No. 08-964

In The Supreme Court of the United States

BERNARD L. BILSKI and RAND A. WARSAW,

Petitioners,

v.

JOHN J. DOLL, ACTING UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND ACTING DIRECTOR, PATENT AND TRADEMARK OFFICE,

Respondent.

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

BRIEF OF ACCENTURE AND PITNEY BOWES INC. AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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August 5, 2009

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INTEREST OF THE *AMICI CURIAE*[1]

Accenture and Pitney Bowes Inc. have joined in this *amicus* brief to encourage the Court to correct a serious mistake in the law. Accenture[2] is one of the world's leading management consulting, technology services, and outsourcing organizations, serving 96 of the Fortune Global 100 and more than three-quarters of the Fortune Global 500.

Accenture collaborates with clients to help them become high-performance businesses. This strategy builds on Accenture's expertise in consulting, technology and outsourcing to help clients create sustainable value for their customers and shareholders. With approximately 177,000 people serving clients in more than 120 countries, Accenture generated more than $23 billion in net revenues for the fiscal year ended August 31, 2008.

Accenture spends annually about $400 million on research and development. As a result of these

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[1] In accordance with Supreme Court Rule 37, Accenture and Pitney Bowes state 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 the *amici curiae* or their counsel.

[2] "Accenture" refers to the Accenture group of companies including Accenture LLP, an Illinois limited liability partnership, doing business on behalf of Accenture within the United States, and Accenture Global Services GmbH, a Switzerland limited liability company, registered owner of many of Accenture's U.S. patents.

efforts, Accenture has filed more than 600 U.S. patent applications and obtained more than 360 U.S. patents. Many of these patents and applications are directed to methods for managing or improving a wide variety of business processes within various industrial and organizational settings.

Pitney Bowes is a Fortune 500 technology company that delivers service and innovation to more than two million customers worldwide by managing the flow of information, mail, documents, and packages. Pitney Bowes has consistently been an innovator and a technology leader, with its patent portfolio dating back over a hundred years.

Today, Pitney Bowes employs about thirty-five thousand people worldwide with annual revenues of approximately $6.3 billion. Since 1976, Pitney Bowes has obtained over 2500 U.S. patents and currently has about 550 pending U.S. patent applications. Pitney Bowes' diverse patent portfolio includes various hardware and software implemented technologies, but a significant portion of its portfolio concerns methods for managing and improving business operations.

Accenture and Pitney Bowes have no interest in any party to this litigation or stake in the outcome of this case, other than their joint desire for a correct interpretation and application of the United States Patent Laws.

In accordance with Supreme Court Rule 37, counsel for the *amici curiae* provided timely notice to

and obtained written consent to the filing of this brief from counsel of record for the parties. The letters of consent have been filed with the Clerk of the Court.

SUMMARY OF THE ARGUMENT

The standard for patent eligible subject matter is both simple and elegant. Grounded in the constitutional mandate to promote the useful arts, the patent statute broadly embraces all manner of "useful" inventions, including processes, machines, manufactures, and compositions of matter. 35 U.S.C. § 101. This straightforward and open standard ensures that the patent system adapts to embrace new and innovative technology.

The Court's decisions have reinforced the statute's standard, drawing limits only for claimed inventions that are not truly useful, such as abstract ideas. Such fundamental principles, including laws of nature, physical phenomena, and mathematical formulas, are not useful in themselves and therefore are not subject to patent protection. They become useful only when applied to achieve a practical and beneficial result in the world. Accordingly, a practical application of an abstract idea or a mathematical formula to provide a useful result may be patented, provided it satisfies the other conditions and requirements of the patent statute.

Though the "usefulness" test for patent eligibility is open and flexible, the other conditions and

requirements for grant of a patent are far more restrictive. A patentable invention also must be both new and nonobvious. In addition, the inventor must fully and clearly describe the invention to enable others to understand and practice it. The inventor also must claim the invention distinctly to inform the public of its reasonable metes and bounds. Enforcement of these requirements ensures that, after examination, granted patents legitimately promote the useful arts and advance the frontiers of technology, as the nation's founders intended.

The Federal Circuit's *en banc* decision in *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008), imposes a single, exclusive, and unbending "machine-or-transformation" test that arbitrarily limits the scope of patent eligible processes, disregards contrary Constitutional and Congressional mandates, and violates the Court's precedent. The effect of the *Bilski* decision is immediate and sweeping, adversely impacting current and future patent rights. It unnecessarily ties the process category of 35 U.S.C. § 101 to one of the other categories of that section, such as the "machine" or "manufacture" category. The Court should correct the Federal Circuit's error and reaffirm the flexible section 101 standard for process patent eligibility, consistent with the Constitution, the patent statute, and this Court's past decisions. The standard for process patent eligibility is the straightforward threshold question of usefulness.

INTRODUCTION

The *amici curiae*, Accenture and Pitney Bowes, submit this brief to address the core "usefulness" standard of process patent eligibility and to provide a perspective that has received relatively little attention in the record.

The elegance of the constitutional standard flows from a single word: "useful." The concept of usefulness unites the Constitution, the evolving patent statute, and over 200 years of the Court's precedent regarding patent eligibility. The usefulness standard ensures that an invention has utility, meaning that it actually works. Yet, the concept goes beyond simple utility. It demands that an invention have practical application in the world. As a result, abstract ideas are not patentable because they are not useful. But a *practical application* of an abstract idea, which provides a useful result in the world, may be patentable, provided it satisfies the other conditions and requirements of patentability.[3]

Congress implemented the usefulness standard as part of its constitutional mandate to promote the

[3] "Useful" in the constitutional and statutory sense must be understood to require practical application of ideas in the world. To be sure, many abstract ideas may be useful in a general sense. For example, Euclid's axioms are useful to generate further geometric theorems or results. However, only a practical application of Euclidean geometry may produce a useful result in the world, thereby satisfying the particular "usefulness" standard of section 101.

advance of the *useful arts*, broadly drafting the patent statute without technological exclusions, ready to embrace yet unknown innovations. Since then, the Court has consistently applied this open and flexible "usefulness" standard in determining subject matter eligibility for all sorts of inventions, including processes.

