

2015

## The Supreme Court's Tightening Of Patent Definiteness & The Impact Of Nautilus v. Biosig On The Software Patent Industry

Maliha Khan

*American University Washington College of Law*

Follow this and additional works at: <http://digitalcommons.wcl.american.edu/aubl>



Part of the [Intellectual Property Law Commons](#)

---

### Recommended Citation

Khan, Maliha "The Supreme Court's Tightening Of Patent Definiteness & The Impact Of Nautilus v. Biosig On The Software Patent Industry," *American University Business Law Review*, Vol. 4, No. 2 ( ).

Available at: <http://digitalcommons.wcl.american.edu/aubl/vol4/iss2/2>

This Note is brought to you for free and open access by the Washington College of Law Journals & Law Reviews at Digital Commons @ American University Washington College of Law. It has been accepted for inclusion in *American University Business Law Review* by an authorized editor of Digital Commons @ American University Washington College of Law. For more information, please contact [kclay@wcl.american.edu](mailto:kclay@wcl.american.edu).

## NOTE

# THE SUPREME COURT'S TIGHTENING OF PATENT DEFINITENESS & THE IMPACT OF NAUTILUS V. BIOSIG ON THE SOFTWARE PATENT INDUSTRY

MALIHA KHAN\*

*Since the early 2000s, the Supreme Court has issued a series of decisions aimed at reining in what it has viewed as patent system excesses, specifically addressing the need for tightening the patent definiteness requirement in claim drafting. In Nautilus v. Biosig, decided in June 2014, the Supreme Court altered and tightened the Federal Circuit's standard for definiteness. The decision in Nautilus will have wide-ranging impacts on businesses, particularly those that rely on software patents, like the finance and information technology industries. The decision will likely cause a reduction in the volume of patent infringement suits, thereby saving patent owners large sums of money. Furthermore, it will compel patent drafters to write clearer claims in order to avoid rejection at the examination stage or a judgment of indefiniteness at an infringement hearing.*

Introduction .....	354
I. Development of Software Patent Law and the Current Challenges in Claim Drafting .....	355
A. Patent Definiteness .....	356

---

\*The author would like to thank her family for all of their support throughout the publication of this Note. She would also like to thank the staff of the American University Business Law Review, and especially her Editor, Breanne Hoke, for the guidance and support throughout the publication process.

B.	Amenable to Construction or Insolubly Ambiguous .....	357
C.	Nautilus, Inc. v. Biosig Instruments, Inc. ....	357
D.	Federal Circuit Decisions Since Nautilus .....	358
II.	Impact of <i>Nautilus v. Biosig</i> on the Software Patent Industry .....	359
A.	Enablement Doctrine and the Doctrine of Equivalents .....	363
B.	Pre vs. Post-Issuance Claims .....	364
C.	Broader Economic Implications of <i>Nautilus v. Biosig</i> .....	365
1.	Non-Practicing Entities (“NPEs”) or “Patent Trolls” .....	366
2.	Impact on Business .....	367
III.	Recommendations for Software Patent Claim Drafters .....	367
A.	Describe Clear Use of Machine or Transformation .....	367
B.	Cautious Use of Means-Plus-Function Claims .....	368
C.	Avoid Use of Relative Terminology .....	368
Conclusion	.....	369

## INTRODUCTION

Patents, particularly software patents, are typically wide and unclear in scope. Ambiguity in claims makes it difficult to determine when an invention infringes on existing patented technology and creates problems for competitors. Software patents are particularly vulnerable to this problem because of the constantly changing nature of the technology and the inability of the law to keep up with such changes.<sup>1</sup>

Patent claim drafting is a balancing act: claim writers must tread the fine line between giving away too much information and risking an ineffective patent, or giving away too little and obtaining a broad or unclear patent that may lead to future patent disputes.<sup>2</sup> Claim clarity is critical to a properly functioning patent because it notifies the public about the bounds of the patent, the elements on which the patentee has an exclusive right, and what remains open to the public.<sup>3</sup> Therefore, it is important that courts are equipped with a proper standard for determining when patents are ambiguous and invalid.

---

1. See *In re: Strategies for Improving Claim Clarity: Glossary Use in Defining Claim Terms*, Comments of Google, Inc. Before the United States Patent and Trademark Office at 3-4 (Oct. 23, 2013), [http://www.uspto.gov/patents/init\\_events/swglossary\\_e\\_google\\_2013oct23.pdf](http://www.uspto.gov/patents/init_events/swglossary_e_google_2013oct23.pdf).

2. See generally *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1384 (Fed. Cir. 2001) (“The jurisprudence of claim construction reflects the difficult balance between a patentee’s exhortation that courts should read the claims broadly and unlimited to the specific embodiments shown in the specification, and the rule that claims should be construed sufficiently narrowly to preserve their validity.”).

3. *In re: Strategies for Improving Claim Clarity: Glossary Use in Defining Claim Terms*, *supra* note 1 at 3.

