to protect that investment, in significant part, with patents. The Court is urged to clarify the relevant law in view of the troubling divisions reflected in *CLS Bank*.

The United States government actively promotes our country's software and information technology services industry. *See, e.g.*, <http://selectusa.commerce.gov>.<sup>14</sup> The United States software and information technology services industry increased its revenue by an average of six percent between 2010 and 2011, totaling \$606 billion in 2011. Research and development spending in the United States information and communications technology sectors increased from 2010 to 2011 by 6.3% to \$126.3 billion. And as of 2011, there were more than 100,000 software and information technology services companies in the United States, with more than 99% being small and

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14. *See* note 7, *supra*.

medium-sized firms (*i.e.*, under 500 employees). Indeed, “[i]nternational companies in the industry have shown a keen interest in the U.S. market because of its strong intellectual property rights laws and enforcement.”<sup>15</sup>

These “strong intellectual property rights laws” have included the availability of patent protection for software inventions. *See, e.g.*, Ronald J. Mann, *Do Patents Facilitate Financing in the Software Industry*, 83 Texas L. Rev. 961, 972 (2005) (“as it became increasingly clear that copyright protection was inadequate, supporters of patent protection in the [software] industry gained force, and many of the leading firms now have large numbers of patents.”)

Unsurprisingly, it remains difficult to quantify the absolute number of issued United States “software” patents and/or the percentage of issued United States patents that are “software” patents, given the ubiquity and power of software and computer-implemented inventions that run throughout nearly all of modern-day technology. The studies that have been made yield varying, yet consistently large results. *See, e.g.*, Bronwyn H. Hall & Megan MacGarvie, *The Private Value of Software Patents*, Research Policy 39 (2010) available at <http://bronwynhall.com> (summarizing different definitions and studies at pp. 13-15). According to Professors Hall and MacGarvie, analysis based on a “keyword search” definition indicated

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15. *Id.* Other data reflect comparable growth patterns. Investment in new and replacement software in the United States has increased from \$85.5 billion in 1996 to \$257.9 in 2011. Bureau of Econ. Analysis, Private Fixed Investment in Equipment & Software, at 2, 7, [http://www.bea.gov/national/FA2004/E&S\\_type.pdf](http://www.bea.gov/national/FA2004/E&S_type.pdf)



that between 1996 and 2006, the number of issued United States software patents increased from approximately 10,000 to approximately 30,000.<sup>16</sup> *Id.* (Figure 1).

Professors Hall and MacGarvie concluded that “[u]sing any of the definitions, there is substantial growth since 1976 that accelerates in around 1995-96.” *Id.* at 15. *See also* John R. Allison & Mark A. Lemley, *Who’s Patenting What? An Empirical Exploration of Patent Prosecution*, 58 Vanderbilt L. Rev. 2099 (2000) (reading the specification and claims of a sample of 1000 patents issued between 1996 and 1998 led to the conclusion that 10% of the issued patents during that time window were software patents.)

The substantial growth in the number of issued software patents parallels the substantial increase in investment and success of these important segments of our economy. Software and computer-implemented inventions power our modern economy in significant and pervasive ways. The fact an invention today can be developed in a hard-wired implementation or a soft-wired flexible way, through general purpose computers and software, should be largely irrelevant for determining whether such innovations are in principle patentable.

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16. To put this in context, in 1996, the USPTO issued 109,645 utility patents and in 2006 issued 173,772 utility patents. [http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us\\_stat.htm](http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm).

## CONCLUSION

In view of the foregoing, the American Intellectual Property Law Association respectfully requests that this Court make plain that claims to computer hardware or software methods or systems are generally patentable under 35 U.S.C. § 101 if drawn to a real-world application of the underlying idea(s); that Section 101 is intended to be a rather straightforward and low threshold; that the principle exception to 101 patentability is whether the claim, taken as a whole, simply restates a physical principle, law of nature or abstract idea; and that assuming a claim on its face does more than this, courts and the USPTO should follow the more prudent and careful approach and reject seemingly broad or obvious claims instead under Sections 102, 103 and 112 of the Patent Law.

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