Sadly, the *en banc Bilski* decision takes a monumental step backwards. Misinterpreting this Court's precedent, the Federal Circuit rigidly proclaims that a process is patentable subject matter only if "(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing." *Bilski*, 545 F.3d at 954. So, in this age when the usefulness of our inventions and the vitality of our economy increasingly depend on the creative and innovative use of information and services, it seems almost inconceivable that the court forced our patent system to recognize only specific prior, time-worn technologies. The cases construing the statute do not require or imply any type of rigid rule regarding required technology for a patent eligible invention. Indeed, the cases counsel a more flexible approach.

The usefulness of the invention, as a practical application of ideas in the world, is the fundamental key for patent eligibility, not the particular means (i.e. machines or material transformations) employed to implement the invention. Promoting the "useful

arts" is as important today as it was when the founding fathers drafted the Constitution. Innovative processes have driven this nation's economy for centuries, and they continue to do so. Though "useful," many of these processes have not involved any particular machine or transformation. Nothing in the Constitution, the patent statute, or this Court's precedent justifies excluding such processes from patent eligibility.

ARGUMENT

I. AN INVENTIVE PROCESS SATISFIES SECTION 101 IF IT IS USEFUL

An invention is eligible for patent protection if it is useful. This standard applies equally to any invention, whether it is a process, a machine, a manufacture, or a composition of matter. 35 U.S.C. § 101.

The "usefulness" standard is rooted in the Constitution and has appeared in every patent statute since the original Patent Act of 1790. It provides a compact rule for identifying patent-eligible subject matter. Nothing in the Constitution, the statute, or the Court's prior decisions justifies changing this standard.

Of course, section 101 presents only the threshold inquiry of eligible subject matter; ultimate patentability is subject to the other conditions and requirements of Title 35. *Id.* Congress codified these other conditions and requirements in 35 U.S.C. §§ 102, 103, and 112, which ensure that patentable inventions are novel, nonobvious, sufficiently described, and distinctly claimed. For purposes of the present case, however, the focus must remain on section 101 and the historically open "usefulness" standard for eligible subject matter.

A. The Constitution Establishes the "Usefulness" Standard for Patentability

The usefulness standard for patent eligibility flows from the Constitution, which empowered Congress to establish a patent system:

> To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

U.S. CONST., art. I, § 8, cl. 8. From the beginning, the founders intended that the patent system would protect inventions to promote the *useful* arts. The eighteenth century meaning of this phrase, "useful Arts," included but was in fact broader than what we now might consider "technology," and embraced all

manner of practical applications of skill or craft that achieve useful results.[4]

By contrast, the copyright system, which was authorized by the same constitutional clause, was designed to promote "Science" by providing authors with exclusive rights to their writings. U.S. CONST., art. I, § 8, cl. 8. Eighteenth century usage of the term "Science" referred to knowledge generally, not just hard sciences.[5]

In the Federalist Papers, James Madison justified both the patent and copyright systems,

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[4] *See* THOMAS SHERIDAN, GENERAL DICTIONARY OF THE ENGLISH LANGUAGE (1780) (*useful*: "convenient, profitable to any end, conducive or helpful to any purpose;" *art*: "the power of doing something not taught by nature and instinct; a science, as the liberal arts; a trade; artfulness; skill; dexterity; cunning;"). The original sense of "*technology*" derives from the Greek "techné," the primary meaning of which is simply "art, craft" (as opposed to "episteme," which referred to "scientific knowledge, a system of understanding"). *See* OXFORD ENGLISH DICTIONARY, Vol. V. 338, Vol. XVII 705 (2d ed. 1991); *see also* NOAH WEBSTER, DICTIONARY OF THE ENGLISH LANGUAGE 35 (11th ed. 1833). Indeed, the term "technology" was much broader than its current meaning but rather matched the breadth encompassed by the "useful arts." SHERIDAN, *supra* (*technology*: "a treatise on the arts, and explanation of terms of art"). Nothing in these definitions limits "useful arts" or "technology" to machines or physical transformations.

[5] SHERIDAN, *supra* note 3, gives "knowledge" as the first definition of "science." Science therefore broadly encompasses the exposition and development of abstract ideas, which are also the raw fodder for developing practical applications and the useful arts.

emphasizing that patentable inventions must be *useful*:

> The utility of this power will scarcely be questioned. The copy right of authors has been solemnly adjudged in Great Britain to be a right at common law. *The right to useful inventions seems with equal reason to belong to the inventors.*

THE FEDERALIST NO. 43, 288 (James Madison) (B. Wright ed. 1961) (emphasis added).

Neither the copyright system nor the patent system provides exclusive rights in abstract ideas themselves. Copyright may protect an original expression of an abstract idea, but not the idea itself. *See Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 348 (1991). Similarly, a patent may protect a practical application of an abstract idea that yields a useful result, but also not the idea itself. Thus, ideas, though neither copyrightable nor patentable in their own right, provide the background from which spring copyrightable expressions and patentable inventions.