One of the factors weighed in determining the validity of a patent is definiteness.<sup>4</sup> Patent definiteness refers to the metes and bounds of a patent and how well they are delineated.<sup>5</sup> The U.S. Supreme Court recently lowered the bar for proving patent indefiniteness. In *Nautilus, Inc. v. Biosig Instruments, Inc.*, the Court vacated a U.S. Court of Appeals for the Federal Circuit (“Federal Circuit”) decision which upheld the validity of a patent under the Federal Circuit’s standard for definiteness pursuant to 35 U.S.C. § 112.<sup>6</sup> The Federal Circuit’s standard held that a patent is valid if the claim is “amenable to construction” and not “insolubly ambiguous.”<sup>7</sup>

The ramifications of *Nautilus* will likely have a significant impact on the software patent industry because of the inherent ambiguity in software patents. One of the difficulties faced by software patent developers is that software patents rely on technology that is difficult to explain in claims because of the lack of adequate terminology. Recognizing the seriousness of this problem, the White House launched a glossary pilot project in early 2014 to promote patent clarity.<sup>8</sup> Despite strong arguments in favor of abolishing software patent protection, the Supreme Court’s decision in *Nautilus* demonstrates that the Court is looking to improve the software patent system rather than abolish it.

#### I. DEVELOPMENT OF SOFTWARE PATENT LAW AND THE CURRENT CHALLENGES IN CLAIM DRAFTING

At the beginning of the digital era, the Supreme Court completely denied patent protection to software.<sup>9</sup> However, in the last few decades the Court

4. See 2173 - *Claims Must Particularly Point Out and Distinctly Claim the Invention*, U.S. Patent and Trademark Office (last visited Mar. 5, 2015), <http://www.uspto.gov/web/offices/pac/mpep/s2173.html>.

5. See 35 U.S.C. § 112(b) (2012); see also 2173 - *Claims Must Particularly Point Out and Distinctly Claim the Invention*, *supra* note 4 (“The primary purpose of this requirement of definiteness of claim language is to ensure that the scope of the claims is clear so the public is informed of the boundaries of what constitutes infringement of the patent. A secondary purpose is to provide a clear measure of what applicants regard as the invention so that it can be determined whether the claimed invention meets all the criteria for patentability . . .”).

6. See generally *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014).

7. See *id.* at 2123 (According to the Supreme Court, the “Federal Circuit’s standard, which tolerate[d] some ambiguous claims but not others, [did] not satisfy the statute’s definiteness requirement.”).

8. See *USPTO Launches New Glossary Pilot Program to Promote Patent Claim Clarity*, USPTO (Mar. 26, 2014), <http://www.uspto.gov/news/pr/2014/14-08.jsp>.

9. See *Gottschalk v. Benson*, 409 U.S. 63, 72 (1972) (demonstrating one of first cases in which the Supreme Court addressed software patentability by ruling that a process claim directed to a numerical algorithm was not patentable because “the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself”).

has expanded the scope of patent protection to include software technology. Yet even with this expanded scope, strict guidelines remain to determine which inventions are patentable. For example, patents are not issued for “laws of nature, physical phenomena, and abstract ideas,”<sup>10</sup> or mathematical formulas and algorithms.<sup>11</sup> Despite such guidelines, the Supreme Court has recently found the need to further tighten the scope of software patent protection due to an increasing rate of litigation and an equal increase in costs to patent owners and businesses.

While *Nautilus* was the most recent example of the Supreme Court tightening patent protection, it was not the first. *Nautilus* was preceded by *Alice Corp. Pty. Ltd. v. CLS Bank Internationa'l*, in which the Court increased the threshold for software patent subject matter eligibility.<sup>12</sup> *Alice* involved a patent on an intermediate-settlement system for approving financial transactions.<sup>13</sup> In *Alice*, the dispute was about patentable subject matter and the Supreme Court invalidated the patent. The Court found that the claims were drawn to an abstract idea, and that abstract ideas did not warrant patent protection merely because they were carried out on a computer; they needed to go above and beyond and show some kind of transformation.<sup>14</sup> Immediately following *Alice*, patent holders and practitioners were relieved to find that the Court had not put all abstract concepts at risk, as they had feared. While recognizing the need to protect and promote innovation, the Supreme Court in *Nautilus* expressed the need to rein in software patents due to their excessive ambiguity and the resulting unnecessary litigation.

#### A. Patent Definiteness

Section 112 of Title 35 of the U.S. Code specifies the requirements of a patent claim.<sup>15</sup> Subsections (a) and (b) are most critical when it comes to

---

10. *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

11. See Eloise Gratton, *Should Patent Protection be Considered for Computer Software-Related Innovations?*, 7 *COMPUTER L. REV. & TECH J.* 223, 227 (2003) (noting that an “idea in an of itself is also not patentable. The implication is that any mathematical procedure is akin or identical to a law of nature, which leaves doubt as to whether any computer-implemented inventions are patentable”).

12. See *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, No. 13-298, slip op. at 1 (U.S. 2014).

13. *Id.*

14. See *id.* at 17.

15. See 35 U.S.C. § 112 (2012) (stating that the claim “specification shall contain 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 most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.”).

claim drafting because they lay out the rules that a patent drafter must follow in order to draft a valid claim. Subsection (a) describes the written requirement for a patent claim and subsection.<sup>16</sup> Subsection (b) requires definiteness of claim scope and subject matter.<sup>17</sup> Patent definiteness refers to the requirement that a person skilled in the art be able to determine with a reasonable degree of certainty the metes and bounds of the claim.<sup>18</sup> If a claim does not specify the metes and bounds, it is likely to be rejected. If a particular term in a patent claim is disputed and a person having ordinary skill in the art (“PHOSITA”) cannot determine the meaning of the term, then the claim is likely to be held indefinite.