For example, Einstein's formula, $E=mc^2$, is a law of nature in the abstract – available to all, and not protectable by copyright or patent. A copyright, however, may protect a physics textbook that expresses the formula and its effects in an original way. Likewise, a patent may protect a practical application of the formula that produces a useful

result. To be patentable, the invention must satisfy additional conditions,[6] but to satisfy the threshold constitutional eligibility requirement, the invention must simply be "useful."

B. The Patent Statute Mandates the "Usefulness" Standard

Since the original Patent Act of 1790, Congress has sustained and emphasized the constitutionally broad scope of patentable subject matter. The title of the 1790 Act, "An Act to Promote Progress of the Useful Arts," echoed the Constitution's "usefulness" standard for patent eligible subject matter. Patent Act of 1790, Ch. 7, 1 Stat. 109-112 (1790) (current version at 35 U.S.C. § 101 *et seq.*). The 1790 Act authorized issuance of letters patent to an inventor who has "invented or discovered any *useful* art, manufacture, engine, machine, or device, or any improvement therein not before known or used, . . . " *Id.*, § 1 (emphasis added).

Three years later, Congress enacted a new patent act, authorizing grant of a patent to an inventor who has "invented any new and *useful* art, machine,

[6] Sections 102, 103, and 112 of the present patent statute define the conditions and requirements for patentability (i.e., novelty, nonobviousness, sufficient description, and claim definiteness). 35 U.S.C. §§ 102, 103, 112. Section II, *infra*, addresses these conditions and requirements, which are separate from the eligible subject matter requirement of section 101.

manufacture or composition of matter, or any new and *useful* improvement on any art, machine, manufacture or composition of matter, not known or used before the application." Patent Act of 1793, Ch. 11, 1 Stat. 318-323, § 1 (1793) (current version at 35 U.S.C. § 101 *et seq.*) (emphasis added). Congress changed the language slightly, specifying that the invention had to be "new,"[7] but the "usefulness" standard for patent eligibility remained.

Throughout its evolution, the patent statute always has defined "useful" inventions as the proper subject matter for patent protection. In relevant part, the statute remains largely unchanged from the 1793 Act. Even the Patent Act of 1952, which significantly revised and restructured the statute, left the "usefulness" standard untouched. Patent Act of 1952, Ch. 950, 66 Stat. 792, § 101 (1952) (current version at 35 U.S.C. § 101).

One noteworthy change in the 1952 Act was substitution of the word "process" in place of "art" in what is now known as section 101:

> Whoever 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.

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[7] "New" here simply restates the requirement for "invention" or "discovery" in the prior act.

35 U.S.C. § 101 (emphasis added). The 1952 Act also introduced a definition for "process":

> The term "process" means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

35 U.S.C. § 100(b).[8]

The Committee Report for the new statute acknowledged the sweeping breadth of potentially

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[8] The legislative history accompanying the 1952 Act explains the substitution of "process" in place of the longstanding term "art":

> Referring first to section 101, this section specifies the type of material which can be the subject matter of a patent. The present law states that any person who has invented or discovered any "new and useful art, machine, manufacture, or composition of matter, or any new or useful improvement thereof'' may obtain a patent. That language has been preserved except that the word "art" which appears in the present statute has been changed to the word "process." "Art" in this place in the present statute has a different meaning than the words "useful art" in the Constitution, and a different meaning than the use of the word "art" in other places in the statutes, and *it is interpreted by the courts to be practically synonymous with process or method*. The word "process" has been used to avoid the necessity of explanation that the word "art" as used in this place means "process or method," and that it does not mean the same thing as the word "art" in other places.

S. REP. No. 82-1979, at 5 (1952), *reprinted in* 1952 U.S.C.C.A.N. 2394, 2398 (emphasis added).

patentable subject matter contemplated by section 101, stressing that it "may include *anything under the sun that is made by man*. . . ."[9] S. REP. No. 82-1979, at 5, *reprinted in* 1952 U.S.C.C.A.N. 2394, 2399 (emphasis added).

Hence, section 101 defines processes as a category of invention on par with machines, manufactures, and compositions of matter, and it applies the "usefulness" standard for patent eligibility equally to all. The statute imposes no more particular patent eligibility requirements on processes than it does on the other categories of patentable inventions.

Nor has this Court or any other court imposed additional limitations on the patent eligibility standard for process inventions, at least not prior to *Bilski*.

C. The Court Has Consistently Applied the "Usefulness" Standard

Long before Congress passed the 1952 Act, the Court recognized useful processes as eligible for patent protection. In *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 130 (1853), the Court explained: "[a] new and useful art or a new and useful improvement on any known art is as much entitled to the protection of

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[9] The Senate Committee Report further notes that, though an invention may satisfy the broad standard of section 101, it is not patentable unless the other conditions of Title 35 are fulfilled. *See* section II, *infra*.

the law as a machine or manufacture." Elaborating on the connection between the terms "art" and "process," the Court further noted that "'the term art applies . . . to all those cases where the result, effect, or manufactured article is old, but the invention consists in a new *process* or *method* of producing such result, effect, or manufacture.'" *Id.* (quoting GEORGE TICKNOR CURTIS, A TREATISE ON THE LAW OF PATENTS FOR USEFUL INVENTIONS (1849)).

Twenty-five years later, the Court reaffirmed that a process which produces a useful result is patentable, regardless of the means by which it produces the result:

> [I]t is only *useful* arts – arts which may be used to advantage – that can be made the subject of a patent. . . . Thus, an art – *a process* – which is useful, is as much the subject of a patent as a machine, manufacture, or composition of matter.

The Telephone Cases, 126 U.S. 1, 533 (1888) (emphasis added). In other words, a patentable process must achieve an advantageous result in the world.

Most recently, the Court reaffirmed both the broad usefulness standard for patent eligibility and its applicability to process claims in *Diamond v. Diehr*, 450 U.S. 175 (1981):

> "It is for the discovery or invention of some *practical method or means of producing a beneficial result or effect*, that a patent is

> granted, and not for the result or effect itself. It is when the term process is used to represent the means or method of producing a result that it is patentable, and it will include all methods or means *which are not effected by mechanism or mechanical combinations*."

Id. at 182, n.7 (quoting *Corning v. Burden*, 56 U.S. (15 How.) 252, 267-68 (1853)) (emphasis added).

Of course, the Court has recognized certain exceptions to the scope of patentable subject matter. Abstract ideas, mathematical formulas, laws of nature, and natural phenomena are not proper subject matter for a patent. The Court has repeatedly held that section 101 precludes any claim that would wholly preempt such a fundamental principle. *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948); *Diehr*, 450 U.S. at 185 ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.") (quoting *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 175 (1852)).

These exclusions remain consistent with the usefulness requirement of the patent statute and its constitutional origins. Abstract ideas, mathematical formulas, laws of nature, and natural phenomena are not useful in isolation, and therefore, they are not patent-eligible subject matter. However, a practical application of such a principle, which provides a useful result in the world, satisfies the usefulness requirement. *Funk Bros.*, 333 U.S. at 130 (product

claim applying a law of nature to a new and useful end is patentable).

The Court applied this principle equally to process claims in *Gottschalk v. Benson*, 409 U.S. 63, 67-68 (1972). The Court in *Benson* rejected a claim to the general idea of converting signals from binary-coded decimal ("BCD") form into pure binary form. *Id.* at 65. In practical effect, the Court held the claim to be directed simply to an abstract idea, the mathematical formula for converting from BCD form to binary form. *Id.* at 71-72. Likewise, in *Parker v. Flook*, 437 U.S. 584, 594 (1978), the Court rejected claims involving a mathematical formula, holding that they failed to recite an inventive application of the formula.

The Court elaborated on these exclusions in *Diehr*:

> This Court has undoubtedly recognized limits to § 101 and every discovery is not embraced within the statutory terms. Excluded from such patent protection are laws of nature, natural phenomena, and abstract ideas. "An idea of itself is not patentable." "A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right."

450 U.S. at 185 (internal citations omitted).

The *Diehr* majority took pains to emphasize that the Court's holdings in *Benson* and *Flook* "stand for no more than these long-established principles." *Id.* Addressing each of the *Benson* and *Flook* decisions in detail, the *Diehr* majority explained why the claims in those cases were not patent-eligible. In each case, the applicant sought to patent a mathematical formula, which, "like a law of nature, . . . cannot be the subject of a patent." *Id.* at 185-86. The issue did not turn on machines or transformation, but on usefulness and preemption of an abstract idea.

These cases weave a common thread that patent eligibility does not extend to certain fundamental principles, including abstract ideas, laws of nature, and mathematical formulas. Nor does it depend on the statutory category or the type of technology. Rather, the cases reflect the Court's understanding that the section 101 analysis of a process claim requires an open and flexible approach focused on practical applications that achieve useful results.

II. Sections 102, 103, and 112 – Not Section 101 – Define the "Conditions and Requirements" for Patentability

Some defenders of the Federal Circuit's *Bilski* decision and the exclusive machine-or-transformation test will argue the test is necessary to prevent the issuance of plainly invalid patents. There have been examples of such patents in recent years – patents that never should have issued because they claim old

and well-known ideas, they claim more than the inventor actually invented, or they claim hopelessly vague or broad subject matter. Some believe that the machine-or-transformation test provides the means to eliminate such plainly invalid patents by summarily rejecting broad categories of process claims as patent ineligible. However, excluding entire categories of invention from statutory protection is improper. It undermines the patent system, discourages innovation, and is contrary to long-established law.

Section 101 simply provides "a general statement of the type of subject matter that is eligible for patent protection 's*ubject to the conditions and requirements of this title.*'" *Diehr*, 450 U.S. at 189 (quoting § 101) (emphasis added). The more substantive requirements for whether a particular invention is novel (section 102) and nonobvious (section 103) stand "'wholly apart from whether the invention falls into a category of statutory subject matter.'" *Id.* at 189-90 (quoting *In re Bergy*, 596 F.2d 952, 961 (C.C.P.A. 1979)).

The late Judge Giles Sutherland Rich, who co-authored the Patent Act of 1952, described sections 101, 102, and 103 as doors on the path to patentability, each requiring a separate key. *Bergy*, 596 F.2d at 960-62. A claim directed to eligible subject matter satisfies section 101, but that alone will not justify issuance of a patent. The applicant still must provide the keys to sections 102 and 103.

Section "101 was never intended to be a 'standard of patentability'; the standards, or conditions as the statute calls them, are in § 102 and § 103." *Bergy*, 596 F.2d at 963. This is consistent with the legislative history accompanying the 1952 act, which explains "[s]ection 101 sets forth the subject matter that can be patented, 'subject to the conditions and requirements of this title.' The conditions under which a patent may be obtained follow, and Section 102 covers the conditions relating to novelty." S. REP. No. 82-1979, at 5 (1952), *reprinted in* 1952 U.S.C.C.A.N. 2394, 2399.

Thus, section 101 is not the proper vehicle for controlling the quality of patents. Rather, properly enforcing the novelty and nonobviousness requirements of sections 102 and 103 will prevent issuance of patents that claim old and well-known processes. *See Bergy*, 596 F.2d at 960 (describing sections 102 and 103 as the second and third doors to patentability).