### B. *Amenable to Construction or Insolubly Ambiguous*

Before *Nautilus*, the standard used by the Federal Circuit stated that “only claims not ‘amenable to construction’ or ‘insolubly ambiguous’ are indefinite.”<sup>19</sup> Under this standard, a claim was insolubly ambiguous and invalid for indefiniteness “if reasonable efforts at claim construction result[ed] in a definition that [did] not provide sufficient particularity and clarity to inform skilled artisans of the bounds of the claim[.]”<sup>20</sup>

According to the “amenable to construction or insolubly ambiguous” standard, the claim terms need not have been absolutely clear, so long as a PHOSITA could determine the meaning. One of the challenges software patent examiners face under this standard is that software patents are constructed in a deliberately broad and ambiguous manner, and the threshold for the “PHOSITA for software patents is very high.

### C. *Nautilus, Inc. v. Biosig Instruments, Inc.*

In *Nautilus*, the Supreme Court replaced the Federal Circuit’s standard with a stricter one.<sup>21</sup> The patent at issue in this case was owned by Biosig

---

16. *Id.*

17. *Id.*

18. See *Halliburton Energy Servs. V. M-I LLC*, 514 F.3d 1244, 1249 (Fed.Cir. 2008) (holding that “[p]roof of indefiniteness . . . . is met where an accused infringer shows by clear and convincing evidence that a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area.” *Halliburton* sued M-I LLC for infringing on its patent by using similar gel drilling fluid in its operations. M-I LLC fired back by arguing that *Halliburton*’s patent was invalid for indefiniteness because it did not distinguish the term “fragile gel” used in its patent claim to describe the subject matter of the patent, from prior art in the area.)

19. *Id.* at 1250.

20. *Biosig Instruments, Inc. v. Nautilus, Inc.*, 715 F.3d 891, 898 (Fed. Cir. 2013).

21. Compare *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014) with *Halliburton*, 514 F.3d at 1249 (noting that under the old standard “claims were held indefinite only where a person of ordinary skill in the art could not determine

and described “a heart-rate monitor contained in a hollow cylindrical bar that a user grips with both hands, such that each hand comes into contact with two electrodes, one ‘live’ and one ‘common.’”<sup>22</sup> The cylindrical bar mentioned in the patent claim contained “‘electronic circuitry including a difference amplifier’; and, on each half of the cylindrical bar, a live electrode and a common electrode ‘mounted . . . in spaced relationship with each other.’”<sup>23</sup> Biosig argued that the term “spaced relationship” “referred to the distance between the live electrode and the common electrode in each electrode pair.”<sup>24</sup> The district court held that the term “spaced relationship” “‘did not tell [the court] or anyone what precisely the space should be,’” or even supply ‘any parameters’ for determining the appropriate spacing.”<sup>25</sup> After the district Court found for Nautilus, the Federal Circuit reversed and remanded. The court stated that the crux of the argument was “‘just how much imprecision § 112 tolerates.’”<sup>26</sup> The Supreme Court then vacated the Federal Circuit’s decision, stating that the Federal Circuit’s use of the “amenable to construction or insolubly ambiguous” test was incorrect, and that “those formulations can breed lower court confusion, for they lack the precision § 112, ¶ 2 demands.”<sup>27</sup>

#### D. Federal Circuit Decisions Since *Nautilus*

Since *Nautilus*, many district courts have decided cases that involved a determination of patent definiteness.<sup>28</sup> Since the Supreme Court has only provided a guideline on definiteness, it remains up to the Federal Circuit to interpret the *Nautilus* standard. By analyzing the decisions since *Nautilus*, we can get a better idea of how narrowly or broadly courts are interpreting that decision. The Federal Circuit has decided one case so far under the *Nautilus* standard. In *Interval Licensing LLC v. AOL, Inc.*, the Federal Circuit affirmed a 2012 decision of the District Court of the Western District of Washington.<sup>29</sup> The Federal Circuit reviewed the district court’s decision de novo, and applied the stricter *Nautilus* standard for

---

the bounds of the claims, i.e., the claims were insolubly ambiguous.”).

22. *Nautilus*, 134 S. Ct. at 2126–2127.

23. *Id.*

24. *Id.*

25. *Id.* at 2127.

26. *Id.* at 2128.

27. *Id.* at 2130.

28. See, e.g., *Freeny v. Apple Inc.*, 2014 U.S. Dist. LEXIS 167888 (E.D. Tex. 2014); *Depomed, Inc. v. Actavis Elizabeth LLC*, 2014 U.S. Dist. LEXIS 118096 (D. N.J. 2014).

29. See *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1366 (Fed. Cir. 2014).

definiteness, achieving the same result as the district court.<sup>30</sup> The court found the phrase “unobtrusive manner,” the term at issue in the patent claim, to be subjective and looked to the written description for guidance regarding a standard for determining the scope of the term.<sup>31</sup> Ultimately, the court did not find sufficient guidance in the written description of the patent.<sup>32</sup> This was the first time that the Federal Circuit addressed the Supreme Court’s rejection of its previous standard for determining patent indefiniteness.<sup>33</sup> Because the decision in *Nautilus* sets a lower threshold for proving indefiniteness under Section 112, it is easier to reject or invalidate a patent claim for indefiniteness. It will be interesting to see the Federal Circuit’s application of the stricter standard for patentees in a case in which it upholds a patent claim as sufficiently definite.