Section 101 also is not intended to protect against overbroad or unsupported claims. Section 112 provides these protections and serves as yet another door on the path to patentability, requiring that the inventor clearly describe and distinctly claim the invention. 35 U.S.C. § 112, ¶¶ 1, 2. Hence, if an inventor submits claims so broad or abstract as to improperly preempt activities outside the reasonable scope of the invention, that must be corrected by proper application of section 112, not section 101.

Although prior to the restructuring of the 1952 Act, the Court's 1853 analysis of Samuel Morse's eighth patent claim perhaps more closely tracks modern-day section 112 than section 101. *Morse*, 56 U.S. (15 How.) at 112-13. In *Morse*, the court held that "[w]e perceive no well-founded objection to the *description* which is given of the whole invention and its separate parts, nor to his right to a patent for the first seven inventions set forth in the *specification of his claims*. The difficulty arises on the eighth." 56 U.S. (15 How.) at 112 (emphasis added). The Court held that the eighth claim was too broad:

> In fine he claims an exclusive right to use a manner and process which *he has not described* and indeed had not invented, and therefore *could not describe* when he obtained his patent. The court is of the opinion that the *claim is too broad*, and not warranted by law.

Id. at 113 (emphasis added).[10] Ultimately, *Morse* may be less about statutory subject matter, and more

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[10] A review of Morse's fifth claim illustrates the flaw in adopting an exclusive machine-or-transformation test:

> "the system of signs, consisting of dots and spaces, and horizontal lines, for numerals, letters, words or sentences, substantially as herein set forth and illustrated, for telegraphic purposes."

Morse, 56 U.S. (15 How.) at 86, 101. The subject matter of this claim, which the Court held to be patentable, is not tied to a particular machine, nor does it transform an article to a different state or thing.

about the scope of the claims compared with the underlying description of the invention. Since the 1952 Act, courts analyze that issue under section 112 in the form of written description and enablement. Section 112, not section 101, is the proper vehicle for preventing overbroad claims.

Reliance on sections 102, 103, and 112 to control patent quality also addresses the concerns expressed in *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 126 S. Ct. 2921 (2006) (Breyer, J., dissenting from dismissal for improvidently granted review) about the harm to innovation that will occur if patents are too easily granted. As explained above, concerns about improvidently granted patents must be resolved by proper case-by-case and fact-specific application of the standards set out in sections 102, 103, and 112, which define the "conditions and requirements" for patentability. Brusquely limiting the scope of eligible subject matter under section 101 risks foreclosing valuable existing and unforeseeable future innovations; this is not a reasonable solution to the problem of improvidently granted patents.

III. THE FEDERAL CIRCUIT'S RIGID RULE FOR PATENT ELIGIBILITY HAS NO REASONABLE BASIS

Rigid application of the "machine-or-transformation" test as the sole standard for process patent eligibility disregards the Constitution, the plain words of the patent statute, and this Court's interpretation of section 101. The *Bilski* majority has taken the Court's flexible approach to section 101 and boiled it down to a single, unbending mantra that limits patentable processes to those that employ particular types of technology (specific machines or transformations of articles). As the sole means to determine patent eligibility for process claims, the machine-or-transformation test finds no basis in law.

The tools with which an invention is implemented may give some assurance or clue that the invention operates in the world, as it should, and is not just an abstract idea, but the *usefulness* of the invention provides the fundamental touchstone for patent eligibility. U.S. CONST., art. I, § 8, cl. 8; 35 U.S.C. § 101. The limited machine-or-transformation test harkens back to the early 20th century, its words reminiscent of the "Machine Age," when steel mills, automobile plants, and skyscrapers were in their heyday.[11] Never before has a test for patent eligibility

[11] *See* RICHARD GUY WILSON ET AL., THE MACHINE AGE IN AMERICA 1918-1941 25 (1986).

reflected a particular age of history, much less a bygone era.

A. The Court Has Denounced Rigid Rules in Favor of More Flexible Approaches

Throughout its patent law decisions, the Court has favored flexible, common-sense approaches over rigid, unbending rules. Patent eligibility under section 101 is no exception.

In *Benson*, the Court discussed the machine-or-transformation test as the "clue" to patent eligibility. 409 U.S. at 70. Indeed, the test provides a useful clue in that it demonstrates the invention was achieved by physical processes that are not in themselves abstract. At the same time, the Court explicitly declined to establish this test as the one and only path to process patent eligibility. *Id.* at 71. The focus remained, as it has been for more than two hundred years, on whether the claim was directed to a useful application of an abstract idea as opposed to the underlying idea itself. *Id.* at 71-72.

The Court rejected the claims in *Flook*, as in *Benson*, because they were directed to abstract mathematical formulas. *Id.*; *Flook*, 437 U.S. at 594. By contrast, the applicant in *Diehr* did not seek to patent an abstract idea. 450 U.S. at 187. The majority in *Diehr* considered the machine-or-transformation test, and it included *Benson's* "clue" quote, *id.* at 184, but its focus remained on the broader question of

whether the claim at issue was directed to a useful process. *Id.* at 185-92; *see also* section I.C, *supra*.

In the 28 years since *Diehr*, the Court has not revisited section 101. Yet, the Court's recent decisions on other patent issues maintain the same practical preference for flexible, common-sense analyses over unbending, bright-line rules. Rigid rules may be easier to apply, but the Court has repeatedly rejected such shortcuts in patent cases.

The Court emphasized the importance of the flexible approach to patent law in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). There, the Court rejected the Federal Circuit's rigid "teaching, suggestion or motivation (TSM)" test as the sole test for obviousness under section 103. *Id.* at 407, 415. The unanimous Court explained that section 103 "must not be confined within a test or formulation too constrained to serve its purpose." *Id.* at 427.