## II. IMPACT OF *NAUTILUS V. BIOSIG* ON THE SOFTWARE PATENT INDUSTRY

From *In re Bilski* to *Nautilus v. Biosig*, decisions in the field of software patents show a trend toward increasing limitations on patentability.<sup>34</sup> This trend reflects the judiciary’s response to the growing movement of legal practitioners, academics, and business professionals in favor of restricting software patents.<sup>35</sup> The stricter standard set by the Supreme Court in *Nautilus* leaves little room for ambiguity in patent claim drafting, making such drafting particularly challenging for software patent developers.<sup>36</sup>

30. *Id.* at 1373 (finding that the phrase “unobtrusive manner” “has too uncertain a relationship to the patents’ embodiments.” Furthermore, it found the claim language to be “facially subjective” and “without an objective boundary.”).

31. *Id.* at 1371 (noting that “Where, as here, we are faced with a ‘purely subjective’ claim phrase, we must look to the written description for guidance”).

32. *Id.*

33. See David Mika, *Intellectual Property Report*, BAKER BOTTS (Nov. 2014), [http://www.bakerbotts.com/file\\_upload/IPReport201411-IntervalLicensingDeterminingIndefinitenessPost-Nautilus.htm](http://www.bakerbotts.com/file_upload/IPReport201411-IntervalLicensingDeterminingIndefinitenessPost-Nautilus.htm) (noting that the court in *Interval Licensing* “applied the new indefiniteness standard for the first time and indicated a rebalancing of the indefiniteness standard in favor of the accused infringers.”).

34. See *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 at 2124 (2014); *In re Bernard L. Bilski and Rand A. Warsaw*, 545 F.3d 943 at 954 (Fed. Cir. 2008).

35. See *Should Patents Be Awarded to Software?*, WALL ST. J., (May 17, 2013 4:03 PM), <http://www.wsj.com/articles/SB10001424127887323335404578444683887043510> (expressing that “There are those who believe software patents actually stifle innovation and therefore should be eliminated altogether. They argue that companies would have a lot more money to spend researching and developing new products if they didn’t have to acquire and defend patents.”).

36. See Nicholas B. Trenkle, *Patent Claims More Vulnerable to Invalidity Attacks After Supreme Court Holds Standard for Determining Definiteness of Claim Language to be Amorphous and Indefinite*, STITES & HARBISON PLLC (Apr. 17, 2013), <http://www.stites.com/learning-center/legal-updates/patent-claims-more-vulnerable-to->



Under the previous *Halliburton* standard,<sup>37</sup> if a claim's scope could have had multiple interpretations by a PHOSITA, it would have been acceptable and would not have been held invalid for indefiniteness merely because of differing interpretations. The new *Nautilus* standard, however, holds a patent indefinite when there is ambiguity in a claim that could lead to varying interpretations of its scope by a PHOSITA. This is a particular challenge for software companies and all companies that rely on software technology because software patents have historically been ambiguous and deliberately broad.<sup>38</sup> Software technology is a field that faces a rapid rate of development. This rapidity forces patent claim constructors to draft broad claims that could potentially cover future software innovations.<sup>39</sup> "Most software programs, and features of those programs, have an effective commercial life of only a few years."<sup>40</sup> And "new software developments quickly render prior innovations obsolete."<sup>41</sup> Furthermore, "the commercial lifespan of a software program or feature . . . is usually shorter than the time it takes the U.S. Patent & Trademark Office to resolve a patent application – a process that often takes 4 years or more"<sup>42</sup> A software patent's validity is now more likely to be challenged on indefiniteness grounds, and claim drafters will need to be more diligent going forward.<sup>43</sup> Seeing a need to address the issue of software patents that rely on technology that is difficult to explain, the United States Patent and Trademark Office ("USPTO") launched a Glossary Pilot Program in 2014 to promote clarity in claims.<sup>44</sup>

---

invalidity-attacks-after-supreme-court (explaining that "for patent applicants looking to ensure the claims of their eventual patent will not be susceptible to invalidity attacks on grounds of indefiniteness, the Court's decision in *Nautilus* provides a clear reminder of the importance for both the specification and the claims of a patent application to use terminology that is clear to those skilled in the art, and also casts a shadow on the practice of using 'wiggly words' in claims for the advantages of flexibility through deliberate ambiguity.").

37. *Halliburton Energy Servs. V. M-I LLC*, 514 F.3d 1244, 1249 (Fed.Cir. 2008).

38. See Eric Goldman, *The Problems with Software Patents*, FORBES (Nov. 28, 2012 2:53 PM), <http://www.forbes.com/sites/ericgoldman/2012/11/28/the-problems-with-software-patents/>.

39. *Id.*

40. *Id.*

41. *Id.*

42. *Id.*

43. *Id.*

44. *USPTO Launches New Glossary Pilot Program to Promote Patent Claim Clarity*, USPTO (Mar. 26, 2014), <http://www.uspto.gov/news/pr/2014/14-08.jsp> ("Participation in the Glossary Pilot Program requires an applicant to include a glossary section in the patent application specification to define terms used in the patent claims. Applications accepted into this pilot program will receive expedited processing and be placed on an examiner's special docket prior to the first office action, and will have

Since *Alice*, many cases dealing with software patents have gone before the Federal Circuit and district courts, and as a result of *Alice*, many software patents have been rejected.<sup>45</sup> Reflecting on these decisions, practitioners agree that the landscape for software patents has changed significantly.<sup>46</sup> The same will likely be true with regard to the *Nautilus* decision; even though some believe the significance of the decision is not great, time may prove the opposite.<sup>47</sup>

After *Nautilus*, the added challenge to software patent eligibility is that claim drafters need to be much clearer about the scope of the patent. This is a major problem due to the inherent ambiguity in the terms and phrases used by the industry. Software patent drafters seem to have both a beneficial and contentious relationship with ambiguity. The more ambiguously they construct a claim, the broader and more encompassing it will be. And the broader a claim is, the more successful it is likely to be because broad and ambiguous claims can be interpreted to cover new technologies and innovations. However, the more ambiguity in a claim, the less likely the applicant will be granted a patent in the first place.

Patents are limited monopolies because they give the patentee the right to exclude others from making, using, or selling an invention for a set period of time. Patent examiners try to balance protection for innovators and the interest of the public by making sure that patent claims state with precision the functions of the new product or technology. For software patent claim drafters, expressing that precision is a double-edged sword

---

special status up to issuance of a first office action.”).

45. See Brian McCall, *Lessons from Four Months of Post-Alice Decisions*, LAW360 (Oct. 31, 2014 10:18 AM) (“As of Oct. 20, 2014, 18 courts have directly relied upon *Alice* in deciding whether claims were invalid under § 101: 15 district court decisions and three Federal Circuit decisions. Of those, 14 decisions invalidated claims by applying *Alice*. Thus, almost 78 percent of the decisions that have applied *Alice* have been invalidated claims.”).

46. See Emily Kokoll, *Lawyers Weigh in on High Court's Software Patent Ruling*, LAW360 (June 19, 2014 8:07 PM) <http://www.law360.com/articles/549820/lawyers-weigh-in-on-high-court-s-software-patent-ruling> (referring to Scott Alter of Faegre Baker Daniels who states that “*Alice* will not only make it more difficult to protect and enforce innovative software-related inventions, but provides little guidance on the bounds of patent eligibility. . . With little concrete guidance being given to this step, the scope of what the abstract idea could encompass – for nearly any technology – is potentially quite broad.”).

47. See Julia Revzin, *Lawyers Weigh in on High Court's Patent Indefiniteness Ruling*, LAW360 (June 2, 2014 7:35 PM) <http://www.law360.com/articles/543889/lawyers-weigh-in-on-high-court-s-patent-indefiniteness-ruling> (David Levy of Morgan Lewis & Bockius LLP stated that “[p]atent claims will now be more vulnerable to attacks on their validity, because the Supreme Court has lowered the bar for proving that claim terms are ‘indefinite’ . . . . [e]xpect more indefiniteness arguments at the claim construction phase of cases”).

because of the desire to keep claims as broad as possible. Through the Court's decision in *Nautilus* it seems that claim drafters no longer have the option of drafting broad and ambiguous claims, leaving room only for well-delineated claims that are more likely to be granted a patent and less likely to be challenged later.

The companies likely to be the most severely impacted by the decision in *Nautilus* will be the same as those affected by the decision in *Alice*. Both cases deal with patent eligibility, and even though they deal with different elements of that requirement — scope and subject matter respectively — the impact they have on software patents and the companies that rely on them is similar. After the Supreme Court's decision in *Alice*, nine software patent claims were rejected in federal district courts and three were rejected by the Federal Circuit.<sup>48</sup> Large technology companies such as Microsoft, Google, IBM, and Apple faced huge losses after *Alice*<sup>49</sup> and will probably face more losses due to the greater likelihood of losing their patents after *Nautilus*.

While some patent practitioners are happy about the decision in *Alice*, because it keeps patent trolls in check, others worry that many legitimate patents in fields like biotechnology and medical diagnostics may be rejected on the same grounds as frivolous claims.<sup>50</sup> After *Nautilus*, software patents in these particular fields are at further risk of being invalidated or rejected.

Another impact of the *Nautilus* decision will be on the use of expert testimony in litigation. The use of expert testimony in software patent litigation was already fairly frequent, but will further increase now as a result of *Nautilus*. The reason for this is the requirement under the new standard that patent claims “inform, with reasonable certainty, those skilled in the art about the scope of the invention.”<sup>51</sup> In order to resolve uncertainties or ambiguity in scope, patent drafters will bring in more

---

48. See Ashby Jones, *Courts Nix More Software Patents: Decisions Follow Supreme Court Ruling on Intellectual-Property Protection*, WALL ST. J. (Sept. 21, 2014 7:48 PM), <http://online.wsj.com/articles/federal-courts-reject-more-software-patents-after-supreme-court-ruling-1411343300>.

49. See Jeff Wild, *Big US Tech Companies Face Major Patent Losses in the Post-Alice World*, IAM Research Reveals, IAM MEDIA (Sept. 27, 2014) <http://www.iam-media.com/Blog/Detail.aspx?g=2028b324-2d4a-4523-9f0d-f0773b8b3fa1> (“49% of all IBM’s US patent holdings could be affected by the *Alice* decision, as could 58% of Google’s, 55% of Microsoft’s and a whopping [sic] 76% of Oracle’s”).

50. See Jeremy Lowe, *A Recent Supreme Court Decision Made it Easier to Invalidate Vague Medical Device Patents*, MEDICAL DEVICE AND DIAGNOSTIC INDUSTRY — DEVICE TALK (July 9, 2014), <http://www.mddionline.com/blog/devicetalk/recent-supreme-court-decision-made-it-easier-invalidate-vague-medical-device-patents-07-09-2014>.

51. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2123 (2014).

experts to define terms and phrases, whereas opponents will bring in experts to try to prove ambiguity and multiple claim interpretations.<sup>52</sup> While it remains to be seen exactly how the Federal Circuit will apply *Nautilus*, it seems that the cost of litigation will go up. It appears that the goal of the Supreme Court was to prevent such broad claims from being included in patents in the first place and to avoid such litigation completely.

#### A. Enablement Doctrine and the Doctrine of Equivalents

When dealing with patent scope or claim breadth, two particular doctrines are relevant: (1) the enablement doctrine and (2) the doctrine of equivalents. The enablement doctrine requires that a patent claim specify how to make and use the claimed invention.<sup>53</sup> The doctrine of equivalents takes patent scope a step further and expands it beyond the literal words of the claim.<sup>54</sup>

Before a court determines whether the doctrine of equivalents applies to a particular claim, it asks whether or not there was literal infringement. Only when that question is answered in the negative does a court ask whether the accused product or process can be considered essentially the same as the patented product or process.<sup>55</sup> Under this doctrine, if “two devices do the same work in substantially the same way, and accomplish substantially the same result, they are the same, even though they differ in name, form, or shape.”<sup>56</sup>

Historically, courts determined the scope of a claim under the doctrine of

52. See *Supreme Court Adopts New Indefiniteness Standard*, HAYNES AND BOONE, LLP (June 2, 2014), <http://www.haynesboone.com/news-and-events/news/alerts/2014/06/02/supreme-court-adopts-new-indefiniteness-standard> (“It is likely that claim construction proceedings (and the corresponding indefiniteness challenges) will see more expert declarations and/or reports submitted given the focus of the test on ‘those skilled in the art.’”); see also John T. Gutkoski, *Post-Nautilus Most Indefinite Patent Challenges Fail*, LAW360 (Sept. 16, 2014 10:56 AM), <http://www.law360.com/articles/577014/post-nautilus-most-indefinite-patent-challenges-fail> (“In announcing the *Nautilus* standard, the Supreme Court suggested a potentially greater role for experts . . . . the court in *Mycone Dental Supply Co. v. Creative Nail Design Inc.*, granted a motion to supplement claim construction briefs with expert disclosures, finding that *Nautilus* ‘changed the standard for indefiniteness such that there is a new standard of proof and a new role for someone skilled in the art; because the district court must consider whether a claim term informs, with reasonable certainty those of skill in the art about the scope of the invention, expert testimony is especially relevant.’”).

53. See Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 853 (1990).

54. *Id.*

55. See *Patent Infringement*, O'BANION & RITCHEY LLP (last visited Mar. 5, 2015), <http://www.intellectual.com/infringement.htm>.

56. Merges & Nelson, *supra* note 48 at 853.

equivalents based on the “degree of advance over the art the original patent represents.”<sup>57</sup> However, courts have not been consistent in their application of the doctrine of equivalents.<sup>58</sup> While the ruling in *Nautilus* may impact the application of the doctrine, it will depend on how the lower courts interpret and apply that decision.

The ruling in *Nautilus* seems to restrict application of the doctrine of equivalents by requiring more clarification in claim drafting. The new standard does not allow for varying interpretations of the scope by a PHOSITA.<sup>59</sup> The doctrine of equivalents expands the scope of a patent claim, but after *Nautilus*, claims will need to be clearer and more precise, meaning they will be narrower. The doctrine of equivalents comes into play when there is an accusation of infringement, however, if claims are narrower to begin with, there are going to be fewer instances of infringement. Although the new standard is more in line with the constitutional purpose of the Patent Act,<sup>60</sup> it may be more difficult now for patentees to use the doctrine of equivalents as a defense to indefiniteness or invalidity challenge because a claim cannot simultaneously be clear/precise and indefinite.

### B. Pre vs. Post-Issuance Claims

One of the questions raised by *Nautilus* is whether the new indefiniteness standard to be applied during litigation will also be applied in the examination context. Historically, claims under examination at “USPTO were evaluated under a stricter indefiniteness standard than granted claims.”<sup>61</sup> The reason for this was that pre-issuance claims could easily be amended, thus encouraging applicants to fix claims at an earlier stage.<sup>62</sup>

---

57. *Id.* at 854.

58. *See, e.g.,* Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co., 520 U.S. 17 (1997) (limiting severely the broad power of the doctrine of equivalents by ruling that instead of focusing on the claim as a whole, the equivalents test must be done on an element by element basis.).

59. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2128 (2014).

60. *See Manual of Patent Examining Procedure – Introduction*, USPTO (Mar. 27, 2014), <http://www.uspto.gov/web/offices/pac/mpep/mpep-0020-introduction.html> (stating that the U.S. Patent Act was enacted by Congress under its Constitutional grant of authority 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.”).

61. *See generally* Lisa Larrimore Ouellette and Jonathan Masur, *How Will Nautilus Affect Indefiniteness at the PTO?*, PATENTLYO (June 5, 2014), <http://patentlyo.com/patent/2014/06/nautilus-affect-indefiniteness.html>.

62. *See* Dennis Crouch, *Federal Circuit Implements Low Standard for Prima Facie Indefiniteness Rejection*, PATENTLYO (May 6, 2014), <http://patentlyo.com/patent/2014/05/implements-indefiniteness-rejection.html>.