In another recent case, *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002), the Court rejected the Federal Circuit's "complete bar test," an unbending approach to the doctrine of prosecution history estoppel. Again speaking unanimously, the Court cautioned, "we have consistently applied the doctrine in a flexible way, not a rigid one." *Id.* at 738.

In its most recent patent decision, the Court rejected an inflexible rule excluding method claims from the doctrine of patent exhaustion. *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109

(2008). The unanimous Court noted, "[o]ur precedents do not differentiate transactions involving embodiments of patented methods or processes from those involving patented apparatuses or materials." *Id.* at 2117. The Federal Circuit had erred by rigidly limiting patent exhaustion to apparatus claims. *Id.* at 2117-18. This Court concluded that the patent exhaustion analysis for a process claim depends on the facts of the particular case, just as it does for an apparatus claim. *Id.* at 2118.

As in *Quanta*, the Federal Circuit's decision in *Bilski* to treat process claims differently from apparatus claims by establishing its rigid machine-or-transformation test improperly restricts the scope of patent eligibility established in section 101.

B. The Federal Circuit Departs from the Court's Flexible Approach to Section 101

The Federal Circuit's new interpretation of section 101 directly conflicts with the Court's controlling decisions. The Court has never held the machine-or-transformation test to be the sole standard of process patent eligibility. *See*, *e.g.*, *Benson*, 409 U.S. at 71 (declining to hold that no process patent could ever qualify if it does not satisfy the machine-or-transformation test). *Bilski* is yet another example of the Federal Circuit departing from the Court's established, flexible approach in favor of a rigid, bright-line rule.

The *Bilski* majority relied heavily on its particular interpretation of *Benson*, *Flook*, and *Diehr*. Indeed, as discussed above, the Court considered the machine-or-transformation test in each of these three cases. The Federal Circuit's mistake, however, was adopting this as the *only* test for process patent eligibility. Rather, the Court has consistently held the machine-or-transformation test as only an example of how a process may satisfy section 101's usefulness requirement. Rather than dictating one particular rigid and age-anchored test, the Court's section 101 decisions consistently require a flexible patent eligibility analysis that adapts to new inventions that achieve useful results:

> It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a "different state or thing." *We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents*.

Benson, 409 U.S. at 71 (emphasis added).

Nor did the Court in *Flook* establish the machine-or-transformation test as the touchstone of patent eligibility. Indeed, the *Flook* Court noted that "[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.'" 437 U.S. at 589 (quoting *Tilghman v. Proctor*, 102 U.S. 707, 728 (1880)). This hardly supports the exclusive and

inflexible rule the Federal Circuit has now imposed. Rather, it again demonstrates that the practical application of the invention, its "effects when being executed or performed," is key to differentiating an un-patentable abstract idea from a useful and patent-eligible process. *Id.*

The *Bilski* majority focuses on one particular sentence in a footnote of the *Flook* opinion: "[a]n argument can be made [that the Supreme] Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing.'" *Bilski*, 545 F.3d at 979-80 (quoting *Flook*, 437 U.S. at 589 n.9). However, the Court squarely rejected that interpretation in the next sentence: "[a]s in *Benson*, we assume that a valid process patent *may issue even if it does not meet one of these qualifications of our earlier precedents*." *Flook*, 437 U.S. at 589 n.9 (emphasis added).

In its analysis of *Diehr*, the Federal Circuit again focused too narrowly on the machine-or-transformation test as the only "clue" to patent eligibility. *Bilski*, 545 F.3d at 956 (quoting *Diehr*, 450 U.S. at 184). In doing so, the Federal Circuit missed the broader, flexible approach that the majority applied in *Diehr* – the same approach the Court had used in *Benson* and *Flook*.

The majority in *Diehr* described the machine-or-transformation test, not as *the* test for patent eligibility, but as one *example* of such a test:

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

Diehr, 450 U.S. at 192 (emphasis added). The "*e.g.*" in this passage demonstrates that the machine-or-transformation test is just an example, not an exclusive test.

The remainder of the *Diehr* opinion reaffirms this distinction. If the machine-or-transformation test had been the touchstone of patent eligibility, the majority could have ended its opinion after section II. *See Diehr*, 450 U.S. at 184. Instead, the *Diehr* majority continued with sections III and IV, analyzing the claim in detail to determine whether it improperly covered an abstract mathematical formula or properly covered a practical application of the formula to a new and useful end. *Id.* at 185-92.

None of the Court's decisions have turned on a rigid application of the machine-or-transformation test. Indeed, this test may have guided the Court in *Benson* and *Diehr*, but the Court has never adopted it

as the one and only standard for process patent eligibility.[12] Rather than following this Court's guidance, the *Bilski* decision has disregarded precedent. In the face of not only the *Benson*, *Flook*, and *Diehr* decisions, but also the Court's more recent rejections of narrow rules in *KSR* and *Festo*, the Federal Circuit in *Bilski* adopted yet another rigid rule.

C. The Federal Circuit Ignores Recent Congressional Action Embracing the Flexible Approach to Section 101

The Federal Circuit's decision to require a rigid machine-or-transformation test also ignores the intent of Congress, as expressed in the legislative history of 35 U.S.C. § 273. In the immediate aftermath of *State St. Bank & Trust Co. v. Signature*

[12] The Federal Circuit's view of this Court's decisions is curious and disturbing. The Federal Circuit noted that the Court was "equivocal" in the *Benson* and *Flook* decisions when it expressly declined to hold that no process could ever be patentable without satisfying the machine-or-transformation test. *Bilski*, 545 F.3d at 956. The Federal Circuit reasoned, "this caveat was *not repeated* in *Diehr* when the Court reaffirmed the machine-or-transformation test." *Id.* (emphasis in original). Under the Federal Circuit's logic, the Court must repeat every caveat in every subsequent opinion to ensure lower courts do not interpret the Court's silence as overruling its previous decision. Such analysis also ignores the Court's use of the "*e.g.*" signal in *Diehr*, which was consistent with the express holdings and flexible analysis in *Benson* and *Flook*.