Through its decision in *Nautilus*, the Supreme Court addresses the discrepancy between pre and post-issuance claims. Prior to *Nautilus*, the USPTO applied a lower threshold of ambiguity for patent claims in the examination process.<sup>63</sup> The new standard, if applied to pre- and post-issuance claims, will remove this inconsistency in determining patent validity with regard to indefiniteness.

### C. Broader Economic Implications of *Nautilus v. Biosig*

As previously discussed, the question of whether software should be granted patent protection has been long disputed, and the *Nautilus* decision has sparked that debate once again. Those in favor of protection for software argue that patent protection supplies the necessary incentive for innovation.<sup>64</sup> They assert that without this protection, and the return on investment that it insures, innovators will not risk the millions and/or billions of dollars on research and development.<sup>65</sup> And finally, they argue that patent disclosures serve to inform the public and help spread knowledge.<sup>66</sup>

Several studies about the economic impact of patent scope reveal that greater patent scope has a positive effect, similar to that of greater patent duration, in terms of its incentive effect on initial invention.<sup>67</sup> Additionally, it is also true that broad scope leads to ambiguous patents, greater likelihood of infringement, and excessive litigation.<sup>68</sup> When boundaries of patents are uncertain, it becomes difficult to determine whether a prospective technology might infringe on an existing patent. Companies face a risk of inadvertent infringement, and that risk is weighed against potential benefits when making decisions about investing in particular

63. See Ouellette, *supra* note 54.

64. See Leonid Kravets, *Do Patents Really Matter to Startups?*, TECHCRUNCH (June 21, 2012), <http://techcrunch.com/2012/06/21/do-patents-really-matter-to-startups-new-data-reveals-shifting-habits/>

65. *Id.*

66. *Id.*

67. See Merges & Nelson, *supra* note 48 at 869. (Greater scope means the patent will cover a larger number of inventions. A longer duration means that the patent owner will have exclusive rights over the patented invention for a longer period. Therefore, the greater the scope and/or duration of a patent, the more valuable it will be to an investor).

68. See Matt Dunning, *Supreme Court Rulings Could Boost Protection from Patent Infringement Claims*, BUS. INSURANCE (June 22, 2014), <http://www.businessinsurance.com/article/20140622/NEWS07/306229968/supreme-court-rulings-could-boost-protection-from-patent> (noting that while broad patents might allow companies to maximize their enforceability against other companies, that will breed excessive litigation and encourage patent trolls).

innovations.<sup>69</sup>

### 1. *Non-Practicing Entities (“NPEs”) or “Patent Trolls”*

Over the last decade, there has been an explosion in frivolous lawsuits by NPEs, which are individuals and firms who own patents and use them solely for the purpose of asserting infringement claims against companies that do produce goods and services.<sup>70</sup> The main area of patent law that is implicated in NPE litigation is that of notice. Notice is a key function of patent law and its purpose is to inform the public about the subject matter and scope of a patent in order to avoid infringement.<sup>71</sup> The reason that software patents are much more heavily targeted by NPEs is that software patents have unclear boundaries and therefore do not successfully notify the public of the scope of the invention. Failure to provide notice will likely be read by the courts as a lack of claim definiteness, leading them to hold the patent invalid. Through *Nautilus*, the Supreme Court has taken a step toward eradicating the system of patent trolls.<sup>72</sup> This move will save numerous businesses, particularly those in the software industry, billions of dollars by diminishing the volume of frivolous lawsuits.

---

69. See James Bessen, *A Generation of Software Patents*, 18 B.U. J. SCI. & TECH. L. 241, 249 (2012) (noting that for “firms in the chemical and pharmaceutical industries, the positive incentives substantially outweigh the disincentives from litigation . . . .” “Furthermore, “software patents are nearly five times as likely to be in a lawsuit than are chemical patents; business method patents are nearly fourteen times as likely to be litigated.” And “financial patents are from 27 to 39 times more likely to be litigated than are other patents”).

70. See James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV. 387, 388 (2014).

71. See 35 U.S.C. § 287 (2012) (Under 35 U.S.C. § 287, a patent owner can only collect damages for an infringing product if adequate notice is given of the patent at issue. A patent owner can meet this requirement by providing either actual or constructive notice. Actual notice involves directly informing the alleged infringer of the infringement. Constructive notice can be satisfied by labeling a product with the word “patent” or the abbreviation “pat.” along with the associated patent number).

72. See *Supreme Court Aiding Fight Against Patent Trolls: Alice, Nautilus, Limelight, Octane Fitness and Highmark*, VENABLE LLP (June 30, 2014) <https://www.venable.com/supreme-court-aiding-fight-against-patent-trolls-alice-nautilus-limelight-octane-fitness-and-highmark-06-30-2014/> (“Patent trolls have conventionally used patent claim uncertainty to their advantage to increase the likelihood of settlements . . . . The Federal Circuit’s test for determining indefiniteness . . . had fostered this practice by making it difficult to prove that a patent claim is indefinite. False . . . The Supreme Court, in an apparent attempt to prevent the very uncertainty that is favorable to patent trolls, rejected the Federal Circuit’s insolubly ambiguous test . . . . [and eliminated] the temptation for an applicant to inject ambiguity into its claims, which has led to the exploitation of ambiguous patent claims by patent trolls.”).