Fin. Group, Inc., 149 F.3d 1368 (Fed. Cir. 1998), Congress enacted section 273 to limit liability for infringement of a business method patent by a prior inventor. Congress dealt with this enforcement issue by passing narrowly drawn legislation that did not limit the scope of patent eligibility for business methods. Indeed, Congress explicitly recognized the eligibility of business methods for patent protection. *See* 35 U.S.C. §§ 273(a)(3), 273(b)(1). The majority opinion in *Bilski* makes no mention of this Congressional action, let alone wrestles with its implications.

Important for purposes of the present case, Congress acknowledged and embraced the Federal Circuit's prior, reasoned "usefulness" test for patent eligibility, from *State Street Bank*. That test mirrored this Court's long-standing flexible approach to patent eligible subject matter. *See State St. Bank,* 149 F.3d at 1373 ("Unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths *that are not 'useful.'* From a practical standpoint, this means that *to be patentable an algorithm must be applied in a 'useful' way.*") (emphasis added). At that time, the Federal Circuit noted that "[i]t is improper to read limitations into § 101 on the subject matter that may be patented where the legislative history

indicates that Congress clearly did not intend such limitations." *Id.*[13]

When it enacted section 273, Congress embraced this flexible approach in its Joint Conference report as the "essential question" of patent eligibility. H.R. CONF. REP. No. 106-464, at 122 (1999). It is ironic that the Federal Circuit has now abandoned this test, less than ten years after crafting it to mirror the Court's precedent and receiving Congressional approval.[14]

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[13] The Federal Circuit's now-abandoned usefulness test (referred to as the "useful, concrete, and tangible result" test) compactly summarizes the appropriate boundary between abstract idea and useful application. "Usefulness" is the core constitutional and statutory test. The Federal Circuit added "concrete" and "tangible" modifiers to its formulation. Though not expressed in the statute, the Federal Circuit may have added these modifiers to note that the application must be reasonably specific and occur in the world and not, for example, solely in one's mind. These principles are bound up in the statutory meaning of "useful."

[14] When it enacted section 273, Congress accepted and embraced a variety of patentable methods and processes, many of which would fail the new machine-or-transformation test:

> In order to protect inventors and to encourage proper disclosure, this subtitle focuses on methods for doing and conducting business, including methods used with internal commercial operations as well as those used in connection with the sale or transfer of useful end results – whether in the form of physical products, *or in the form of services, or in the form of some other useful results; for example, results produced through the manipulation of data or other inputs to produce a useful result*.

H.R. CONF. REP. NO. 106-464, at 122 (emphasis added).

IV. THE "MACHINE-OR-TRANSFORMATION" TEST IS NOT A RELIABLE INDICATOR OF USEFULNESS

In effect, the Federal Circuit's *Bilski* decision excludes many useful business-related processes from patent eligibility. These innovative methods, though useful, are not tied to any particular machine and do not transform any article to a different state or thing. Yet, in today's information economy, these methods demonstrate their usefulness in many ways.[15] Wholesale prohibition of patent applications for business-related methods, regardless of whether they satisfy the requirements of sections 102, 103, and 112, runs counter to the founders' mandate to promote the useful arts – the very foundation of our patent system.[16]

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[15] The "traveling salesman problem" (TSP) provides a helpful example. The TSP is an abstract idea in combinatorial optimization. *See* DAVID L. APPLEGATE ET AL., THE TRAVELLING SALESMAN: A COMPUTATIONAL STUDY (Princeton University Press 2006). The idea is to identify the shortest possible route that enables a salesman to visit each of a list of cities only once, given the distance between each pair of cities. Engineers have developed practical and useful applications of the TSP to optimize delivery and service routing, microchip manufacturing, and genome sequencing, to name a few of the myriad of useful applications.

[16] Ironically, the machine-or-transformation test is not only under-inclusive, but also over-inclusive. Some processes involving machines are not useful at all. The Manual of Patent Examining Procedure instructs PTO examiners to reject claims directed to perpetual motion under section 101 because the intended result is physically impossible and therefore lacks

(Continued on following page)

A. Useful Processes May or May Not Be Tied to a Machine or Transform an Article

Innovative, useful processes thrive in many areas beyond the "traditional" scientific and engineering fields. To remain competitive in today's information economy, companies and governments rely on new and useful business processes, whether as methods for managing organizations of people; as processes provided through software, internet, and computer interfaces; or as other innovative methods of promoting their business ends. Business processes affect the activities of both people and organizations by applying scientific, mathematical, and engineering principles to achieve practical results, operating on real entities in the world.

The *amici curiae* develop innovative processes that benefit businesses and governments every day. For example, Accenture has developed and implemented supply chain systems that manage transportation logistics for moving products from manufacturing sites to retail stores. In the huge and growing industry of business process outsourcing, Accenture has automated management reporting methods for outsourced business operations. Accenture also has integrated telecommunications

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utility. MPEP § 706.03(a)(II). Thus, even if it involves a machine, a process intended to achieve perpetual motion is still not patent-eligible because it lacks utility; it simply cannot be useful under section 101.

services for cable, telephone and the Internet, all operating together with enhanced capabilities and convenience.

Pitney Bowes operates as a leader in an industry that manages the flow of information, mail, documents, and packages to customers worldwide. To maintain its leadership role, Pitney Bowes constantly innovates and invents in such areas as secure funds transactions, data management, and material handling workflow processes, providing improvements in productivity, efficiency, and security.

These innovations are not exhaustive, but they demonstrate that Accenture and Pitney Bowes are not in the business of promoting abstract ideas. Each and every one of these processes and hundreds of others provide economic value and advantage in the world, though they often require neither machine nor transformation.

Many of the processes that Accenture and Pitney Bowes develop come from a field known as industrial engineering, which has a long history of process innovation. Broadly speaking, industrial engineering involves the practical application of mathematics, logic, economics, operations research, engineering, and social sciences to improve the operations of integrated systems in industry, finance, and business management.

The American Institute of Industrial Engineers defines "industrial engineering" as:

> concerned with the design, improvement and installation of integrated systems of people, materials, equipment and energy. It draws upon specialized knowledge and skill in the mathematical, physical and social sciences together with the principles and methods of engineering analysis and design to specify, predict and evaluate the results to be obtained from such systems.

GAVRIEL SALENDY, HANDBOOK OF INDUSTRIAL ENGINEERING 5 (John Wiley & Sons, Inc., 3d ed. 2001).

Industrial engineers focus their applied scientific, mathematical, and engineering improvements *upon systems of human organizations* ("enterprises"), which can be anything from a single person's activity to a larger corporate, nonprofit, or governmental organization. "[T]he systems designed by industrial engineers *involve people as basic components*." WAYNE C. TURNER ET AL., INTRODUCTION TO INDUSTRIAL AND SYSTEMS ENGINEERING 3 (Prentice Hall, 3d ed. 1993) (hereinafter "INTRODUCTION TO INDUSTRIAL AND SYSTEMS ENGINEERING") (emphasis added). The PTO has long accepted "industrial engineering" as a "recognized technical subject" for eligibility to become a patent attorney. *See* U.S. Patent & Trademark Office, General Requirements Bulletin for Admission to the Examination for Registration to Practice in Patent

Cases Before the United States Patent and Trademark Office (Jan. 2008) http://www.uspto.gov/web/offices/dcom/olia/oed/grb.pdf.

Advances in industrial engineering have produced countless useful processes, many of which are not tied to a particular machine and do not transform any article to a different state or thing. *See* INTRODUCTION TO INDUSTRIAL AND SYSTEMS ENGINEERING at 13-15; ADEDEJI B. BADIRU, HANDBOOK OF INDUSTRIAL AND SYSTEMS ENGINEERING 4-8 (Taylor & Francis Group 2006) (describing the development of industrial and systems engineering from the year 1440 to the present). Yet, the unquestioned economic progress that these innovative, practical applications of science and engineering to business organizations and processes has produced, especially for the United States, underscores its importance to the "[p]rogress of . . . useful [a]rts," U.S. CONST. art. I, § 8, cl. 8.

The Federal Circuit's new machine or transformation test risks making these particular, practical fruits of human progress uniquely unpatentable. But neither the patent statute nor this Court require that result. So long as the steps of a new and useful business-related method taken as a whole represent more than just an abstract principle, the business-related method should be eligible for patent protection under section 101. If the process further satisfies the conditions and requirements of sections 102, 103, and 112, then its inventor should be granted a patent for the invention.

B. The "Machine-or-Transformation" Test Forecloses Useful Innovation Well Beyond the Bilski Claims

The Bilski patent application discloses and claims a process for reducing risk in hedge fund transactions, including transactions between separate market participants. Although the Federal Circuit rejected the Bilski claims for not satisfying the machine-or-transformation test, the claims appear to recite a specific and useful application of a hedging process between market participants in the world.[17]

The management of risk and optimization of financial reward is an essential part of the modern economy. If a process provides a beneficial way of managing risk, then it is useful regardless of whether it employs a machine or transformation. Accenture operates in an industry that requires very sophisticated analyses of risks and rewards across a range of businesses, including insurance claim analysis, energy commodities transactions, and credit risk management, among others. Accenture develops and sells management and control processes in these industries against considerable competition worldwide.

[17] Whether the Bilski claims satisfy the other conditions and requirements for patentability, including novelty, non-obviousness, enablement, and definiteness, should be considered under sections 102, 103, and 112, not section 101. *See* section II, *supra*. Moreover, whether the Bilski claims are patentable at the end of examination is irrelevant for purposes of identifying the correct process patent eligibility standard.

Accenture's new and useful inventions enhance productivity, efficiency, and income for its clients. Pitney Bowes' developments in the areas of secure funds transactions, material handling processing, and data management provide similar benefits and advantages. Yet, these useful results frequently can be achieved with processes that do not require any particular machine or transformation of matter.

The exclusive machine-or-transformation test also forecloses patent protection for other broad categories of cutting edge innovation. The modern software, financial, and life science industries, among others, all rely on process patents to protect their investment in research and development. Section 101 embraces these 21st century processes, which employ useful, specific applications of general principles, and yet frequently do not involve particular machines or material transformations. As the Court has acknowledged, neither it nor Congress intends to "freeze process patents to old technologies, leaving no room for the revelations of the new, onrushing technology." *Benson*, 409 U.S. at 71.

CONCLUSION

For the foregoing reasons, Accenture and Pitney Bowes respectfully request that the Court preserve broad access to the U.S. patent system by reaffirming the flexible "usefulness" test, including the prohibition on patenting abstract ideas, natural phenomena, and laws of nature.

Respectfully submitted,

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