## 2. *Impact on Business*

The decision in *Nautilus* can be seen as having both a positive and negative effect on all kinds of businesses, but particularly affects those that rely on software patents. The positive effect is the likely reduction in litigation and related expenses. However, the fact that it will now be easier to find patents invalid for indefiniteness also means that legitimate patents might be at risk simply due to ambiguity in the claims.

Firms in the financial, information technology, chemical, and pharmaceutical industries are only a few examples of the businesses that are at risk. The risk of litigation can deter innovation, therefore, by reducing the likelihood of frivolous and excessive litigation, the *Nautilus* decision will promote innovation. Businesses in these industries rely heavily on software patents and some of them have long urged for patent reform.<sup>73</sup> While this decision may be an adjustment for some, in the long run it will likely benefit all businesses and the patent system overall.

### III. RECOMMENDATIONS FOR SOFTWARE PATENT CLAIM DRAFTERS

In the post-*Nautilus* world, software patent claim drafters must be more diligent in their claim drafting because it will be easier to prove indefiniteness if terms are ambiguous. Claim drafters should provide definitions within claims in order to avoid multiple interpretations. The use of examples in claims can also help with clarity and reducing ambiguity.

#### A. *Describe Clear Use of Machine or Transformation*

Although the importance of the machine-or-transformation test has been reduced through some recent Supreme Court decisions, it remains the leading test used by the USPTO to determine patent eligibility.<sup>74</sup> Therefore, patent drafters should try to avoid insufficient recitation of a machine or transformation. The involvement of a machine or the existence of some transformation must be more than “merely nominally, insignificantly, or tangentially related to the performance of the steps, e.g., data gathering, or merely recites a field in which the method is intended to

---

73. See *Startup and Innovator Advocates Urge Rapid Patent Reform Action*, APPLICATION DEVELOPERS ALLIANCE (Feb. 12, 2015), <http://www.appdevelopersalliance.org/press-releases/startup-and-innovator-advocates-urge-rapid-patent-reform-action>.

74. See, e.g., *Bilski v. Kappos*, 561 U.S. 593, 604 (2010) (noting that “the machine-or-transformation test is a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101. The machine-or-transformation test is not the sole test for deciding whether an invention is a patent-eligible ‘process’”).



be applied.”<sup>75</sup>

### B. *Cautious Use of Means-Plus-Function Claims*

The Supreme Court’s tightening of patent claim definiteness will inevitably lead patent drafters, particularly software patent drafters, to search for ways to keep their claims as broad as possible without the risk of being invalidated for indefiniteness. One of the methods frequently used in the software patent industry that will be affected is the use of functional claiming. Functional claiming describes what something does, rather than what it is.<sup>76</sup>

To get around this problem, however, software patent claims can be drafted as means-plus-function claims.<sup>77</sup> Means-plus-function claims rely on the connection between the claimed function and a structure that performs the claimed function. Claim drafters can turn to functional claiming, but must be careful in their usage of functional language. While Section 112 permits the use of functional language in a claim, it does so with certain limitations. A means-plus-function claim must recite either the means or steps for performing a specified function, and will be construed to cover the structure, material, or acts described in the claim.<sup>78</sup>

### C. *Avoid Use of Relative Terminology*

Two of the potential pitfalls that patent drafters face, particularly in the field of software, deal with the use of relative terminology and the failure to define coined terminology.<sup>79</sup> The use of terms such as “about,” “approximately,” “close,” “generally,” and “relatively” can be beneficial to patent drafters because they prevent them from being bound to a fixed number or limit, thus allowing flexibility and potentially more success during litigation. However, the reverse can also be true. Such terms are open to interpretation, and therefore, may be interpreted by a court more narrowly than the drafter intended. In order to avoid problems of this

---

75. Morgan D. Rosenberg & Richard J. Apley, *BUSINESS METHODS AND SOFTWARE PATENTS: A PRACTICAL GUIDE*, 480 (2012).

76. See Jeff Blagdon, *Google’s Solution to Software Patents: Treat Them Like Any Other Patent*, *THE VERGE* (Apr. 17, 2013), <http://www.theverge.com/2013/4/17/4233818/google-submits-public-comments-on-software-patent-reform>.

77. See Mark A. Lemley, *Software Patents and the Return of Functional Claiming*, 8 *WIS. L. REV.* 905, 905 (2013).

78. See Gregory Stobbs, *SOFTWARE PATENTS*, 232 (1995).

79. See AMERICAN BAR ASSOCIATION SECTION OF INTELLECTUAL PROPERTY LAW, *DRAFTING PATENTS FOR LITIGATION AND LICENSING*, 147, 153 (Bradley C. Wright ed., 2nd ed., 2013).

nature, drafters can provide examples within the patent specification.<sup>80</sup>

#### CONCLUSION

The Supreme Court's decision in *Nautilus, Inc. v. Biosig Instruments, Inc.* will likely impact the software patent industry, but exactly to what extent remains to be seen. The new standard for patent indefiniteness lowers the threshold for proving indefiniteness and will lead to increased validity challenges for software patents.

In light of this decision, software patent claim drafters need to draft more precise and narrow claims in order to avoid rejection. It will be interesting to see how the Federal Circuit applies the new standard to the remanded *Nautilus* case and other cases in the future. The new standard is likely to impact not only patent claim drafting, but also the way examiners inspect claims at the USPTO and how courts will construe claims in litigation.

---

80. *Id.* at 148.